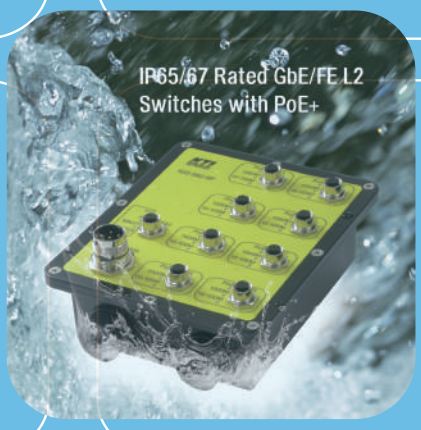
KTI NETWORKS

Product Guide

Diversity, Quality & Connectivity in Ethernet Networking



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Applications

Gigabit Ethernet Networking

Model	Type	Management	GbE RJ-45	GbE Fiber	FE Ports	Rating	Power	Page
KGS-2461	SW	Web/Telnet/SNMP/Console	24 (PSE x 24)	4 100M/1G SFP *		I	AC/DC	I7
KGS-086x-WP	SW	Web/SNMP/Console	8 x M12 (PSE x 8 or PD x 1)	2 100M/1G SFP *		I	PoE/DC	I1
KGS-1064-HP	SW	Web/Telnet/SNMP/Console	8 (PSE x 8)	2 100M/1G SFP		I	DC	I9
KGS-1060-HP	SW	Web/Telnet/SNMP/Console	8 (PSE x 4 or PD x 1)	2 100M/1G SFP		I	PoE/DC	I11
KGD-802-B-P	SW	Web/SNMP	8 (PSE x 4)	2 SFP *	-	I	DC	I13
KGS-0865	SW	Web/SNMP	8	-	-	I	DC	I15
KGD-600-B	SW	Web	5	1 SFP	-	I	DC	I17
KGS-0840	SW	-	8	-	-	I	DC	I25
KGS-2423	SW	Web/Telnet/SNMP/Console	24 (PSE x 24)	4 SFP *	-	C	AC/DC	C1
KGS-2422-B	SW	Web/Telnet/SNMP/Console	24 (Modular)	24 SFP (Modular)	24 SFP (Modular)	C	AC/DC	C3
KGS-2404-B	SW	Web/SNMP	24	4 100M/1G SFP		C	AC	C5
KGS-124-B	SW	-	24	-	-	C	AC	C51
KGS-0820-P	SW	Web/Telnet/SNMP/Console	8 (PSE x 8)	1 SFP *	1 SFP *	C	AC/DC	C7
KGS-810F-B	SW	Web/SNMP	8	1 SFP *	-	C	DC	C9
KGS-810F	SW	Web/SNMP	8	1 SFP *	-	C	DC	C11
KGS-0800-4HP	SW	-	8 (PSE x 4)	-	-	C	DC	C6
KGS-SOHO-8	SW	-	8	-	-	C	DC	C52
KGS-510F-C	SW	Web/SNMP	5	1 SFP	-	C	DC	C13
KGS-0500	SW	-	4	1 100M/1G SFP		C	DC	C15
KGC-460-HP	MC/SW	Web/Telnet/SNMP	2 (PSE x 2)	2 100M/1G SFP		I	DC	I31
KGC-260	MC	Web/SNMP	1	1 100M/1G SFP		I	DC	I33
KGC-240	MC	-	1	1 100M/1G SFP		I	DC	I35
KCD-400	MC	-	1	1 SFP	-	I	DC	I37
KGC-311	MC	-	-	2 SFP	-	C	DC	C24
KGC-310M-C	MC	Web/SNMP/KC-1300	1	1 100M/1G SFP		C	DC	C26
KGC-300	MC	On KC-1300	1	1 SFP	-	C	DC	C28
KGC-320-HP	MC	Web/SNMP	1 (PSE x 1)	1 SFP	1 SFP *	C	DC	C35
KGC-352	MC	-	1 (PD)	1 SFP	-	C	PoE/DC	C37

* Combo Ports

Applications

Fast Ethernet Networking

Model	Type	Management	FE RJ-45	FE Fiber	GbE Ports	Rating	Power	Page
KGS-0841-W	SW	-	8 x M12	-	-	I	DC	I1
KSD-800M	SW	Web/Telnet/SNMP	8	2 FX *	-	I	DC	I19
KSD-800	SW	-	8	2 FX *	-	I	DC	I21
KSD-541-HP	SW	-	5 (PSE x 4)	1 SFP *	-	I	DC	I23
KFS-1640	SW	-	16	-	-	I	DC	I27
KFS-0840	SW	-	8	-	-	I	DC	I29
KFS-0540	SW	-	5	-	-	I	DC	I29
KFS-2621	SW	Web	24	-	2 RJ-45 + 2 SFP *	C	AC/DC	C16
KS-117FM-V	SW	Web	6	1 FX	-	C	DC	C18
KS-115FM-V	SW	Web	4	1 FX	-	C	DC	C18
KS-108F-B	SW	-	7	1 FX	-	C	DC	C20
KS-105F-B	SW	-	4	1 FX	-	C	DC	C20
KS-116-E	SW	-	16	-	-	C	AC	C53
KSD-103-A	MC/SW	-	2	1 FX	-	I	DC	I39
KSD-103-B	MC/SW	-	1	2 FX	-	I	DC	I39
KCD-300	MC	-	1	1 FX	-	I	DC	I41
KFC-241	MC	-	1	1 FX	-	I	DC	I43
KC-300DM	MC	On KC-1300	1	1 FX	-	C	DC	C30
KC-300D	MC	On KC-1300	1	1 FX	-	C	DC	C30
KFC-200	MC	-	1	1 FX	-	C	DC	C32
KC-350	MC	-	1 (PD)	1 FX	-	C	PoE/DC	C39
KC-351	MC	-	1 (PD)	1 FX	-	C	PoE/DC	C39

* Combo Ports

Media Conversion

Model	Type	Management	Slot	Port A	Port B	Rating	Power	Page
KGC-460-HP	MC/SW	Web/Telnet/SNMP	-	2 x 10/100/1000M	2 x 100M/1G SFP	I	DC	I31
KGC-260	MC	Web/SNMP	-	10/100/1000M	100M/1G SFP	I	DC	I33
KGC-240	MC	-	-	10/100/1000M	100M/1G SFP	I	DC	I35
KCD-400	MC	-	-	1000M	1G SFP	I	DC	I37
KSD-103-A	MC/SW	-	-	2 x 10/100M	100FX	I	DC	I39
KSD-103-B	MC/SW	-	-	10/100M	2 x 100FX	I	DC	I39
KCD-300	MC	-	-	10/100M	100FX	I	DC	I41
KFC-241	MC	-	-	10/100M	100FX	I	DC	I43
KCD-303P-A	MC/SW	-	-	2 x 10/100M	100M POF	I	DC	I45
KCD-303P-B	MC/SW	-	-	10/100M	2 x 100M POF	I	DC	I45
KSC-200	MC	-	-	RS-232	100FX	I	DC	I47
KSC-240	MC	-	-	RS-232	RS-422/RS-485	I	DC	I49
KC-1300	Center	Web/Telnet/SNMP	16MC	-	-	C	AC/DC	C22
KGC-311	MC	-	-	100M/1G SFP	100M/1G SFP	C	DC	C24
KGC-310M-C	MC	Web/SNMP/KC-1300	-	10/100/1000M	100M/1G SFP	C	DC	C26
KGC-300	MC	KC-1300	-	1000M	1G SFP	C	DC	C28
KC-300DM	MC	KC-1300	-	10/100M	100FX	C	DC	C30
KC-300D	MC	KC-1300	-	10/100M	100FX	C	DC	C30
KFC-200	MC	-	-	10/100M	100FX	C	DC	C32
KC-10FM	MC	-	-	10 Base-T	10 Base-FL	C	DC	C34
KGC-320-HP	MC	-	-	10/100/1000M	100M/1G SFP *	C	DC	C35
KGC-352	MC	-	-	1000M	1G SFP	C	PoE/DC	C37
KC-351	MC	-	-	10/100M	100FX	C	PoE/DC	C39
KC-350	MC	-	-	10/100M	100FX	C	PoE/DC	C39
KT-10T	MAU	-	-	AUI	10 Base-T	C	AUI	C57
KT-10B	MAU	-	-	AUI	10 Base-BNC	C	AUI	C57
KT-10F/2	MAU	-	-	AUI	10 Base-FL	C	AUI	C57

* Combo Ports

DIN-Rail Installation

Model	Type	Management	LAN Ports	Power Input	Page
KGS-086x-WP	GbE SW	Web/SNMP/Console	8 GbE M12 + 2 100M/1G SFP *	M23 +6.5 ~ +57VDC	I1
KGS-0841-W	FE SW	-	8 GbE M12	M23 +6.5 ~ +57VDC	I1
KGS-1064-HP	GbE SW	Web/Telnet/SNMP/Console	8 GbE RJ-45 + 2 100M/1G SFP	TB +12 ~ +30VDC	I9
KGS-1060-HP	GbE SW	Web/Telnet/SNMP/Console	8 GbE RJ-45 + 2 100M/1G SFP	TB +7 ~ +60VDC	I11
KGD-802-B-P	GbE SW	Web/SNMP	8 GbE RJ-45 + 2 1G SFP *	TB/DC Jack +6.5 ~ +60VDC	I13
KGS-0865	GbE SW	-	8 GbE RJ-45	TB +8 ~ +57VDC	I15
KGD-600-B	GbE SW	Web	5 GbE RJ-45 + 1 1G SFP	TB/DC Jack +6.5 ~ +32VDC	I17
KSD-800M	FE SW	Web/Telnet/SNMP	8 GbE RJ-45 + 2 100FX *	TB/DC Jack +7 ~ +30VDC	I19
KSD-800	FE SW	-	8 GbE RJ-45 + 2 100FX *	TB/DC Jack +7 ~ +30VDC	I21
KSD-541-HP	FE SW	-	5 GbE RJ-45 + 1 100M SFP *	TB/DC Jack +6 ~ +57VDC	I23
KGS-0840	GbE SW	-	8 GbE RJ-45	TB +8 ~ +57VDC	I25
KFS-1640-L	FE SW	-	16 FE RJ-45	TB/DC Jack +4.5 ~ +50VDC	I27
KFS-0840	FE SW	-	8 FE RJ-45	TB/DC Jack +7 ~ +30VDC	I29
KFS-0540	FE SW	-	5 FE RJ-45	TB/DC Jack +7 ~ +30VDC	I29
KGS-810F-B	GbE SW	Web/SNMP	8 GbE RJ-45 + 1 1G SFP *	DC Jack +5 ~ +12VDC	C9
KGS-810F	GbE SW	Web/SNMP	8 GbE RJ-45 + 1 1G SFP *	DC Jack +5 ~ +12VDC	C11
KGC-460-HP	GbE MC/SW	Web/Telnet/SNMP	2 GbE RJ-45 + 2 100M/1G SFP	TB +12 ~ +57VDC	I31
KGC-260	GbE MC	Web/SNMP	GbE RJ-45 to 100M/1G SFP	TB +12 ~ +30VDC	I33
KGC-240	GbE MC	-	GbE RJ-45 to 100M/1G SFP	TB +12 ~ +30VDC	I35
KCD-400	GbE MC	-	GbE RJ-45 to 1G SFP	TB/DC Jack +7 ~ +30VDC	I37
KSD-103-A	FE MC/SW	-	2 FE RJ-45 to 100FX	DC Jack +7 ~ +50VDC	I39
KSD-103-B	FE MC/SW	-	FE RJ-45 to 2 100FX	DC Jack +7 ~ +50VDC	I39
KCD-300	FE MC	-	FE RJ-45 to 100FX	TB/DC Jack +7 ~ +30VDC	I41
KFC-241-L	FE MC	-	FE RJ-45 to 100FX	TB/DC Jack +4.5 ~ +50VDC	I43
KCD-303P-A	FE MC/SW	-	2 FE RJ-45 to 100M POF	DC Jack +5 ~ +12VDC	I45
KCD-303P-B	FE MC/SW	-	FE RJ-45 to 2 100M POF	DC Jack +5 ~ +12VDC	I45
KSC-200	Ser. MC	-	RS-232 to 100FX	TB/DC Jack +7 ~ +30VDC	I47
KSC-240	Ser. MC	-	RS-232 to RS-422/RS-485	TB/DC Jack +7 ~ +30VDC	I49
KGC-311	GbE MC	-	100M/1G SFP to 100M/1G SFP	DC Jack +5 ~ +12VDC	C24
KGC-310M-C	GbE MC	Web/SNMP/KC-1300	GbE RJ-45 to 100M/1G SFP	DC Jack +5 ~ +12VDC	C26
KGC-300	GbE MC	On KC-1300	GbE RJ-45 to 1G SFP	DC Jack +5 ~ +12VDC	C28
KC-300DM	FE MC	On KC-1300	FE RJ-45 to 100FX	DC Jack +5 ~ +12VDC	C30
KC-300D	FE MC	On KC-1300	FE RJ-45 to 100FX	DC Jack +5 ~ +12VDC	C30
KFC-200	FE MC	-	FE RJ-45 to 100FX	DC Jack +3.3VDC	C32
KGC-320-HP	GbE MC	Web/SNMP	GbE RJ-45 to 100M/1G SFP *	DC Jack +6.5 ~ +60VDC	C35
KGC-352	GbE MC	-	GbE RJ-45 to 1G SFP	PoE/DC Jack +7 ~ +57VDC	C37
KC-351	FE MC	-	FE RJ-45 to 100FX	PoE/DC Jack +7 ~ +57VDC	C39
KC-350	FE MC	-	FE RJ-45 to 100FX	PoE/DC Jack +7 ~ +57VDC	C39
KPW-T2P25	PoE Splitter	-	1 FE/GbE In + 1 FE/GbE Out	PoE +36 ~ +57VDC	I51
KPW-RDP-18A	Power	Redundant DC Power Input Adapter, 18A	DC In Power A & B: TB +12 ~ 62VDC, 18A max. DC Out: TB +12 ~ 62VDC, 18A max.		I53
KPW-RDP-7A	Power	Redundant DC Power Input Adapter, 7A	DC In Power A & B: TB +12 ~ 62VDC, 7A max. DC Out: TB +12 ~ 62VDC, 7A max.		I53
KPW-DCT48-D	Power	Isolated DC to 48V 100W Converter	Input: TB +12 ~ 30VDC Output: TB +48VDC, 2A max.		I55
KPW-2024-D	Power	AC-DC 24V / 20W Power Supply	Input: IEC320 +100 ~ 240VAC, 50/60Hz Output: TB/DC Plug +24VDC, 0.9A max.		I57
KPW-2012-D-E	Power	AC-DC 12V / 20W Power Supply	Input: IEC320/TB +100 ~ 240VAC, 50/60Hz Output: TB/DC Plug +12VDC, 1.8A max.		I59
KPW-1012-D	Power	AC-DC 12V / 10W Power Supply	Input: IEC320 +100 ~ 240VAC, 50/60Hz Output: TB/DC Plug +12VDC, 0.85A max.		I61

Critical Environment Installation

Model	Type	Port Types	Standards and Certifications	Temp. Rating	Page
KGS-2461	GbE SW	24 GbE RJ-45 + 4 100M/1G SFP *	EN 50121-4	-30°C ~ +60°C	I7
KGS-086x-WP	GbE SW	8 GbE M12 + 2 100M/1G SFP *	EN 50155, EN 50121-4, NEMA TS2, E-Mark	-40°C ~ +70°C	I1
KGS-0841-W	FE SW	8 GbE M12	EN 50155, EN 50121-4, NEMA TS2, E-Mark	-40°C ~ +70°C	I1
KGS-1064-HP	GbE SW	8 GbE RJ-45 + 2 100M/1G SFP	NEMA TS2, Shock 50g	-30°C ~ +60°C	I9
KGS-1060-HP	GbE SW	8 GbE RJ-45 + 2 100M/1G SFP	NEMA TS2, Shock 50g	-40°C ~ +70°C	I11
KGD-802-B-P	GbE SW	8 GbE RJ-45 + 2 1G SFP *	-	-20°C ~ +60°C	I13
KGS-0865	GbE SW	8 GbE RJ-45	EN 50121-4, NEMA TS2, Shock 50g	-30°C ~ +70°C	I15
KGD-600-B	GbE SW	5 GbE RJ-45 + 1 1G SFP	NEMA TS2	-40°C ~ +70°C	I17
KSD-800M	FE SW	8 GbE RJ-45 + 2 100FX *	-	-20°C ~ +70°C	I19
KSD-800	FE SW	8 GbE RJ-45 + 2 100FX *	-	-20°C ~ +70°C	I21
KSD-541-HP	FE SW	5 GbE RJ-45 + 1 100M SFP *	NEMA TS2	-30°C ~ +70°C	I23
KGS-0840	GbE SW	8 GbE RJ-45	EN 50121-4, NEMA TS2, Shock 50g	-30°C ~ +70°C	I25
KFS-1640	FE SW	16 FE RJ-45	-	-20°C ~ +70°C	I27
KFS-0840	FE SW	8 FE RJ-45	Shock 50g	-35°C ~ +70°C	I29
KFS-0540	FE SW	5 FE RJ-45	Shock 50g	-35°C ~ +70°C	I29
KFS-2621	FE SW	24 FE RJ-45 + 2 GbE RJ-45 + 2 1G SFP *	-	-20°C ~ +60°C	C16
KGC-460-HP	GbE MC/SW	2 GbE RJ-45 + 2 100M/1G SFP	NEMA TS2, Shock 50g	-40°C ~ +70°C	I31
KGC-260	GbE MC	GbE RJ-45 to 100M/1G SFP	EN 50121-4, NEMA TS2, Shock 50g	-40°C ~ +75°C	I33
KGC-240	GbE MC	GbE RJ-45 to 100M/1G SFP	EN 50121-4, NEMA TS2, Shock 50g	-40°C ~ +75°C	I35
KCD-400	GbE MC	GbE RJ-45 to 1G SFP	Shock 50g	-20°C ~ +70°C	I37
KSD-103-A	FE MC/SW	2 FE RJ-45 to 100FX	-	-20°C ~ +70°C	I39
KSD-103-B	FE MC/SW	FE RJ-45 to 2 100FX	-	-20°C ~ +70°C	I39
KCD-300	FE MC	FE RJ-45 to 100FX	-	-20°C ~ +70°C	I41
KFC-241	FE MC	FE RJ-45 to 100FX	-	-40°C ~ +70°C	I43
KCD-303P-A	FE MC/SW	2 FE RJ-45 to 100M POF	-	-10°C ~ +60°C	I45
KCD-303P-B	FE MC/SW	FE RJ-45 to 2 100M POF	-	-10°C ~ +60°C	I45
KSC-200	Ser. MC	RS-232 to 100FX	-	-30°C ~ +70°C	I47
KSC-240	Ser. MC	RS-232 to RS-422/RS-485	-	-20°C ~ +70°C	I49
KPW-T2P25	PoE Splitter	1 FE/GbE In + 1 FE/GbE Out	-	-30°C ~ +70°C	I51
KPW-RDP-18A	Power	Redundant DC Power Input Adapter, 18A	-	-30°C ~ +70°C	I53
KPW-RDP-7A	Power	Redundant DC Power Input Adapter, 7A	-	-30°C ~ +70°C	I53
KPW-DCT48-D	Power	Isolated DC to 48V 100W Converter	-	-30°C ~ +70°C	I55
KPW-2024-D	Power	AC-DC 24V / 20W Power Supply	-	-25°C ~ +70°C	I57
KPW-2012-D-E	Power	AC-DC 12V / 20W Power Supply	NEMA TS2	-20°C ~ +60°C	I59
KPW-1012-D	Power	AC-DC 12V / 10W Power Supply	NEMA TS2	-40°C ~ +70°C	I61

* Combo Ports

Power over Ethernet

Model	Type	Management	LAN Ports	PoE Ports	Rating	Power	Page
KGS-2461	SW	Web/Telnet/SNMP/Console	24 GbE RJ-45 + 4 100M/1G SFP *	PoE+ PSE x 24	I	AC/DC	I7
KGS-086x-WP	SW	Web/SNMP/Console	8 GbE M12 + 2 100M/1G SFP *	PoE+ PSE x 8 or PD x 1	I	PoE/DC	I1
KGS-1064-HP	SW	Web/Telnet/SNMP/Console	8 GbE RJ-45 + 2 100M/1G SFP	PoE+ PSE x 8	I	DC	I9
KGS-1060-HP	SW	Web/Telnet/SNMP/Console	8 GbE RJ-45 + 2 100M/1G SFP	PoE+ PSE x 4 or PD x 1	I	PoE/DC	I11
KGD-802-B-P	SW	Web/SNMP	8 GbE RJ-45 + 2 1G SFP *	PoE PSE x 4	I	DC	I13
KSD-541-HP	SW	-	5 GbE RJ-45 + 1 100M SFP *	PoE PSE x 4	I	DC	I23
KGS-2423	SW	Web/Telnet/SNMP/Console	24 GbE RJ-45 + 4 1G SFP *	PoE+ PSE x 24	C	AC/DC	C1
KGS-0820-P	SW	Web/Telnet/SNMP/Console	8 GbE RJ-45 + 1 100M SFP + 1 1G SFP *	PoE PSE x 8	C	AC/DC	I25
KGS-0800-4HP	SW	-	8 GbE RJ-45	PoE PSE x 4	C	DC	C6
KGC-460-HP	MC/SW	Web/Telnet/SNMP	2 GbE RJ-45 + 2 100M/1G SFP	PoE+ PSE x 2	I	DC	I31
KGC-320-HP	MC	Web/SNMP	GbE RJ-45 to 100M/1G SFP *	PoE+ PSE x 1	C	DC	C35
KGC-352	MC	-	GbE RJ-45 to 1G SFP	PD x 1	C	PoE/DC	C37
KC-351	MC	-	FE RJ-45 to 100FX	PD x 1	C	PoE/DC	C39
KC-350	MC	-	FE RJ-45 to 100FX	PD x 1	C	PoE/DC	C39
KPW-T2P25	PoE Splitter	-	1 FE/GbE In + 1 FE/GbE Out	PD x 1	I	PoE	I51
KPOE-800	PoE Injector	-	8 FE/GbE In + 8 FE/GbE Out	PoE PSE x 8	C	DC	C41
KPOE-100P	PoE Injector	-	1 FE/GbE In + 1 FE/GbE Out	PoE+ PSE x 1	C	DC	C43
KPOE-100	PoE Injector	-	1 FE/GbE In + 1 FE/GbE Out	PoE PSE x 1	C	DC	C45

* Combo Ports

Plastic Optical Fiber

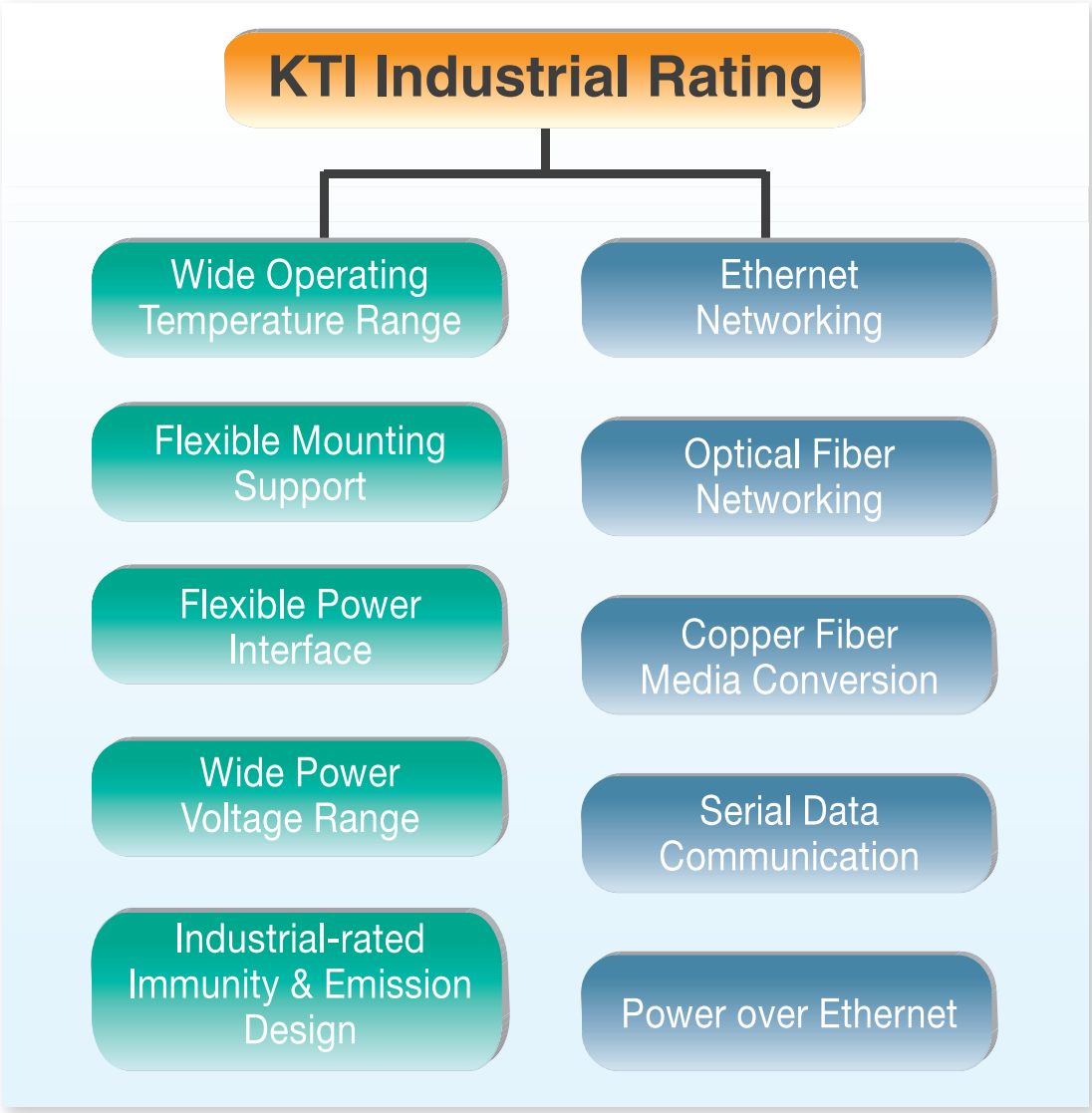
Model	Type	FE RJ-45	2.2mm POF	1.5mm POF	Rating	Power	Page
KCD-303P-A1	MC/SW	2	-	1	I	DC	I45
KCD-303P-A2	MC/SW	2	1	-	I	DC	I45
KCD-303P-B1	MC/SW	1	-	2	I	DC	I45
KCD-303P-B2	MC/SW	1	2	-	I	DC	I45

Power Supply

Model	Type	Management	Port Types	Temp. Rating	Page
KPW-1000T	Power	1U Rack Mountable 1000W Power Supply	Input: IEC320 +100 ~ 264VAC, 50/60Hz Output: TB +48 / 52 / 56VDC, 18.5A - 20.8A	-20°C ~ +60°C	C47
KPW-300T	Power	1U Rack Mountable 300W Power Supply	Input: IEC320 +100 ~ 264VAC, 50/60Hz Output: TB +48 / 52 / 56VDC, 5.56A - 6.25A	-40°C ~ +70°C	C49
KPW-RDP-18A	Power	Redundant DC Power Input Adapter, 18A	DC In Power A & B: TB +12 ~ 62VDC, 18A max. DC Out: TB +12 ~ 62VDC, 18A max.	-30°C ~ +70°C	I53
KPW-RDP-7A	Power	Redundant DC Power Input Adapter, 7A	DC In Power A & B: TB +12 ~ 62VDC, 7A max. DC Out: TB +12 ~ 62VDC, 7A max.	-30°C ~ +70°C	I53
KPW-DCT48-D	Power	Isolated DC to 48V 100W Converter	Input: TB +12 ~ 30VDC Output: TB +48VDC, 2A max.	-30°C ~ +70°C	I55
KPW-2024-D	Power	AC-DC 24V / 20W Power Supply	Input: IEC320 +100 ~ 240VAC, 50/60Hz Output: TB/DC Plug +24VDC, 0.9A max.	-25°C ~ +70°C	I57
KPW-2012-D-E	Power	AC-DC 12V / 20W Power Supply	Input: IEC320/TB +100 ~ 240VAC, 50/60Hz Output: TB/DC Plug +12VDC, 1.8A max.	-20°C ~ +60°C	I59
KPW-1012-D	Power	AC-DC 12V / 10W Power Supply	Input: IEC320 +100 ~ 240VAC, 50/60Hz Output: TB/DC Plug +12VDC, 0.85A max.	-40°C ~ +70°C	I61

* SW: Ethernet Switch
* MC: Media Converter
* GbE: Gigabit Ethernet
* FE: Fast Ethernet
* Ser. MC: Serial Media Converter

KTI Industrial Product Strategy



KGS-086x Series

IP65/67 Rated Gigabit Ethernet and Fast Ethernet L2 Switches with PoE+ Options

KTI's KGS-0860 IP65/67 switch series offers a diverse range of managed Ethernet switches with the ruggedized hardware design for protection against strong jets of water and temporary immersion in water. The series includes a variety of 8-ports switches featured with different configurations composed of Fast Ethernet ports and Gigabit Ethernet ports. The available port types are copper port, fiber optical port and combo port with dual-media support (copper and fiber optical).

In addition to standard direct power input, the series provides optional solution that the switch can be powered over network cable instead of direct power input. This way called "Power over Ethernet" allows the switch receives electric power along with data from the connected network cable and the switch can be installed in place where power is not present. Not only PoE powered switch solutions the series also offers PoE power sourcing switches which can deliver power to other switches over the connected cables. It provides a complete and diversified solutions for PoE deployment with the IP65/67 switches.

Designed to operate reliably in harsh industrial environments the series provides a high level of immunity to electromagnetic interference and heavy electrical surges usually found in industrial environments. An operating temperature range of -40°C to +70°C coupled with IP65/67 rated waterproof design allows the switches to be installed in any locations virtually.

To meet requirements for advanced applications, the switch series provides advanced layer 2 network functions, a variety of management interfaces enhanced with security features, and a full array of useful functions for high network availability and manageability. Featured with the ruggedized hardware design, the KGS-0860 series provides ideal solutions for any harsh environments, such as strong vibrations, extreme temperatures and wet or dusty conditions.

Key Features:

- Diverse range of 8-port unmanaged and managed switches for selection
- Full wire speed forwarding and filtering
- Provide optional fiber ports to support variety of fiber connections
- Provide 802.1Q VLAN, 802.1p QoS, DSCP QoS functions
- Provide LACP port link aggregation function
- Provide port mirroring function
- Support jumbo frame up to 9.6K bytes
- Provide packet storm control function
- Support console, web, SNMP management interfaces
- Support DHCP for IP configuration
- Provide password authentication for management access
- Provide 802.1x authentication for port access
- Support 802.1w RSTP and 802.1D STP for preventing loop connection
- Support redundant ring applications with enhanced industrial RSTP
- Support IGMP snooping function
- Waterproof enclosure design, LAN port connectors and power connector
- IP67 rated for protection against temporary immersion in water
- IP65 rated for protection against strong jets of water
- Support either direct DC input or PoE over network cable
- Offer optional high power PoE PSE switch models

Product Highlights:

- IP65/67 rated
- Fast Ethernet Support
- Gigabit Ethernet Support
- Powered via PoE
- High Power PoE PSE solution
- Variety of fiber options
- Network management support
- Outdoor patch cables available

Compliance:

- EN 50155 EMC & Environments: Railway Applications on Rolling Stock
- EN 61000-6-4: Emission for Industrial Environments
- EN 61000-6-2: Immunity for Industrial Environments
- EN 50121-1: Railway Applications - General EMC
- EN 50121-3-2: Railway Applications - Rolling Stock Apparatus
- EN 50121-4: Railway Applications - Signalling and Telecommunications Apparatus
- NEMA TS2 Environments: Traffic control equipment

KGS-0841-W

KGS-0860-WP

KGS-0861-WP

Specifications:

Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.3af, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	Total 8 switched ports
Copper Interface	Fast Ethernet (FE) port: 10/100BASE-TX interface Gigabit Ethernet (GbE) port: 10/100/1000BASE-T interface Duplex: half & full, Auto-negotiation, auto-MDI/MDI-X support FE port connector: M12 D-coded (Std. IEC 61076-2-101) GbE port connector: M12 A-coded Network cable: Cat.5 up to 100m
Fiber Interface	Fast Ethernet (FE) port: 100BASE-FX interface Gigabit Ethernet (GbE) port: 1000BASE-X interface Full duplex, Auto-negotiation, LC connector (IP67 rated) Digital Diagnostic & Monitoring (DDM) support Network cable: 62.5/125, 50/125µm MMF, 9/125µm SMF
Combo Port	Dual media with auto sense for active media FE combo port: FE copper & FE fiber interface GbE combo port: GbE copper & GbE fiber interface
Console Port	RS-232 interface, M12 connector (IP67 rated)
MAC Addresses	Table with 8K entries
Buffer Memory	176K bytes
Power Input	Direct DC via power connector, PoE power over Cat.5 (model options)
Direct DC Input	M23 connector (IP67 rated) Working voltage range: +6.5 ~ 60VDC Voltage range for PoE PSE: +45 ~ 57VDC Voltage range for high power PoE PSE: +51 ~ 57VDC
PoE PD Port	IEEE 802.3af compliant PD on Port 4 (model options) Working voltage range: +36 ~ 57VDC PD classification: Class 3
PoE PSE Ports	IEEE 802.3at compliant (model options) Support PoE and PoE+ PD connection PoE voltage range: +44 ~ 56VDC (dependent on DC IN)
LED Indication	Unit: Power, Mngt, FE port: speed/link/activity status GbE port: speed/link/activity status Fiber optic featured port: Fx fiber selected PoE PD featured port: PoE power received status PoE PSE featured port: PoE power delivered status
Power Consumption	11.5W (not including PoE power)
Mechanical	Aluminum molded housing with no fan IP65/67 protection
Dimensions	163 x 195 x 60.5 mm (WxDxH)
Mounting Support	Enclosure panel, flat mouting, wall mounting
Environment	Operating Temperature: -40°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% RH
Approval	FCC Class A, VCCI Class A, CE mark, CISPR 11 Class A EN 61000-6-4 emission, EN 61000-3-2, 61000-3-3 EN 61000-6-2 immunity for industrial environment, IEC 60950-1 safety,

EN 50121-1, EN 50121-3-2, EN 50121-4 ,
IEC 60068-2-1 cold temperature test, IEC 60068-2-2 dry heat test,
IEC 60068-2-30 damp heat test, IEC 60068-2-48 storage temperature test,
IEC 60529 IPX5: water jets test, IEC 60529 IPX7: water immersion test,
IEC 60529 IP6X: ingress of dust test, EN 61373 Vibration and Shock test
E-Mark E13 Certification, EN50155 EMC & Environments,
NEMA TS2 Environment test

KGS-0862-WP

KGS-0863-WP

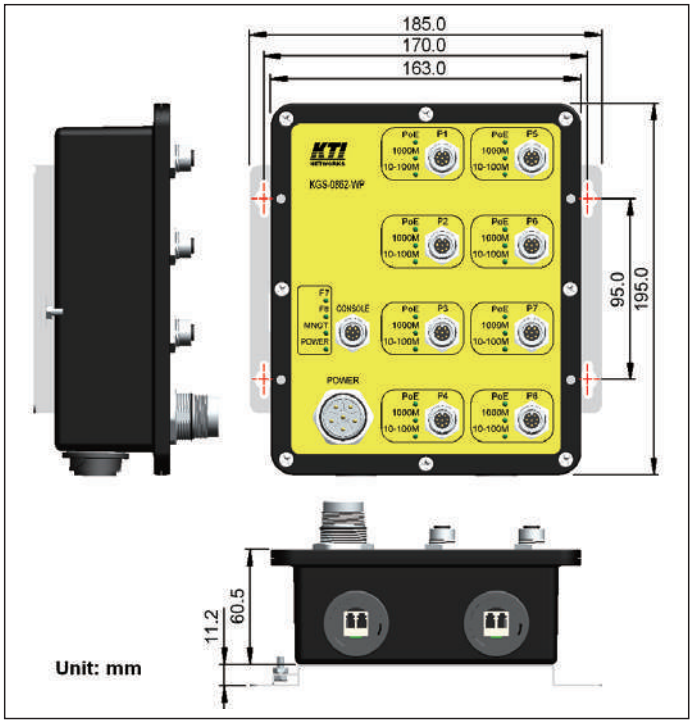
Ordering Information:

Model	Copper Ports		Fiber Option		PoE
	FE	GbE	FE	GbE	
KGS-0841-W	8				-
KGS-0860-WP-x	6		1,2		PD P4
KGS-0861-WP-x		6		1,2	PD P4
KGS-0862-WP-x		6		1,2	PSE P1-P8
KGS-0863-WP-x	6			1,2	PSE P1-P8

* x: Fiber code specified fiber options

Fiber Ordering Information:

Fiber code	Ports	Rate	Fiber	LC	Ref. Distance
-FM	1	100Mbps	MMF	1310nm Duplex	2km
-2FM	2	100Mbps	MMF	1310nm Duplex	2km
-FS30	1	100Mbps	SMF	1310nm Duplex	30km
-2FS30	2	100Mbps	SMF	1310nm Duplex	30km
-FW3520	1	100Mbps	SMF	BiDi T1310/R1550nm	20km
-2FW3520	2	100Mbps	SMF	BiDi T1310/R1550nm	20km
-SX	1	1000Mbps	MMF	850nm Duplex	550m
-2SX	2	1000Mbps	MMF	850nm Duplex	550m
-LX	1	1000Mbps	SMF	1310nm Duplex	10km
-W3510	1	1000Mbps	SMF	BiDi T1310/R1550nm	10km



Dimensions

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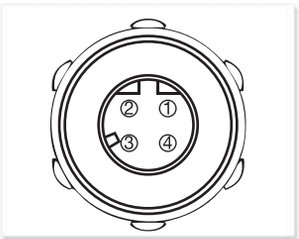
KGS-086X-WP Accessories

M12 to M12 Patch Cable

M12-D code to RJ-45 Patch Cable

M12DM-4-P Pin Number



M12-A code to RJ-45 Patch Cable

Patch Cables for Fast Ethernet Ports:

- IP65/67 protection with M12 connector
- M12 D-code connector compliant with IEC 61076-2-101
- HDPE Cat.5e for outdoor and harsh environment
- Temperature range -40°C to 80°C
- Solutions with RJ-45 (TIA/EIA-568B std.) for general purpose connection

Part numbers	1st end	Cord	2nd end	Length
C5EFPE-FMR-2	M12DM-4-P	Cat.5e/FTP/PE	RJ-45	2m
C5EFPE-FMR-20	M12DM-4-P	Cat.5e/FTP/PE	RJ-45	20m
C5EFPE-FMR-50	M12DM-4-P	Cat.5e/FTP/PE	RJ-45	50m
C5EFPE-FMR-100	M12DM-4-P	Cat.5e/FTP/PE	RJ-45	100m
C5EFPE-FMM-20	M12DM-4-P	Cat.5e/FTP/PE	M12DM-4-P	20m
C5EFPE-FMM-50	M12DM-4-P	Cat.5e/FTP/PE	M12DM-4-P	50m
C5EFPE-FMM-100	M12DM-4-P	Cat.5e/FTP/PE	M12DM-4-P	100m

Pin assignments:

1st end M12DM-4-P	Cat.5e/FTP/PE Cord wire color	2nd end	
		RJ-45	M12DM-4-P
Pin 1	White/orange	1	1
Pin 2	White/green	3	2
Pin 3	Orange solid	2	3
Pin 4	Green solid	6	4
-	Blue solid	4	-
-	White/blue	5	-
-	White/brown	7	-
-	Brown solid	8	-

Patch Cables for Gigabit Ethernet Ports:

- IP65/67 protection with M12 connector
- HDPE Cat.5e for outdoor harsh environment
- Temperature range -40°C to 80°C
- Solutions with RJ-45 (TIA/EIA-568B std.) for general purpose connection

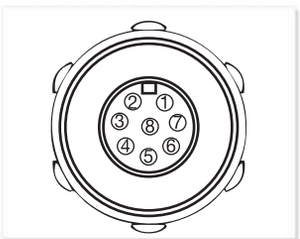
Part numbers	1st end	Cord	2nd end	Length
C5EFPE-GMR-2	M12AM-8-P	Cat.5e/FTP/PE	RJ-45	2m
C5EFPE-GMR-20	M12AM-8-P	Cat.5e/FTP/PE	RJ-45	20m
C5EFPE-GMR-50	M12AM-8-P	Cat.5e/FTP/PE	RJ-45	50m
C5EFPE-GMR-100	M12AM-8-P	Cat.5e/FTP/PE	RJ-45	100m
C5EFPE-GMM-20	M12AM-8-P	Cat.5e/FTP/PE	M12AM-8-P	20m
C5EFPE-GMM-50	M12AM-8-P	Cat.5e/FTP/PE	M12AM-8-P	50m
C5EFPE-GMM-100	M12AM-8-P	Cat.5e/FTP/PE	M12AM-8-P	100m

C5EFPE-GFMM-20	M12AM-8-P	Cat.5e/FTP/PE	M12DM-4-P	20m
C5EFPE-GFMM-50	M12AM-8-P	Cat.5e/FTP/PE	M12DM-4-P	50m
C5EFPE-GFMM-100	M12AM-8-P	Cat.5e/FTP/PE	M12DM-4-P	100m

Pin assignments:

1st end M12AM-8-P	Cat.5e/FTP/PE Cord wire color	2nd end		
		RJ-45	M12AM-8-P	M12DM-4-P
Pin 1	White/orange	1	1	2
Pin 2	Orange solid	2	2	4
Pin 3	White/green	3	3	1
Pin 4	Blue solid	4	4	-
Pin 5	White/blue	5	5	-
Pin 6	Green solid	6	6	3
Pin 7	White/brown	7	7	
Pin 8	Brown solid	8	8	

M12AM-8-P Pin Number



Patch Cables for Power Input & Console Port:

- IP65/67 protection with M23 and M12 connectors
- XLPE DC power cable and HDPE Cat.5e for outdoor harsh environment
- Console cable supports DB9 connection with bundled DB9 to RJ-45 plug adapter
- Temperature range -40°C to 80°C

Part numbers	Type	1st end	Cord	2nd end	Length
PWR3PE-PMF-2	Power	M23F-6-M	PWR3PE	Free End	2m
C5EFPE-CMR-2	Console	M12AM-8-M	Cat.5e/FTP/PE	DB9	2m

PWR3PE-PMF-2

DC power cable pin assignments:

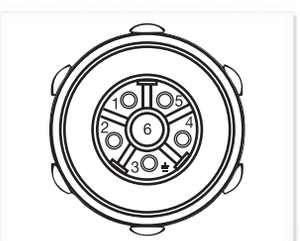
1st end M23F-6-M	PWR3PE Cord wire color	Line
Pin 1	Red	DC+
Pin 2	Black	DC-
Pin 3	White	PE
Pin 4	-	-
Pin 5	-	-
Pin 6	-	-

C5EFPE-CMR-2

Console cable pin assignments:

1st end M12AM-8-P	Cat.5e/FTP/PE Cord wire color	2nd end RJ-45	DB9F-2-RJ45P Adapter -DB9	RS-232 signals
Pin 1	White/orange	1	9	-
Pin 2	Orange solid	2	1	-
Pin 3	White/green	3	4	-
Pin 4	Blue solid	4	5	SG
Pin 5	White/blue	5	2	RXD
Pin 6	Green solid	6	3	TXD
Pin 7	White/brown	7	8	-
Pin 8	Brown solid	8	7	-

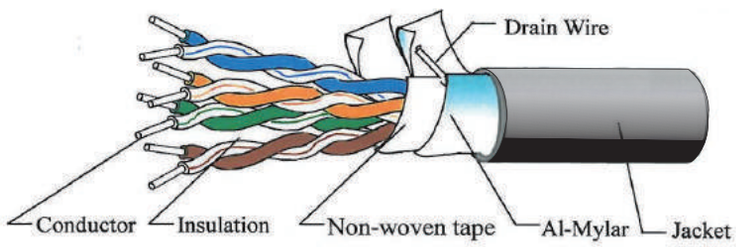
M23F-6-M Pin Assignments



Connector General Specifications:

Part number	M12DM-4-P plug	M12AM-8-P plug	M23F-6-M plug
Connector type	M12 D-coded male	M12 A-coded male	M23 female
Number of pins	4P	8P	5+PE
Pin material	Copper alloy, gold plated		Copper alloy, gold plated
Nut material	Zinc alloy, nickel plated		Copper alloy, nickel plated
Wire guage	22 ~ 26 AWG		12 AWG
Protection	IP67		IP67
Cord diameter	4.5 ~ 6.5mm		8.5 ~ 17.5mm
Temperature range	-40°C ~ 80°C		-40°C ~ 125°C

Cat.5e/FTP/PE Cable Specifications:



Item		Specification
Conductor	Material	Annealed copper
	Diameter	0.54mm (24AWG)
	Wires	4 twisted pairs
Insulation	Material	HDPE
	Thickness	0.247mm (24AWG)
	Diameter	1.03mm
Non-woven tape	Thickness	0.2mm
Drain wire	Material	Annealed tinned copper
Jacket	Material	PE
	Thickness	0.5mm
	Diameter	6.3mm
	Color	Black
Electrical characteristics		Cat.5e compliant
Application environment		Outdoor
Temperature range (continuous)		90°C

PWR3PE Power Cable Specifications:

Item		Specification
Conductor	Material	Annealed copper
	Diameter	1.8mm
Insulation	Thickness	0.76mm
	Material	XLPE
Number of wires		3
Jacket	Material	PVC
	Thickness	1.14mm
	Final Diameter	10.4mm
	Color	Black
Temperature range (continuous)		90°C

Optional Accessories:

Part Number	Description
M23F-6-M	M23 female, 6-pin cable plug, IP67, metal
M23-CAP-P	M23 connector cap, IP67, metal
M12-CAP-P	M12 connector cap, IP67, plastic
FO-CAP-P-L	Fiber adapter cap, IP67, plastic
FO-PLUG-P-L	Fiber port plug kit, IP67, plastic (See Remark*)
C5EFPE-XFF-305	Outdoor Cat.5e/FTP/PE cable with free ends, 305m
PWR3PE-100	XLPE power cable, 100m

Remark:
* FO-PLUG-P-L comes with 4 seals that support general 1.8mm and 2.8mm single fiber and duplex fibers.

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KGS-2461

EN 50121-4

Industrial Managed 24-Port L2/L3 Gigabit Ethernet Switches with PoE+ features

Product Highlights:

- Industrial rated
- PoE+ PSE features
- IPv4 and IPv6 support
- L2 & L3 switching function
- Redundant power input
- 1U 19” rack mountable
- EN 50121-4 certified

AC Powered

DC Powered

Key Features:

- Provides 24 10/100/1000Mbps RJ-45 and four dual speed SFP slots (4 combo ports)
- Provides optional 24 802.3at compliant PoE+ PSE ports
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- The SFP slots support both 100BASE-X and 1000BASE-X SFP transceivers
- Supports SFP with Digital Diagnostic Monitoring (DDM) support
- Provides L2 switching at Gigabit full wire speed
- Provides L3 switching functions for IPv4/IPv6 Unicast static routing and IPv4 Multicast static routing
- Supports Green Ethernet power saving
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Jumbo frame support up to 10056 frame length
- Supports 802.1Q VLAN and diversified VLAN functions
- Provides QoS function
- Supports port bandwidth control for ingress and egress
- Supports packets storm control function for broadcast, unicast and multicast
- Supports LACP port link aggregation
- Supports MAC address learning, ageing and filtering control
- Provides port mirroring function
- Provides Optical Power Alarm (OPA) function
- Provides Auto Laser Shutdown (ALS) function
- 19” rack mountable
- Both AC powered model and DC powered model are available for choice.
- Redundant DC power input
- Relay alarm output for port link faults, power failure, and fiber OPA alarm

Management Features:

- IPv4 & IPv6 support
- Supports console and in-band Web/Telnet/SSH/HTTPS/SNMP/CLI interfaces
- Supports IEEE 802.1d, 802.1w, 802.1s STP, RSTP, MSTP
- Provides IP Multicasting with IGMP & MLD Snooping function
- Supports DHCP client & server for dynamic IP configuration
- Supports DHCP option 82 relay
- Supports complete 802.1X authentication for access security
- Provides ACL filtering function
- Supports NTPv4 Client
- Provides SNMP v1/v2C/v3 agent, RMON and event trap function
- Supports LLDP
- Supports Configuration download and upload

Ordering Informations:

KGS-2461-HP
KGS-2461 with PoE+ PSE feature, Redundant DC power input

KGS-2461-S
Standard KGS-2461 with no PoE feature, AC power input

Specifications:

Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.3af, 802.3at, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	20 10/100/1000Mbps copper ports plus 4 combo ports - 10/100/1000Mbps copper & dual-speed SFP
Copper Ports	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X support
SFP Slots	SFP connector for 100BASE-FX & 1000BASE-X SFP fiber transceiver modules, Auto-negotiation, Digital Diagnostics Monitoring (DDM) support
Network Cables	10/100/1000Mbps copper: Cat.5 or better up to 100 meters, 1000BASE-X: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
MAC Addresses	Table with 16K entries
VLAN Support	4K at the same time
Power over Ethernet	Optional PSE function on all copper ports IEEE 802.3at (PoE+) compliant
LED Indication	Power status, Management status Port speed/link/activity/PoE status
AC Power Input	Interfaces: IEC320 receptacle Operating Input Voltages: 100 ~ 240VAC/0.75-0.38A
DC Power Input	Redundant screw type terminal blocks Voltage range: +40 ~ +57VDC for non-PoE applications Voltage range: +45 ~ +57VDC to support PoE/PoE+ PDs Voltage range: +51 ~ +57VDC to support 30W PoE+ PDs Power: 770W max. including full PoE load on all ports Current: 18A max.@+48VDC Rated input wire: AWG10~12
Console Port	RS-232 RJ-45
Alarm Relay	Power fault alarm, Port link alarm, fiber alarm
Power Consumption	48W max. (Not including PoE)
Housing	Enclosed metal
Dimension	443 x 280 x 43 mm (WxDxH)
Mounting Support	19” rack and wall mountable
Environment	Operating Temperature: -30ºC ~ +60ºC Storage Temperature: -40ºC ~ +85ºC Relative Humidity: 10% ~ 90% non-condensing
Approval	FCC Class A, VCCI Class A, CE mark Class A, EN60950-1 safety EN 61000-6-4 emission, EN 61000-3-2, EN 61000-3-3 EN61000-6-2 Immunity for industrial environment, IEC 60068-2-6 Vibration, EN 50121-4 Railway environment
MTBF	200K hours min.

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KGS-1064-HP

EN 50121-4

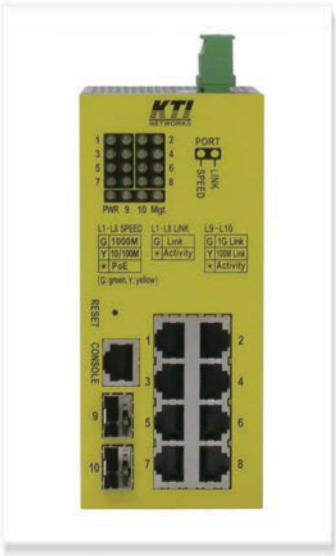
Shock Test 50G

Industrial Managed 10-Port L2 Gigabit Ethernet PoE+ Switches with 2 dual-speed SFP Slots

Product Highlights:

- Web, telnet, SNMP managed
- IPv6 support
- SFP dual speed support
- 8 PoE+ PSE ports
- RSTP, STP, MSTP support
- Multi redundant ring support
- IGMP & MLD snooping
- PoE PSE redundancy
- OPA function
- ALS function
- Typical industrial power DC12V-30V

KGS-1064-HP Ports



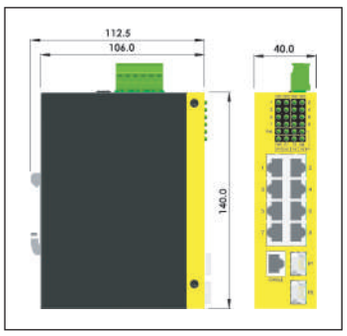
Key Features:

- Eight 10/100/1000Mbps RJ-45 and two dual-speed SFP slots
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- All copper ports are equipped with 802.3at-compliant PoE PSE
- Two SFP slots support dual speed for 100BASE-FX and 1000BASE-X SFP transceivers
- Full wire speed forwarding
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Supports SFP with Digital Diagnostic Monitoring (DDM)
- Provides PoE PSE redundancy function
- Provides fiber optical power alarm function
- Provides Automatic Laser Shutdown function
- Powered via typical industrial power voltage DC 12V-30V

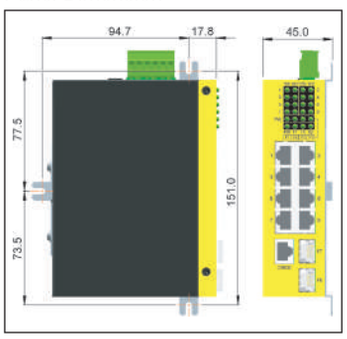
Management Features:

- Management:
  HTTP/HTTPS/SSHv2/CLI telnet/CLI console/SNMP v1/v2c/v3/RMON
  DHCP/DHCPv6 client, DNS client, NTPv4
  IPv6 support, System Syslog, Configuration down/upload, Software upload
  KTI's private MIB for DDM monitoring, Remote boot, TFTP firmware update via SNMP
- Security:
  NAS, 802.1X, MAC-based/Web/CLI authentication
  IP MAC binding, TACACS+, IP source guard
- Layer 2:
  QoS, 802.1Q/MAC-based/Protocol-based/Private/IP subnet VLAN, Port Isolation
  Storm control for UC/MC/BC packets
  Static MAC configuration
  IGMP v2/v3 snooping, MLD v1/v2 snooping, DHCP snooping
  Multiple Spanning Tree – MSTP, RSTP, STP
- KTI's Auto Multi-Ring (KAMR) Technology:
  Fast failover response time
  Auto recovery when failure is repaired
  Supports up to three redundant rings
  Works with RSTP network
  Supports ring member status monitoring for up to 100 units

DIN-Rail Dimension



Panel Dimension

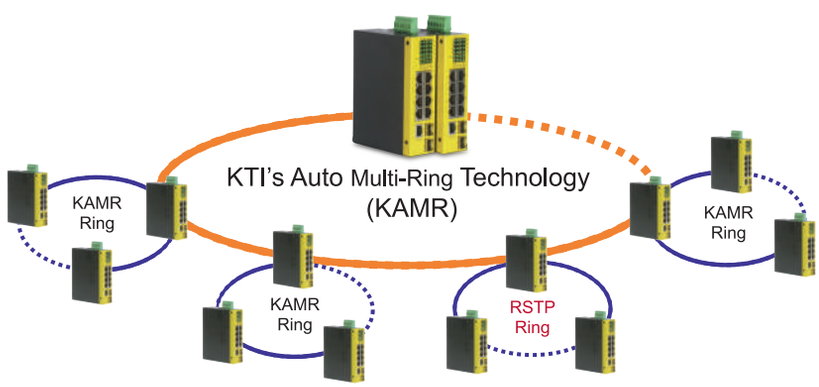


Ordering Informations:

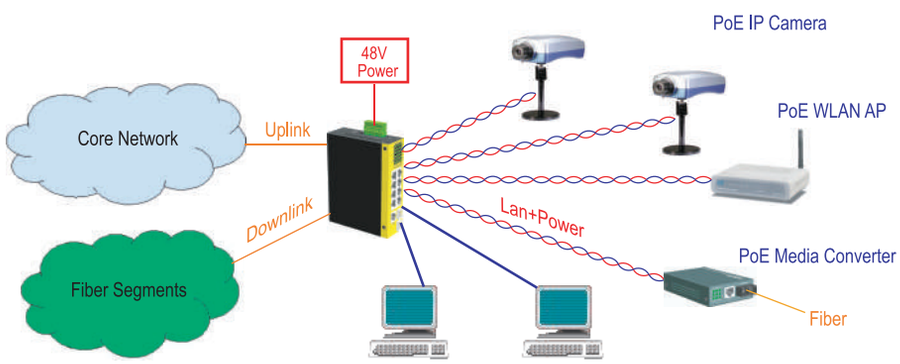
Part#	Description
KGD-802-B	Model with no PoE function
KGD-802-B-P	Model with PoE function
KSD-8PB	Panel mounting kit for KGD-802-B and KSD-800
KPW-300T	300W Power supply for PoE & PoE+ applications

LED Indication	Per unit: power, management status Per port: 1000M,100M, 10M speed/link/activity status Per SFP: fiber link status Per PoE port: power status
Relay Output	Alarm: power failure, specific port link fault Interface: 2 terminal contacts (30VDC/1A max. or 120VAC/0.5A max.)
Web Management	Web browser software System settings, port status/statistics, port control, VLAN, QoS, IGMP snooping, Link aggregation, port mirroring, Firmware upgrade 802.1x, 802.1w RSTP, Configuration backup and restore
SNMP Support	SNMP v1, v2c management, MIB-II, Event traps Private MIB for DDM monitoring, Remote boot and TFTP firmware update via SNMP
DC Power Input	Screwed terminal block: 2 pairs of +/- contacts DC jack: -D 6.3mm / +D 2.0mm Operating voltage range: +6.5 ~ +60VDC Voltage for PoE support: +44 ~ +54VDC
Power Consumption	10W max. (Full load with no PoE support) 72W max. (Full load with 4 PoE max. output)
Housing	Enclosed metal with no fan
Dimension	40 x 106 x 140 mm (WxDxH)
Mounting Support	DIN-Rail, Panel Mounting (Optional)
Environment	Operating Temperature: -20°C ~ 60°C Storage Temperature: -20°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Approval	FCC Class A, CE mark Class A, EN60950-1 safety

Multiple Redundant Rings:



Application:



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KGS-1060, KGS-1060-HP

Product Highlights:

- Web, telnet, SNMP managed
- IPv6 support
- SFP dual speed support
- SFP DDM support
- Four 802.3at PoE PSE ports
- RSTP, STP, MSTP support
- Multi redundant ring support
- IGMP & MLD snooping
- High power saving
- 802.3az EEE support

Ordering Information:

Part#	Description
KGS-1060	Model with PD support and no PSE function
KGS-1060-HP	Model with four PSE ports
KSD-8PB	Panel mounting kit
KPW-300T	300W Power supply for PoE & PoE+ applications

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-4KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC IN: 0.5KV Signal: 1KV
Surge Immunity	IEC 61000-4-5	DC IN: 0.5KV Signal: 1KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 100A/m
Safety	EN 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40°C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+75°C, 30%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+75°C, 95%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 30%RH, 96hrs +85°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz
Shock test	IEC 60068-2-27 Ea	50G
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	5~30Hz, 0.5g xYz, 1hr/axis
NEMA TS2 Shock test	NEMA TS2-2003 Proc, 2.2.9	10G
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C~74°C Humid: 0%~90%
Humidity Cyclic Test	IEC 60068-2-30 Db	25°C/55°C, 95%RH 24hrs, 2 cycles

Industrial Managed 10-Port L2 Gigabit Ethernet Switches with 2 dual-speed SFP Slots and 4 PoE+ PSE Ports

Key Features:

- Eight 10/100/1000Mbps RJ-45 and two dual-speed SFP slots
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection.
- Two SFP slots support dual speed for 100BASE-FX and 1000BASE-X SFP transceivers.
- Full wire speed forwarding
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Port link aggregation function with LACP support
- Supports SFP with Digital Diagnostic Monitoring (DDM)
- Alternatively powered via PoE if direct DC power not available
- Optional four 802.3at-compliant PoE PSE ports
- Supports PoE PSE Redundancy

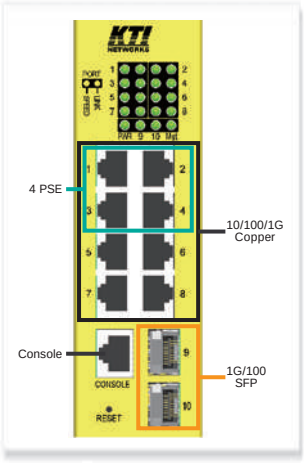
Management Features:

- Management:
  HTTP/HTTPS/SSHv2/CLI telnet/CLI console/SNMP v1/v2c/v3/RMON
  DHCP/DHCPv6 client, DHCP relay, DNS client. NTPv4
  IPv6 support, System Syslog, Configuration down/upload, Software upload
  HTTPS with SSL/TLS support
- Security:
  NAS, 802.1X, MAC-based/Web/CLI authentication
  IP MAC binding, TACACS+, IP source guard
- Layer 2:
  802.1Q/MAC-based/Protocol-based/Private/IP subnet VLAN, Port Isolation
  Storm control for UC/MC/BC packets, Static MAC configuration
  IGMP v2/v3 snooping, MLD v1/v2 snooping, DHCP snooping, Port mirroring
  Multiple Spanning Tree – MSTP, RSTP, STP
  QoS - 8 QoS classes, Tag-based & DSCP-based classification
- KTI's Auto Multi-Ring (KAMR) Technology:
  Fast failover response time, Auto recovery when failure is repaired
  Supports up to five redundant rings, Works with RSTP network

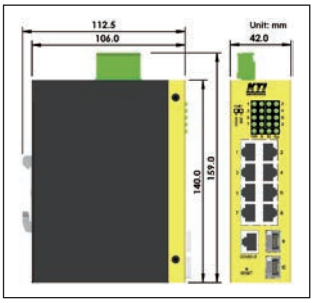
Specifications:

Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.3at, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	8 10/100/1000Mbps Gigabit copper ports, 2 1G/100Mbps SFP slots
Copper Port	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X
Mini-GBIC SFP	SFP connector, Interface: 1000BASE-X and 100BASE-FX support
Console	Connector: Shielded RJ-45, Interface: RS-232
Network Cables	10/100/1000Mbps copper: Cat.5, 5e or higher up to 100m 1000Base-X: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber

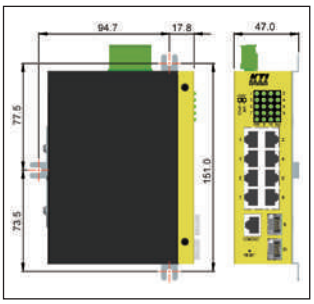
KGS-1060-HP Ports



DIN-Rail Dimension



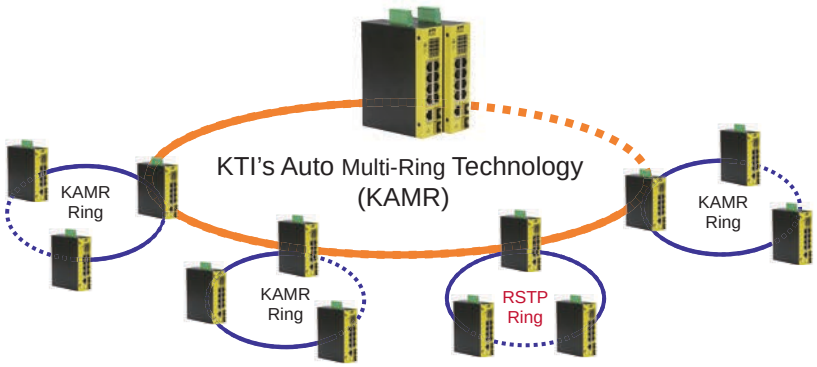
Panel Dimension



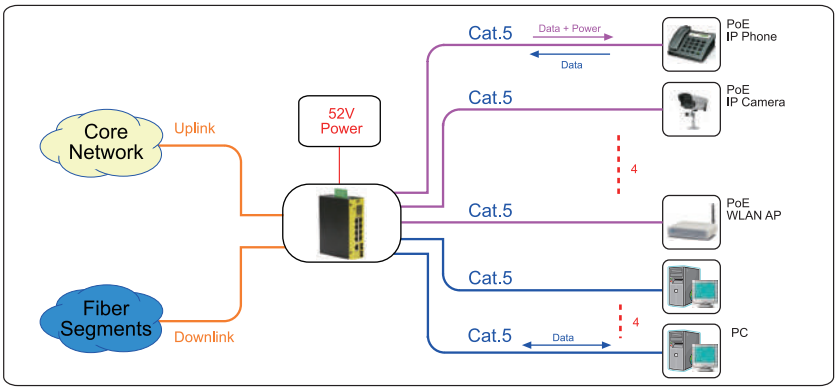
Power over Ethernet	IEEE 802.3at compliant (High power PoE) PSE on Port 1 ~ Port 4 30W max. at port output for Cat.5 distance of 100 meters
MAC Addresses	8K
LED Indication	Per unit: Power, Management status Per port: Speed, link/activity status Per SFP: Speed/link/activity status Per PoE port: PoE status
Relay Output	Alarm: power failure, specific port link fault Interface: 2 terminal contacts (30VDC/1A max. or 120VAC/0.5A max.)
DC Power Input	Screwed terminal block: 2 pairs of +/- contacts Operating voltage range: +7 ~ +60VDC Voltage for PoE support: +45 ~ +57VDC
Powered via PoE	PD port: Port 2 IEEE 802.3af & 802.3at compliant Class 3 (only KGS-1060)
Power Consumption	9W max. (Full load with no PoE support) 130W max. (Full load with 4 PoE+ max. output)
Housing	Enclosed metal with no fan
Dimension	42 x 106 x 140 mm (WxDxH)
Mounting Support	DIN-Rail, Panel Mounting (Optional)
Environment	Operating Temperature: -40°C ~ 70°C* Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class A, VCCI Class A, CE mark Class A, IEC 60950-1 safety EN 61000-6-4 emission, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2 Immunity for industrial environment, IEC 60068-2-64 Vibration, IEC 60068-2-27 Shock 50G test, NEMA TS2 environment

∗60°C ~ 70°C with 1m/s air flow

Multiple Redundant Rings:



Application:



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KGS-0865

Industrial Managed 8-Port L2 Gigabit Ethernet Switch

Key Features:

- Provides 8 10/100/1000Mbps copper ports
- Auto-negotiation
- Auto MDI/MDI-X crossover function
- Supports IEEE 802.3x flow control for full duplex
- Supports back pressure flow control for half duplex
- Fully non-blocking Gigabit full wire speed switching performance
- Jumbo frame support
- Alarm relay output for power failure event and software configured port link fault events
- 802.1Q VLAN function
- Port mirroring function
- IGMP snooping function
- LLDP support
- QoS (Quality of Service) function
- Web management
- SNMP MIB-II support and trap function
- Wide operating temperature range
- Supports IEEE 802.3az Energy Efficient Ethernet
- Supports DIN-Rail mounting and panel mounting
- Industrial-rated emission and immunity performance

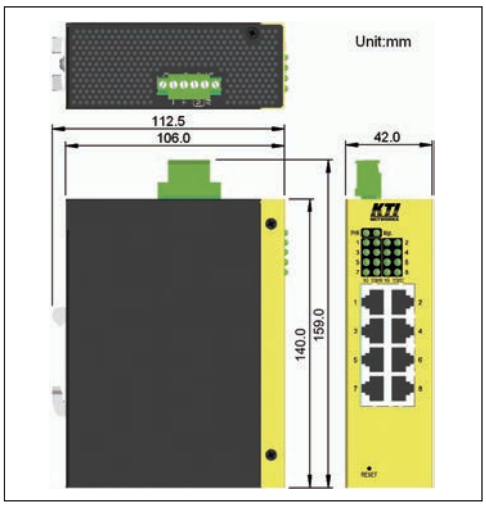
Specifications:

Standard	IEEE 802.3, 802.3u, 802.3ab, 802.3x, 802.3az
Network Ports	8 10/100/1000Mbps copper ports
Copper Ports	Shielded RJ-45, 10BASE-T, 100BASE-TX, 1000BASE-T compliant Auto-negotiation, auto-MDI/MDI-X support
Network Cables	Cat.5, 5e UTP or higher up to 100 meters
MAC Addresses	8K
Jumbo Frame Length	Up to 9.6K bytes
Packet Buffer Size	4M bits
LED Indication	Unit: Power, Alarm status Per copper port: 1G/Link/Activity, 10-100/Link/Activity
DC Power Input	Screwed terminal block: DC+/ DC- contacts with flange Working voltage range: +8 ~ +57VDC Polarity reversal protection

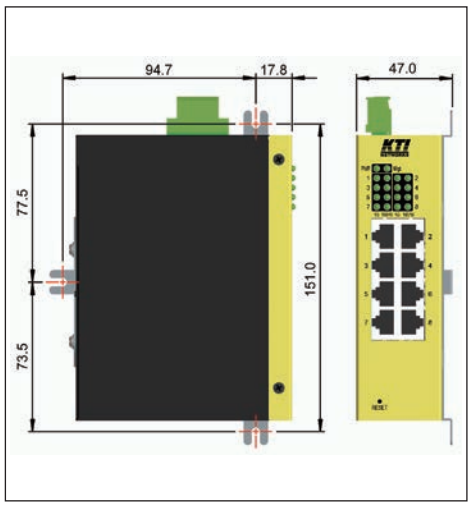
EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-6KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 20V/m
EFT/BURST	IEC 61000-4-4	DC IN: 2KV Signal: 2KV
Surge Immunity	IEC 61000-4-5	DC IN: 1KV Signal: 2KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 30A/m
Safety	EN 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40°C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+75°C, 30%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+75°C, 95%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 30%RH, 96hrs +85°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz
Shock test	IEC 60068-2-27 Ea	50G
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	5~30Hz, 0.5g xYz, 1hr/axis
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C~74°C Humid: 0%~90%
Humidity Cyclic Test	IEC 60068-2-30 Db	25°C/55°C, 95%RH 24hrs, 2 cycles

Relay Output	Screwed terminal block: 2 “NO” dry contacts Contact rating: 30VDC/1A or 120VAC/0.5A Alarm events: power failure, software configured port link fault
Power Consumption	10W max.
Housing	Enclosed metal with no fan
Environment	Operating Temperature: -30°C ~ +70°C Storage Temperature: -40°C ~ +85°C Relative Humidity: 5% ~ 90% non-condensing
Dimension	42 x 106 x 140 mm (WxDxH)
Mounting Support	DIN-Rail mounting, panel mounting (Optional)
Approval	FCC Class A, VCCI Class A, CE mark Class A, IEC 60950-1 safety EN 61000-6-4 emission, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2 Immunity for industrial environment, IEC 60068-2-64 Vibration, IEC 60068-2-27 Shock 50G test NEMA TS2 environment, EN 50121-4 Railway environment
MTBF	440K hours min.



DIN-Rail Dimension



Panel Dimension

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KGD-600 Ver.C

Industrial Managed 6-Port L2 Gigabit Ethernet Switches with 1 dual-speed SFP Slot

Product Highlights:

- Compact industrial design
- Web, telnet, SNMP managed
- SFP dual speed support
- IPv6 support
- RSTP, STP, MSTP support
- IGMP & MLD snooping
- OPA function
- ALS function
- Powerful management support
- PoE support

Panel Mounting
KSD-6PB

DIN-Rail Mounting

Top LED Display

Key Features :

- 5 10/100/1000Mbps RJ-45 and one dual-speed SFP slot
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection.
- The SFP slot supports dual speed for 100BASE-FX and 1000BASE-X SFP transceivers.
- Full wire speed forwarding
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- PoE powered support
- Supports SFP with Digital Diagnostic Monitoring (DDM)
- Provides Automatic Laser Shutdown function
- Industrial-rated emission and immunity performance

Management Features:

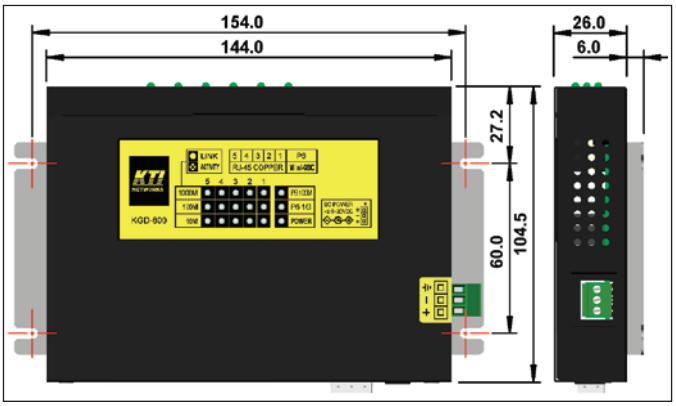
- Management:
  HTTP/HTTPS/SSHv2/CLI telnet/SNMP v1/v2c/v3/RMON
  DHCP/DHCPv6 client, DNS client. NTPv4
  IPv6 support, System Syslog, Configuration down/upload, Software upload
  KTI's private MIB for DDM monitoring, Remote boot, TFTP firmware update via SNMP
- Security:
  NAS, 802.1X, MAC-based/Web/CLI authentication
  IP MAC binding, TACACS+, IP source guard
- Layer 2:
  QoS, 802.1Q VLAN, Port Isolation, Storm control for UC/MC/BC packets
  Static MAC configuration, IGMP v2/v3 snooping, MLD v1/v2 snooping, DHCP snooping
  Multiple Spanning Tree – MSTP. RSTP, STP

Specifications:

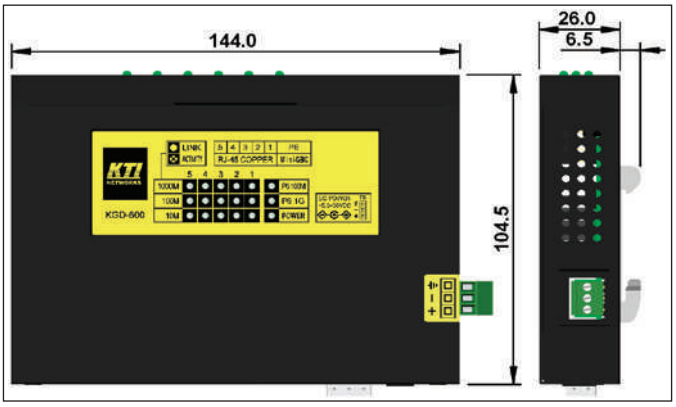
Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	5 10/100/1000Mbps Gigabit copper ports 1 1G/100Mbps SFP slots
Copper Port	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X support
Mini-GBIC SFP	SFP connector Interface: 1000BASE-X and 100BASE-FX support
Network Cables	10/100/1000Mbps copper: Cat.5 up to 100m 1000Base-X: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
MAC Addresses	Table with 8K entries
Buffer Memory	4Mbits

LED Indication	Per unit: Power, Management status Per port: Speed/link/activity status Per SFP: Speed/link/activity status
PoE Power Input	IEEE 802.3at and 802.3af compliant PSE support IEEE 802.3af Class 3 PD on Port 1 Vpoe+ pin 1/2/4/5, Vpoe- pin 3/6/7/8 (Polarity reversal support) Working voltage range: +36 ~ 57VDC
DC Direct Input	Screwed terminal block: 3P DC jack: -D6.3mm/+D2.0mm Voltage range: +7 ~ +57VDC
Power Consumption	6W max.
Housing	Enclosed metal with no fan
Dimension	144 x 104.5 x 26 mm (WxDxH)
Mounting Support	Panel, DIN-Rail, Wall/Desktop
Environment	Operating Temperature: -40°C ~ 60°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class A, VCCI Class A, CE mark Class A EN 60950-1/IEC 60950-1 safety

Power Terminal Block



Panel Dimension



DIN-Rail Dimension

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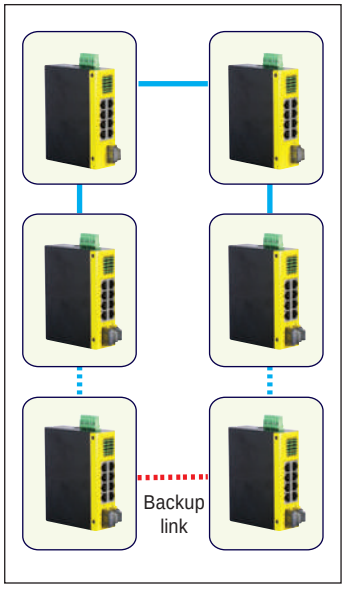
KSD-800M

Industrial Managed 8-Port L2 Fast Ethernet Switches with Fiber Connectivity

Redundant Ring Configuration



Panel Mounting Bracket
KSD-8PB

Benefits:

- Fast Ethernet switch with 8 10/100Mbps copper ports and optional fiber ports
- Wide operating temperature range for temperature critical environment
- Support DIN-Rail mounting and panel mounting
- Provide two power input types to meet more application needs
- Accept wide power input voltage range for application flexibility
- Special functions - VLAN, QoS, Port control
- Industrial-rated Emission and Immunity performance

Key Features:

- 8 10/100M ports support auto-negotiation and auto-MDI/MDI-X configuration
- Port 7 and Port 8 provide either copper or fiber connection (model dependent)
- Provides wire speed store-and-forward switching
- Supports IEEE 802.3x flow control for full-duplex operation
- Supports Back-pressure flow control for half-duplex operation
- Provides Far End Fault function on the fiber ports
- Supports DHCP mode for IP configuration
- Provides port-based, 802.1Q tag-based VLAN function
- Provides port-based, 802.1p, DSCP QoS function
- SNMP, telnet, Web management support
- Supports industrial redundant ring configuration for quick recovery from cable fault or switch failure

Specifications:

Standard	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, 100Base-FX
Network Ports	8 RJ-45 10/100Mbps auto-negotiation, auto-MDI/MDI-X ports 2 100Mbps 100Base-FX ports (model depedent) (Port 7 and Port 8 provide dual connectivities, either copper or fiber.)
Network Cables	10Base-T: Cat. 3, 4, 5 or higher up to 100m 100Base-TX: Cat. 5 or higher up to 100m 100Base-FX: MMF 50/125µm 60/125µm, SMF 9/125µm
VLAN function	Port-based, IEEE 802.1Q Tag-based
QoS function	Port-based, 802.1p-based, DSCP-based, IP match-based
Management	SNMP MIB-II and private MIB, telnet, web, event traps
MAC Addresses	Table with 1K entries
LEDs	Per unit: Power, Management Per 10/100M port: Link/Activity, 100M, Duplex/Collision status Per fiber port slot: Link/Activity status status
Relay Output	Alarm: Power failure Interface: 2 terminal contacts Spec.: 30VDC/1A max. or 120VAC/0.5A max.
DC Power Input	Screwed terminator block: 2 pairs of +/- contacts DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +7 ~ +30VDC

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-8KV Air: +/-16KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	+/-4KV
Surge Immunity	IEC 61000-4-5	Power: 4KV Signal: 0.5KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 40A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz

Ordering Information:

Model	FX Ports	Ref. Distance	Operating Temperature
-1T	FX8 ST MMF	2km	-20 ~ 70°C
-1C	FX8 SC MMF	2km	-20 ~ 70°C
-1SL2	FX8 SC SMF	20km	-20 ~ 70°C
-1W3515	Bi-Di SC SMF	15~20km	-20 ~ 70°C
-1W5315	Bi-Di SC SMF	15~20km	-20 ~ 70°C
-1W3520	Bi-Di SC SMF	20km	-20 ~ 70°C
-1W5320	Bi-Di SC SMF	20km	-20 ~ 70°C
-2T	FX7 ST MMF FX8 ST MMF	2km 2km	-20 ~ 70°C
-2C	FX7 SC MMF FX8 SC MMF	2km 2km	-20 ~ 70°C
-2SL2	FX7 SC SMF FX8 SC SMF	20km 20km	-20 ~ 70°C
-CSL2	FX7 SC MMF FX8 SC SMF	2km 20km	-20 ~ 70°C
-2W5320	FX7 Bi-Di SC SMF FX8 Bi-Di SC SMF	20km	-20 ~ 70°C
-2W3520	FX7 Bi-Di SC SMF FX8 Bi-Di SC SMF	20km	-20 ~ 70°C

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URL: http: //www.ktinet.com

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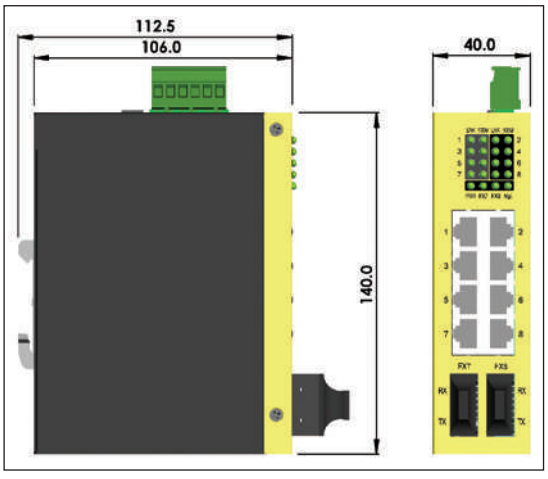
Power Consumption	7.3W max.
Housing	Enclosed metal with no fan
Dimension	40 x 106 x 140 mm (WxDxH)
Mounting Support	DIN Rail mounting, Panel mounting
Environment	Operating Temperature: -20°C ~ 70°C, Storage Temperature: -20°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class A, CE mark Class A, EN60950-1 safety

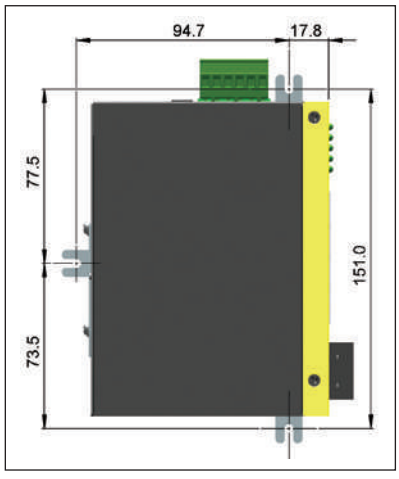
Fiber Optical Specifications:

Model	FX & Cable	Wavelength	Tx Power*	Rx Sens.	Rx Max.
-1T	ST MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-1C	SC MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-1SL2	SC SMF	1310nm	-15 ~-8dBm	-30dBm	-7dBm
-1W3515	Bi-Di SC SMF	Tx 1310nm Rx 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-1W5315	Bi-Di SC SMF	Tx 1550nm Rx 1310nm	-14 ~ -8dBm	-31dBm	0dBm
-1W3520	Bi-Di SC SMF	Tx 1310nm Rx 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-1W5320	Bi-Di SC SMF	Tx 1550nm Rx 1310nm	-14 ~ -8dBm	-31dBm	0dBm
-2T	ST MMF ST MMF	1310nm 1310nm	-20 ~ -14dBm -20 ~ -14dBm	-32dBm -32dBm	-8dBm -8dBm
-2C	SC MMF SC MMF	1310nm 1310nm	-20 ~ -14dBm -20 ~ -14dBm	-31dBm -31dBm	0dBm 0dBm
-2SL2	SC SMF SC SMF	1310nm 1310nm	-15 ~ -8dBm -15 ~ -8dBm	-30dBm -30dBm	-7dBm -7dBm
-CSL2	SC MMF SC SMF	1310nm 1310nm	-20 ~ -14dBm -15 ~ -8dBm	-31dBm -30dBm	0dBm -7dBm
-2W3520	Bi-Di SC x2 SMF	Tx 1310nm Rx 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-2W5320	Bi-Di SC x2 SMF	Tx 1550nm Rx 1310nm	-14 ~ -8dBm	-31dBm	0dBm

*Data for 62.5/125µm MMF, 9 /125µm SMF



DIN-Rail Dimension



Panel Dimension

KSD-800

Industrial 8-Port L2 Fast Ethernet Switches with Fiber Connectivity

Panel Mounting Bracket
KSD-8PB

Benefits:

- Fast Ethernet switch with 8 10/100Mbps copper ports and optional fiber ports
- Wide operating temperature range for temperature critical environment
- Support DIN-Rail mounting and panel mounting
- Provide two power input types to meet more application needs
- Accept wide power input voltage range for application flexibility
- Industrial-rated Emission and Immunity performance

Key Features:

- 8 10/100M ports support auto-negotiation and auto-MDI/MDI-X configuration
- Port 7 and Port 8 provide either copper or fiber connection (model dependent)
- Provides wire speed store-and-forward switching
- Supports IEEE 802.3x flow control for full-duplex operation
- Supports Back-pressure flow control for half-duplex operation
- Provides Far End Fault function on the fiber ports

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-8KV Air: +/-16KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	+/-4KV
Surge Immunity	IEC 61000-4-5	Power: 4KV Signal: 0.5KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 40A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz

Specifications:

Standard	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, 100Base-FX
Network Ports	8 RJ-45 10/100Mbps auto-negotiation, auto-MDI/MDI-X ports 2 100Mbps 100Base-FX ports (model depedent) (Port 7 and Port 8 provide dual connectivities, either copper or fiber.)
Network Cables	10Base-T: Cat. 3, 4, 5 or higher up to 100m 100Base-TX: Cat. 5 or higher up to 100m 100Base-FX: MMF 50/125µm 60/125µm, SMF 9/125µm
MAC Addresses	Table with 1K entries
LEDs	Per unit: Power, Management Per 10/100M port: Link/Activity, 100M, Duplex/Collision status Per fiber port slot: Link/Activity status status
Relay Output	Alarm: Power failure Interface: 2 terminal contacts Spec.: 30VDC/1A max. or 120VAC/0.5A max.
DC Power Input	Screwed terminator block: 2 pairs of +/- contacts DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +7 ~ +30VDC
Power Consumption	7.3W max.
Housing	Enclosed metal with no fan
Dimension	40 x 106 x 140 mm (WxDxH)
Mounting Support	DIN-Rail Mounting, Panel Mounting

Ordering Information:

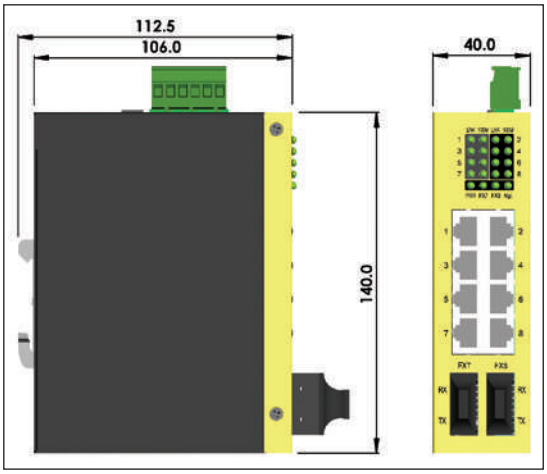
Model KSD-800-xxx	FX Ports	Ref. Distance	Operating Temperature
-1T	FX8 ST MMF	2km	-20 ~ 70°C
-1C	FX8 SC MMF	2km	-20 ~ 70°C
-1SL2	FX8 SC SMF	20km	-20 ~ 70°C
-2T	FX7 ST MMF FX8 ST MMF	2km 2km	-20 ~ 70°C
-2C	FX7 SC MMF FX8 SC MMF	2km 2km	-20 ~ 70°C
-2SL2	FX7 SC SMF FX8 SC SMF	20km 20km	-20 ~ 70°C
-2SL3	FX7 SC SMF FX8 SC SMF	30km 30km	-20 ~ 70°C
-CSL2	FX7 SC MMF FX8 SC SMF	2km 20km	-20 ~ 70°C

Environment	Operating Temperature:	-20°C ~ 70°C
	Storage Temperature:	-20°C ~ 85°C
	Relative Humidity:	5% ~ 95% non-condensing
Approval	FCC Class A, CE mark Class A, EN60950-1 safety	

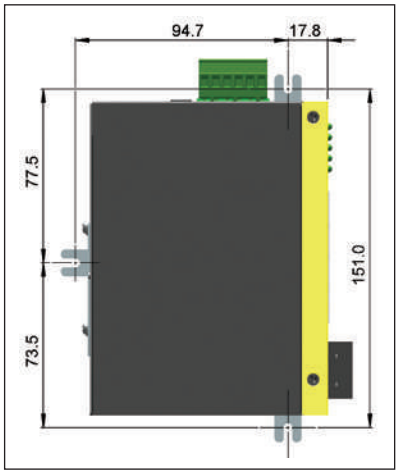
Fiber Optical Specifications:

Model	FX & Cable	Wavelength	Tx Power*	Rx Sens.	Rx Max.
-1T	FX8: ST MMF	1310nm	-20 ~ -14 dBm	-32dBm	-8dBm
-1C	FX8: SC MMF	1310nm	-20 ~ -14 dBm	-31dBm	0dBm
-1SL2	FX8: SC SMF	1310nm	-15 ~ -8 dBm	-30dBm	-7dBm
-2T	FX7: ST MMF	1310nm	-20 ~ -14 dBm	-32dBm	-8dBm
	FX8: ST MMF	1310nm	-20 ~ -14 dBm	-32dBm	-8dBm
-2C	FX7: SC MMF	1310nm	-20 ~ -14 dBm	-31dBm	0dBm
	FX8: SC MMF	1310nm	-20 ~ -14 dBm	-31dBm	0dBm
-2SL2	FX7: SC SMF	1310nm	-15 ~ -8 dBm	-30dBm	-7dBm
	FX8: SC SMF	1310nm	-15 ~ -8 dBm	-30dBm	-7dBm
-2SL3	FX7: SC SMF	1310nm	-15 ~ -8 dBm	-34dBm	0dBm
	FX8: SC SMF	1310nm	-15 ~ -8 dBm	-34dBm	0dBm
-CSL2	FX7: SC MMF	1310nm	-20 ~ -14 dBm	-31dBm	0dBm
	FX8: SC SMF	1310nm	-15 ~ -8 dBm	-30dBm	-7dBm

*Data for 62.5/125µm MMF, 9 /125µm SMF



DIN-Rail Dimension



Panel Dimension

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KSD-541, KSD-541-HP

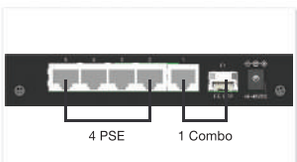
NEMA TS-2

Industrial 5-Port L2 Fast Ethernet Switches with 1 SFP Slot and 4 PoE+ PSE Ports

Product Highlights:

- Compact switch
- SFP fiber options
- 802.3at PoE
- Industrial design

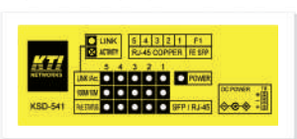
Ports



Panel Mounting

DIN-Rail Mounting

Top LED Display



Key Features:

- Provides 5 10/100Mbps RJ-45 and one 100Mbps SFP slot
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- Provides full wire speed forwarding
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Provides SFP for optional optical fiber connection
- Provides four 802.3at PoE PSE ports
- Backward compatible with 802.3af PD
- Provides two types of power supply interfaces - Jack and terminal block
- Supports Stand-alone, Wall, Din-Rail, and Panel mounting
- Industrial-rated emission and immunity performance

Specifications:

Standard	IEEE 802.3, 802.u, 802.3x, 802.3af, 802.3at
Network Ports	4 10/100Mbps Fast Ethernet copper ports 1 combo port - 10/100Mbps copper & SFP
Copper Port	Shielded RJ-45, 10/100Mbps, auto-negotiation, auto-MDI/MDI-X support
SFP	Fast Ethernet 100Base-FX compliant slot for standard SFP transceiver
Network Cables	10/100Mbps copper: Cat.5, 5e or higher up to 100m, 100Base-FX: 62.5/125, 50/125 MM fiber, 9/125 SM fiber
Power over Ethernet	KSD-541-HP: IEEE 802.3at compliant, High power PoE PSE on Port 2 ~ Port 5 Power delivery 48V 30W max. at port output for a Cat.5 distance of 100 meters Backward compatible with 802.3af PD
MAC Addresses	Table with 1K entries
LED Indication	Display on both top and front panels Per unit: power, Per port: speed, link/activity & PoE status
DC Power Input	Screw terminal block: power +/- and PE contact DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +6 ~ +60VDC Voltage for PoE support: +44 ~ +57VDC
Power Consumption	4W max. with no PoE support 125W max. for 4 PoE+ PSE max. output
Housing	Enclosed metal with no fan
Dimension	144 x 104.5 x 26 mm (WxDxH)
Mounting Support	Wall, DIN-Rail, Panel Mounting (optional)
Environment	Operating Temperature: -30°C ~ +70°C Storage Temperature: -40°C ~ +85°C Relative Humidity: 10% ~ 90% non-condensing

Power Terminal Block

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-8kV Air: +/-16kV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC line: 1kV Signal lines: 2kV
Surge Immunity	IEC 61000-4-5	DC Power line: 0.5kV
CS Test	IEC 61000-4-6	140dBuV Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 40A/m
Voltage Dips Imm.	IEC 61000-4-11	Interrupt 95%: C Dips 95%: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+50°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, $0.1g^2$/Hz 200~500Hz, $0.03g^2$/Hz
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	5~30Hz, 0.5g xYz, 1hr/axis
NEMA TS2 Shock test	NEMA TS2-2003 Proc, 2.2.9	10G
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C~+74°C Humid: 0%~90% Power: +5V~+30V

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Approval FCC Class A, CE mark Class A, EN60950-1/IEC60950-1 safety
NEMA TS2-2003 Environment tests

Ordering Information:

KSD-541	Industrial L2 Fast Ethernet switch (No PoE support, No transceiver installed)
KSD-541-HP	Industrial L2 Fast Ethernet switch with 802.3at PoE support (No transceiver installed)

Optional Accessories:

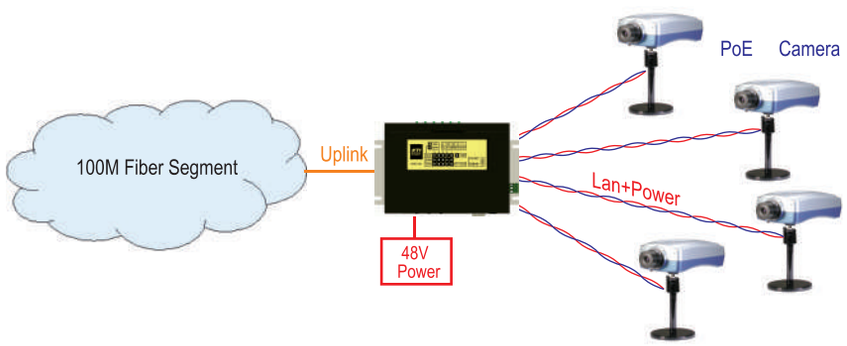
Panel mounting kit (bracket & screws) for KSD-541 and KGD-600

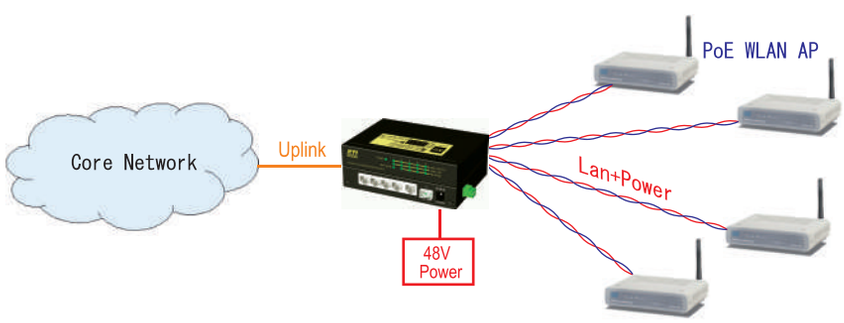
AC Power adapter: Input 100~240VAC, output 48VDC/24W, commercial rated
Input 100~240VAC, output 56VDC/65W, commercial rated

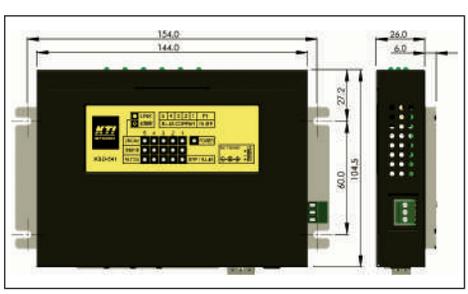
KTI quality SFP transceivers

Recommendation for Din-Rail power: Input 100-240VAC, Output 48VDC/120W/90W/75W/60W/40W

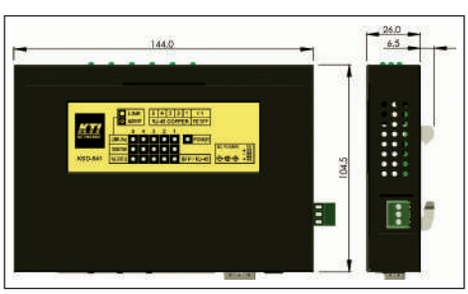
Applications:







Panel Dimension



DIN-Rail Dimension

KGS-0840

EN 50121-4

NEMA TS-2

Shock Test 50G

Industrial 8-Port L2 Gigabit Ethernet Switch

Panel Mounting Bracket
KSD-8PB

Key Features:

- Provides 8 10/100/1000Mbps copper ports
- Auto-negotiation
- Auto MDI/MDI-X crossover function
- Supports IEEE 802.3x flow control for full duplex
- Supports back pressure flow control for half duplex
- Fully non-blocking Gigabit full wire speed switching performance
- Jumbo frame support
- Alarm relay output for power failure event and configured port link fault events
- Wide operating temperature range
- Supports Green Ethernet power saving
- Supports IEEE 802.3az Energy Efficient Ethernet
- Supports DIN-Rail mounting and panel mounting
- Industrial-rated emission and immunity performance

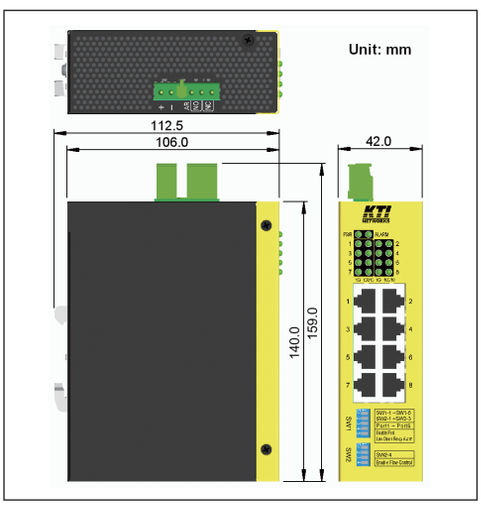
Specifications:

Standard	IEEE 802.3, 802.3u, 802.3ab, 802.3x, 802.3az
Network Ports	8 10/100/1000Mbps copper ports
Copper Ports	Shielded RJ-45, 10BASE-T, 100BASE-TX, 1000BASE-T compliant Auto-negotiation, auto-MDI/MDI-X support
Network Cables	Cat.5, 5e UTP or higher up to 100 meters
MAC Addresses	8K
Jumbo Frame Length	Up to 9.6K bytes
Packet Buffer Size	4M bits
LED Indication	Unit: Power, Alarm status Per copper port: 1G/Link/Activity, 10-100/Link/Activity
DC Power Input	Screwed terminal block: DC+/ DC- contacts Working voltage range: +8 ~ +57VDC Polarity reversal protection
Relay Output	Screwed terminal block: 3 dry contacts for NC & NO pairs Contact rating: 30VDC/1A or 120VAC/0.5A Alarm events: power failure, configured port link fault
DIP Setting SW	SW1 – SW8: Port link fault relay alarm per port configuration SW9: Flow control
Power Consumption	10W max.

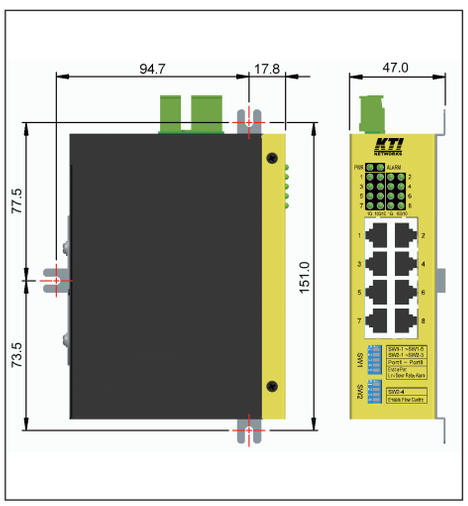
EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-6KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 20V/m
EFT/BURST	IEC 61000-4-4	DC IN: 2KV Signal: 2KV
Surge Immunity	IEC 61000-4-5	DC IN: 1KV Signal: 2KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 30A/m
Safety	EN 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40°C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+75°C, 30%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+75°C, 95%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 30%RH, 96hrs +85°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g^2/Hz 200~500Hz, 0.03g^2/Hz
Shock test	IEC 60068-2-27 Ea	50G
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	5~30Hz, 0.5g xYz, 1hr/axis
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C~74°C Humid: 0%~90%
Humidity Cyclic Test	IEC 60068-2-30 Db	25°C/55°C, 95%RH 24hrs, 2 cycles

Housing	Enclosed metal with no fan
Environment	Operating Temperature: -30°C ~ +70°C Storage Temperature: -40°C ~ +85°C Relative Humidity: 5% ~ 90% non-condensing
Dimension	42 x 106 x 140 mm (WxDxH)
Mounting Support	DIN-Rail mounting, panel mounting (Optional)
Approval	FCC Class A, VCCI Class A, CE mark Class A, IEC 60950-1 safety EN 61000-6-4 emission, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2 Immunity for industrial environment, IEC 60068-2-64 Vibration, IEC 60068-2-27 Shock 50G test NEMA TS2 environment, EN 50121-4 Railway environment
MTBF	440K hours min.



DIN-Rail Dimension



Panel Dimension

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KFS-1640

Industrial 16-Port L2 Fast Ethernet Switch

DIN-Rail Mounting

Panel Mounting Bracket
KSD-8PB

Key Features:

- Auto MDI/MDI-X crossover function on the TP copper port
- Support IEEE 802.3x flow control for full-duplex operation
- Support Back-pressure flow control for half-duplex operation
- Transparent forwarding for tagged/untagged, IGMP, RSTP/STP packets with no modification
- IEEE 802.3az Energy Efficient Ethernet (EEE)
- Wide operating temperature range for temperature critical environment
- Support DIN-Rail mounting and panel mounting
- Provide two power input types to meet more application needs
- DC power input options: +4.5 ~ +50VDC, 110VDC, 90 ~ 150VAC
- Accept wide power input voltage range for application flexibility
- Industrial-rated Emission and Immunity performance

Specifications:

Standard	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX std.
Network Ports	16 10/100 Fast Ethernet copper ports Shielded RJ-45 jacks with auto-negotiation, auto-MDI/MDI-X support
Flow control	IEEE 802.3x pause packet for full-duplex operation Back-pressure for half-duplex operation
Cables	10BASE-T: Cat. 3, 4, 5 or higher (100 meters max.) 100BASE-TX: Cat. 5, 5e or higher (100 meters max.)
LEDs	Power status Port link/activity status Port speed status
Forwarding rate	10Base-T: 10Mbps (Half-duplex) 20Mbps (Full-duplex) 100Base-TX: 100Mbps (Half-duplex) 200Mbps (Full-duplex)
MAC Table	8K entries
Packet Size	Up to 2K bytes
Environment	Operating Temperature: -20°C ~ 70°C (Device) Storage Temperature: -20°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Dimensions	40 x 106 x 140 mm (WxDxH)
Power Input Voltage	KFS-1640-L: +4.5 ~ +50VDC KFS-1640-H: +110VDC with polarity protection 90 ~ 150VAC

Ordering Information:

Model	DC IN	DC IN Voltage
KFS-1640-L	TB-5P, DC Jack	+4.5 ~ +50VDC
KFS-1640-H	TB-5P	+110VDC 90 ~ 150VAC

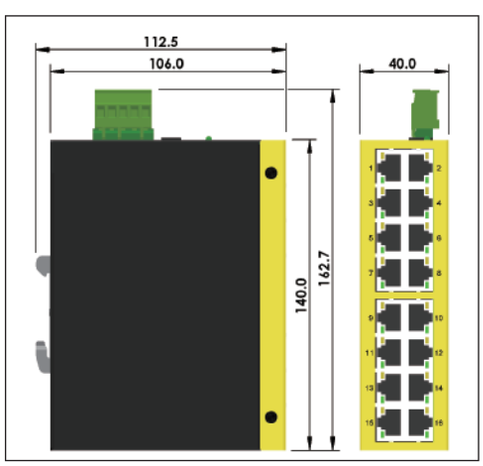
EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
CE/EMC/Harmonic	EN 61000-3-2	230VAC/50Hz Class A
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-6KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC IN: +/-1KV RJ-45: +/-1KV
Surge Immunity	IEC 61000-4-5	DC IN: +/-1KV RJ-45: +/-1KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 100A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+70°C, 90%RH, 72hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 90%RH, 96hrs

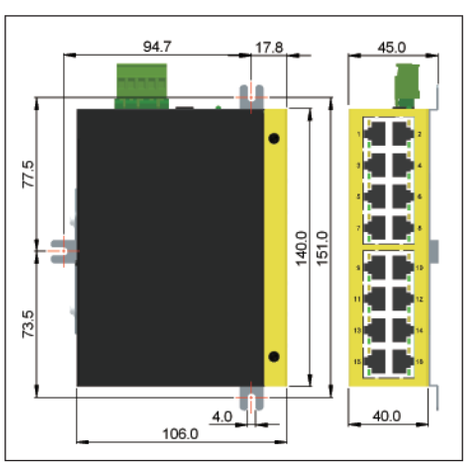
Power Input Connector	Industrial Terminal Block 5P: V_{in} +/-, PE, PF +/- (PF: Power failure relay output) DC Jack (KFS-1640-L)
Power Consumption	3.4W max. (KFS-1640-L) 5.2W max. (KFS-1640-H)
Housing	Enclosed metal with no fan
Mounting Support	DIN-Rail, Panel mounting (optional)
Approval	FCC Class A, VCCI Class A, CE mark Class A, IEC60950-1 safety, C-Tick

Optional Accessories:

KPW-1212-H-V	AC Power adapters for high temperature 60°C for Europe, Input 100 ~ 150VAC, Output 12VDC/1.0A, 12Watts
KPW-1212-H-U	AC Power adapters for high temperature 60°C for USA, Input 100 ~ 240VAC, Output 12VDC/1.0A, 12Watts
KPW-2012-D-E	DIN-Rail Power Supply, Input 100 ~ 240VAC, Output 12VDC/1.8A 20Watts, WT -20°C ~ 60°C
KPW-1012-D	DIN-Rail Power Supply, Input 100 ~ 240VAC, Output 12VDC/0.85A 10Watts, WT -20°C ~ 70°C
KSD-8PB	Panel mounting bracket



DIN-Rail Mounting Dimension



Panel Mounting Dimension

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KFS-0540, KFS-0840

Industrial 5/8-Port L2 Fast Ethernet Switch

DIN-Rail Mounting

Panel Mounting Bracket
PMB-0540

Key Features:

- Auto MDI/MDI-X crossover function on the TP copper port
- Support IEEE 802.3x flow control for full-duplex operation
- Support Back-pressure flow control for half-duplex operation
- Wide operating temperature range for temperature critical environment
- Support DIN-Rail mounting and panel mounting
- Provide two power input types to meet more application needs
- Accept wide power input voltage range for application flexibility
- Industrial-rated Emission and Immunity performance

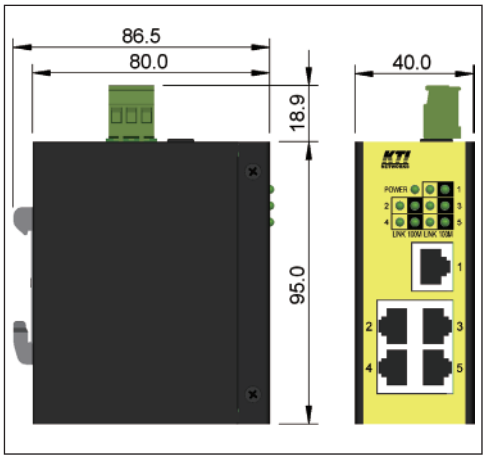
Specifications:

Standard	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX std.
Network Ports	5/8 10/100 Fast Ethernet copper ports Shielded RJ-45 jacks with auto-negotiation, auto-MDI/MDI-X support
Flow control	IEEE 802.3x pause packet for full-duplex operation Back-pressure for half-duplex operation
Cables	10Base-T: Cat. 3, 4, 5 or higher (100 meters max.) 100Base-TX: Cat. 5, 5e or higher (100 meters max.)
LEDs	Power status, Port link/activity status, Port speed status
Forwarding rate	10Base-T: 10Mbps (Half-duplex) 20Mbps (Full-duplex) 100Base-TX: 100Mbps (Half-duplex) 200Mbps (Full-duplex)
Packet Size	Up to 1536 bytes
Environment	Operating Temperature: -35°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Dimensions	40 x 80 x 95 mm (WxDxH)
DC Power Input	Screwed terminal block DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +7V ~ +30VDC
Power Consumption	KFS-0540: 2.2W, KFS-0840: 2.3W
Housing	Enclosed metal with no fan
Mounting Support	DIN-Rail, Wall, Panel mounting (optional)
Approval	KFS-0540: FCC Class B, CE mark Class B, LVD IEC 60950-1 safety KFS-0840: FCC Class A, CE mark Class A, LVD IEC 60950-1 safety

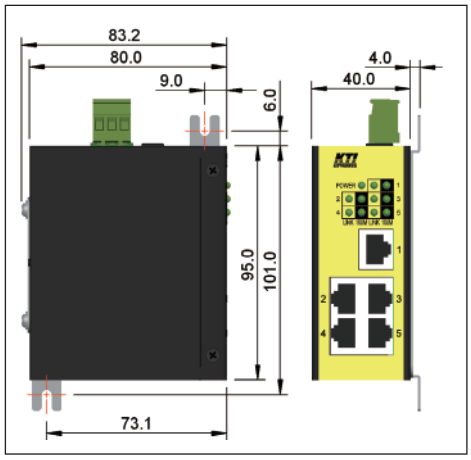
Optional Accessories:

KPW-1212-H-V	AC Power adapters for high temperature 60°C for Europe, Input 100 ~ 240VAC, Output 12VDC/1A, 12Watts
KPW-1212-H-U	AC Power adapters for high temperature 60°C for USA, Input 100 ~ 240VAC, Output 12VDC/1A, 12Watts
KPW-2012-D-E	DIN-Rail Power Supply, Input 100 ~ 240VAC, Output 12VDC/1.8A, 21.6Watts -20°C ~ 60°C
KPW-2024-D	DIN-Rail Power Supply, Input 100 ~ 240VAC, Output 24VDC/0.9A, 21.6Watts -25°C ~ 70°C
KPW-1012-D	DIN-Rail Power Supply, Input 100 ~ 240VAC, Output 12VDC/0.85A, 10.2Watts -40°C ~ 70°C
PMB-0540	Panel mounting kit for KFS-0540, KFS-0840

KFS-0540

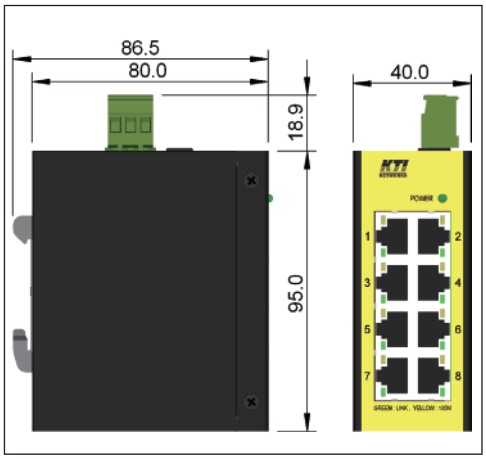


DIN-Rail Dimension

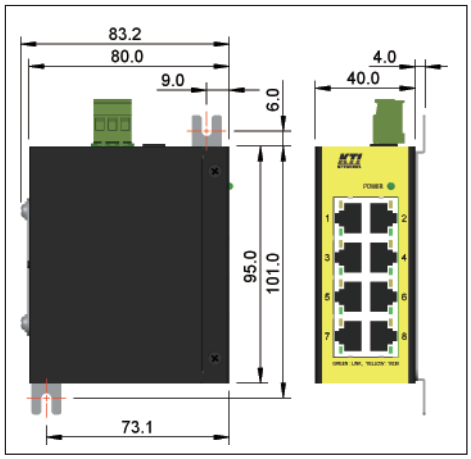


Panel Dimension

KFS-0840



DIN-Rail Dimension



Panel Dimension

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	KFS-0540:Class B KFS-0840:Class A
CE/EMC/EMI	EN55022, CISPR 22	KFS-0540:Class B KFS-0840:Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-4KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC IN: +/-0.5KV RJ-45: +/-1KV
Surge	IEC 61000-4-5	DC IN: +/-0.5KV RJ-45: +/-1KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 100A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	IEC 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-35°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +90°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz
Shock Test	IEC 60068-2-27 Ea	50G

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KGC-460, KGC-460-HP

NEMA TS-2

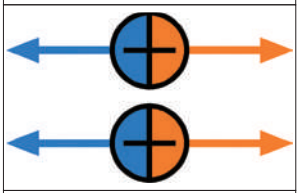
Shock Test 50G

Industrial Managed Multi-function GbE Media Converters with PoE+ Support

Multi-function modes

2MC Mode

Dual independent media converters in one



LFPT, IGMP, LLDP, DDM, PoE support

2C1F MC Mode

Dual media converters sharing redundant fiber

LFPT, IGMP, LLDP, LACP, DDM, PoE support

F2F MC Mode

Fiber to Fiber media converter

LFPT, IGMP, LLDP, DDM support

4P Switch Mode

4-port Gigabit Ethernet switch

Full specified management features

Key Features:

- Provides 2 10/100/1Gbps copper ports and 2 dual-speed SFP fiber port slots
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- Dual-speed SFP slots support 100BASE-FX and 1000BASE-X SFP
- SFP featured with Digital Diagnostic Monitoring (DDM) support
- Multiple functions in one:
  - Dual media converts mode
  - Dual media converters sharing redundant fiber mode
  - Fiber to fiber media converter mode
  - 4-port switch mode
- Link fault pass through (LFPT) featured for all media converter modes
- Redundant ring function featured for 4-port switch mode
- Supports Gigabit full wire speed bridging & forwarding performance
- Jumbo frame support up to 9600 bytes
- Alarm relay output for events of power failure and configured port link down
- Green Ethernet power saving
- 802.3az Energy Efficient Ethernet (EEE) support
- Optional high power PoE PSE function on copper ports

Management Features:

- Function mode configuration
- Management:
  HTTP/HTTPS/SSHv2/CLI telnet/SNMP v1/v2c/v3/RMON
  DHCP/DHCPv6 client, DHCP relay, DNS client, NTPv4
  IPv6 support, System Syslog, Configuration down/upload, Software upload
- Security:
  NAS, 802.1X, MAC-based/Web/CLI authentication
  IP MAC binding, TACACS+, IP source guard
- Layer 2:
  QoS, 802.1Q VLAN, Storm control for UC/MC/BC packets,
  Static MAC configuration, IGMP v2/v3 snooping, MLD v1/v2 snooping,
  DHCP snooping, Multiple Spanning Tree – MSTP, RSTP, STP
- KTI's Auto Multi-Ring (KAMR) Technology:
  Fast failover response time, Auto recovery when failure is repaired,
  Works with RSTP network
- KTI's PoE Redundancy function:
  Fast failover due to power off or link loss, Auto recovery when failure is repaired

Product Highlights:

- Multi-functional
- 3 media converter modes
- Ethernet switch mode
- Web, telnet, SNMP managed
- IPv6 support
- Optional 802.3at PoE PSE

Ordering Informations:

Part#	Description
KGC-460	Standard model with no PSE function
KGC-460-HP	Model with two PSE ports

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-6KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC IN: 0.5KV Signal: 1KV
Surge Immunity	IEC 61000-4-5	DC IN: 2KV Signal: 0.5KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 30A/m
Safety	EN 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40˚C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+75°C, 30%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+75°C, 95%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 30%RH, 96hrs +85°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g^2/Hz 200~500Hz, 0.03g^2/Hz
Shock test	IEC 60068-2-27 Ea	50G
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	10G
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C~74°C Humid: 0%~90%
Humidity Cyclic Test	IEC 60068-2-30 Db	25°C/55°C, 95%RH 24hrs, 2 cycles

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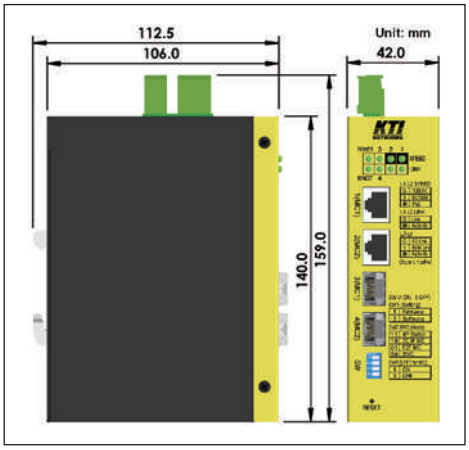
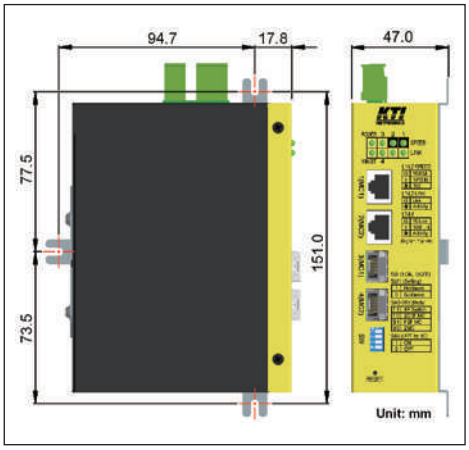
Specifications:

Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.3at, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	2 10/100/1000Mbps Gigabit copper ports 2 1G/100Mbps SFP slots
Copper Port	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X
Mini-GBIC SFP	SFP connector, Interface: 1000BASE-X and 100BASE-FX support
Network Cables	10/100/1000Mbps copper: Cat.5, 5e UTP or higher up to 100m SFP fiber: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
Power over Ethernet	IEEE 802.3at compliant (High power PoE) 30W max. at port output for Cat.5 distance of 100 meters
MAC Addresses	8K
LED Indication	Per unit: Power, Management status Per port: Speed, link/activity status Per SFP: Speed/link/activity status Per PoE port: PoE status
Relay Output	Alarm: power failure, configured port link fault Interface: 3 terminal contacts (30VDC/1A max. or 120VAC/0.5A max.)
DC Power Input	Screwed terminal block: DC +/- contacts Operating voltage range: +12 ~ +57VDC Voltage for PoE support: +45 ~ +57VDC Polarity reversal protection
Power Consumption	6W@56V max. (Full load with no PoE support) 66W@56V max. (Full load with 2 PoE+ max. output)
Housing	Enclosed metal with no fan
Dimension	42 x 106 x 140 mm (WxDxH)
Mounting Support	DIN-Rail, Panel Mounting (Optional)
Environment	Operating Temperature: -40°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class A, VCCI Class A, CE mark Class A, TUV EN 60950-1 safety EN 61000-6-4 emission, EN61000-3-2, EN61000-3-3, EN61000-6-2 Immunity for industrial environment, IEC 60068-2-64 Vibration, IEC 60068-2-27 shock



DIN-Rail Dimension



Panel Dimension

KGC-260

EN 50121-4

NEMA TS-2

Shock Test 50G

Industrial Managed 10/100/1000Base-T to Dual-speed Fiber Media Converters

Product Highlights:

- Tri-speed copper to dual-speed fiber conversion
- LFPT function
- Web & SNMP management
- 802.1Q Control
  - Packet type, VID filtering
  - 802.1Q tag stripping & tagging
  - 802.1ad Q-in-Q support
  - 802.1ad S-tag tagging
- OPA function
- ALS function

Key Features:

- Tri-speed 10/100M/1Gbps copper to dual-speed 100M/1Gbps fiber conversion
- Comply with IEEE 802.3, 802.3u, 802.3ab, 802.3z standard
- Support full wire speed conversion for Gigabit copper to Gigabit fiber
- Support auto-negotiation with link partners
- Provide dual-speed SFP on fiber port for mounting variety of fiber options
- Provide important LFPT (Link Fault Pass Through) media converter function
- Support Jumbo frame conversion
- Energy efficient ethernet (EEE) support
- Alarm events relay output
- Optical Power Alarm (OPA) function
- Auto Laser Shutdown (ALS) function
- Ideal solution for multimode, short reach up to long reach single mode fiber, Bi-Di applications
- Web-based configuration management support
- Support SNMP management

Specifications:

Standard	IEEE 802.3, 802.3u, 802.3ab, 802.3z, 802.1ad, 802.3az, 802.1Q
Copper Port	Shielded RJ-45, 10/100/1000Mbps, Full/Half duplex Auto-negotiation, Auto-MDI/MDI-X
Fiber Port	SFP connector with pre-configured SFP fiber transceiver 100Mbps/1Gbps Full duplex, Auto-negotiation Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125µm, 62.5/125µm, SMF 9/125µm
LED Indication	Unit: Power status Per port: 1G/Link/Activity, 10-100/Link/Activity
Jumbo Frame size	Up to 9.6K bytes
DC Power Input	Screwed terminal block: DC+/ DC- contacts Working voltage range: +12 ~ +30VDC Polarity reversal protection
Relay Output	Screwed terminal block: 3 dry contacts for NC & NO pairs Contact rating: 30VDC/1A or 120VAC/0.5A Alarm events: power failure, configured port link fault, OPA
Power Consumption	4.2W max.

Approval:

FCC Class A, VCCI Class A,
CE mark Class A,
IEC60950-1 safety,
EN 61000-6-4 emission,
EN 61000-3-2, EN 61000-3-3,
EN 61000-6-2 Immunity for
industrial environment,
IEC 60068-2-64 Vibration,
IEC 60068-2-27 Shock 50G test ,
NEMA TS2 environment,
EN 50121-4 Railway environment

EMC Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-6KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 20V/m
EFT/BURST	IEC 61000-4-4	DC IN: 2KV Signal: 2KV
Surge Immunity	IEC 61000-4-5	DC IN: 1KV Signal: 2KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50/60Hz, 30A/m
Safety	EN 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40˚C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+75°C, 30%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+75°C, 95%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 30%RH, 96hrs +85°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g^2/Hz 200~500Hz, 0.03g^2/Hz
Shock test	IEC 60068-2-27 Ea	50G
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	10G
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C~74°C Humid: 0%~90%
Humidity Cyclic Test	IEC 60068-2-30 Db	25°C/55°C, 95%RH 24hrs, 2 cycles

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Housing	Enclosed metal with no fan
Environment	Operating Temperature: -40°C ~ 75°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Dimension	40 x 80 x 95 mm (WxDxH)
Mounting Support	DIN-Rail, Panel (optional)
MTBF	430K hours min

Management:

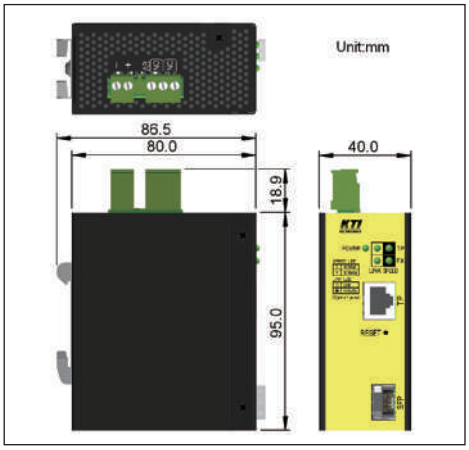
Management	Web-based browser interface, SNMP manager
Port Control	Operating mode, Flow control, LLDP
Packet Filtering	802.1Q tagged packet filtering, Untagged packet filtering
802.1Q VLAN	Ingress 802.1Q tag stripping, Egress 802.1Q tagging (tag insertion) S-tag tagging (802.1ad double tagging)
Maintenance	Restore factory default, reboot, firmware update
SNMP Trap	Trap events: Bootup, Login failure, Port link changes, OPA
SNMP Private MIB	DDM, Remote boot, OPA
Power saving	Disable, Link Up, Link Down, Full

Fiber Optical Specifications:

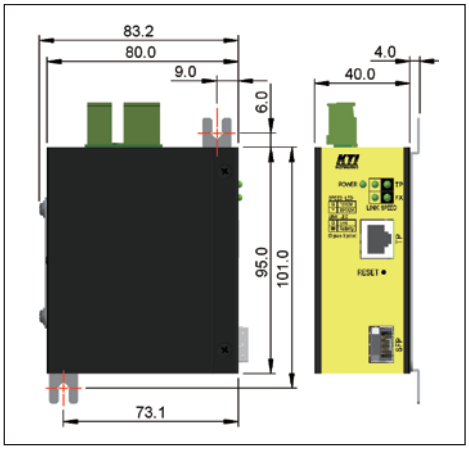
1Gbps	Fiber Port	Wavelength	Tx Power*	Rx Sens.	Rx Max.	Distance*
-SX	LC 62.5/125 MMF 50/125 MMF	850nm	-9.5 ~ -4dBm	-18dBm	0Bm	220m 500m
-LX	LC MMF SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm	550m 10km
-LX20	LC SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm	20km
-LX70	LC SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm	70km
-W3510	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W5310	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm	10km

100Mbps	Fiber Port	Wavelength	Tx Power*	Rx Sens.	Rx Max.	Distance*
-FM	LC MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm	2km
-FS30	LC SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm	30km

* Tx Power data for 62.5/125μm MMF, 9 /125μm SMF
Distance: reference connection distance



DIN-Rail Dimension



Panel Dimension

Network Media Converters

KGC-240

EN 50121-4

NEMA TS-2

Shock Test 50G

Industrial 10/100/1000Base-T to Dual-speed Fiber Media Converters

Product Highlights:

- Copper 10/100M/1G support
- Fiber 100M/1G support
- LFPT function

Key Features:

- Tri-speed 10/100M/1Gbps copper to dual-speed 100M/1Gbps fiber conversion
- Comply with IEEE 802.3, 802.3u, 802.3ab, 802.3z standard
- Support full wire speed conversion for Gigabit copper to Gigabit fiber
- Support auto-negotiation with link partners
- Provide dual-speed SFP on fiber port for mounting variety of fiber options
- Provide important LFPT (Link Fault Pass Through) media converter function
- Support Jumbo frame conversion
- Energy efficient ethernet (EEE) support
- Alarm events relay output
- Ideal solution for multimode, short reach up to long reach single mode fiber, Bi-Di applications

Specifications:

Standard	IEEE 802.3, 802.3u, 802.3ab, 802.3z, 802.1ad, 802.3az, 802.1Q
Copper Port	Shielded RJ-45, 10/100/1000Mbps, Full/Half duplex Auto-negotiation, Auto-MDI/MDI-X
Fiber Port	SFP connector with pre-configured SFP fiber transceiver 100Mbps/1Gbps Full duplex, Auto-negotiation Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125µm, 62.5/125µm, SMF 9/125µm
DIP SW	Settings for fiber port mode, flow control, LFPT, FX relay alarm
LED Indication	Unit: Power status Per port: 1G/Link/Activity, 10-100/Link/Activity
Jumbo Frame size	Up to 9.6K bytes
DC Power Input	Screwed terminal block: DC+/ DC- contacts Working voltage range: +12 ~ +30VDC Polarity reversal protection
Relay Output	Screwed terminal block: 3 dry contacts for NC & NO pairs Contact rating: 30VDC/1A or 120VAC/0.5A Alarm events: power failure, configured fiber port link fault
Power Consumption	4.2W max.
Housing	Enclosed metal with no fan
Environment	Operating Temperature: -40°C ~ 75°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing

EMC Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-6KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 20V/m
EFT/BURST	IEC 61000-4-4	DC IN: 2KV Signal: 2KV
Surge Immunity	IEC 61000-4-5	DC IN: 1KV Signal: 2KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50/60Hz, 30A/m
Safety	EN 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40°C, 72hrs
Dry Heat Test	IEC 60068-2-2 Bd	+75°C, 30%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+75°C, 95%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 30%RH, 96hrs +85°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz
Shock test	IEC 60068-2-27 Ea	50G
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	10G
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C~74°C Humid: 0%~90%
Humidity Cyclic Test	IEC 60068-2-30 Db	25°C/55°C, 95%RH 24hrs, 2 cycles

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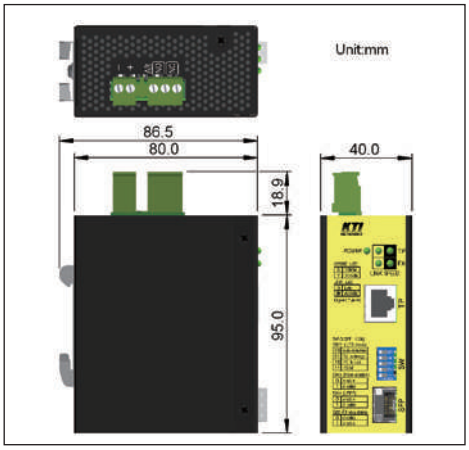
Dimension	40 x 80 x 95 mm (WxDxH)
Mounting Support	DIN-Rail, Panel (optional)
Approval	FCC Class A, VCCI Class A, CE mark Class A, IEC60950-1 safety EN 61000-6-4 emission, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2 Immunity for industrial environment, IEC 60068-2-64 Vibration, IEC 60068-2-27 Shock 50G test NEMA TS2 environment, EN 50121-4 Railway environment
MTBF	430K hours min

Fiber Optical Specifications:

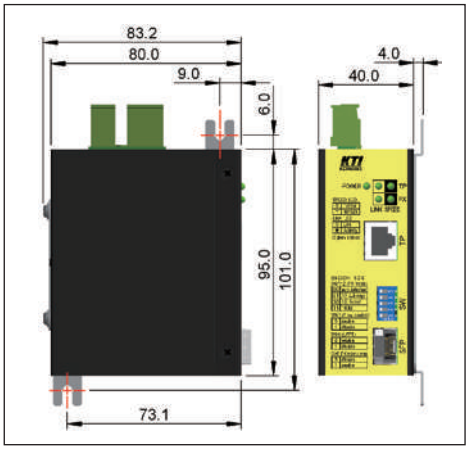
1Gbps	Fiber Port	Wavelength	Tx Power*	Rx Sens.	Rx Max.	Distance*
-SX	LC 62.5/125 MMF 50/125 MMF	850nm	-9.5 ~ -4dBm	-18dBm	0Bm	220m 500m
-LX	LC MMF SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm	550m 10km
-LX20	LC SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm	20km
-LX70	LC SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm	70km
-W3510	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W5310	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm	10km

100Mbps	Fiber Port	Wavelength	Tx Power*	Rx Sens.	Rx Max.	Distance*
-FM	LC MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm	2km
-FS30	LC SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm	30km

* Tx Power data for 62.5/125µm MMF, 9 /125µm SMF
Distance: reference connection distance



DIN-Rail Dimension



Panel Dimension

KCD-400

Industrial 1000Base-T to 1000Base-X Gigabit Media Converters

DIN-Rail Mounting
KC-4DR

Panel Mounting Bracket
PMB-400

The industrial KCD-400 media converter series provides industrial strength Gigabit Ethernet copper -to-fiber media conversion,allowing for 1000Base-T-to-1000Base-Xover multi-mode or optional single-mode fiber optical media. With the SFP (Mini-GBIC) connector design,the media converter not only supports existing variety of multimode and single mode fibers,but also preserves the flexibility to adapt to any change of your fiber network in the future.

Benefits:
- Plug and play design with no configuration setting
- Wide operating temperature range for temperature critical environment
- Support DIN-Rail mounting and panel mounting
- Provide two power input types to meet more application needs
- Accept wide power input voltage range for application flexibility
- Industrial-rated Emission and Immunity performance

Key Features:
- Comply with IEEE 802.3ab 1000Base-T,802.3z 1000Base-SX/LX standard
- Provide direct media conversion for Gigabit copper and Gigabit fiber
- Support full wire speed conversion
- Support transparent conversion of any packet types with no packet length limitation
- Support auto-negotiation with link partners
- Provide link fault pass through between copper and fiber link
- Provide SFP on fiber port for mounting variety of fiber options
- Low power consumption
- Two power interface types:screw terminal block and DC Jack
- Supports DIN-Rail mounting and optional screwed plane mounting

Specifications:

Standard	IEEE 802.3au, 802.3z
Conversion	Direct 1000BASE-T to 1000BASE-X with minimum latency
Packet Types	Transparent conversion with no modification to: - Standard IEEE 802.3 Ethernet packet frames - IEEE 802.1Q tagged packet frames
Copper Port	Shielded RJ-45,1000Mbps Auto-negotiation capable Auto-MDI/MDI-X crossover function
Fiber Port	SFP connector with pre-configured SFP fiber transceiver Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125μm, 62.5/125μm, SMF 9/125μm
LEDs	Power status, SFP ON status Link status, Optical link status

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class B
CE/EMC/EMI	EN55022, CISPR 22	Class B
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-6KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC IN: +/-3KV TP: +/-4KV
Surge Immunity	IEC 61000-4-5	DC IN: +/-1KV AC IN: +/-4KV TP: +/-1KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 40A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: A
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz
Shock Test	IEC 60068-2-27 Ea	50G

Ordering Information:

Model KCD-400-xxx	Fiber Mode	Connector	Ref. Distance
-SX	62.5/125 50/125	LC	200m 500m
-LX	MM SM	LC	550m 10km
-LX20	SM	LC	20km
-LX110	SM	LC	110km

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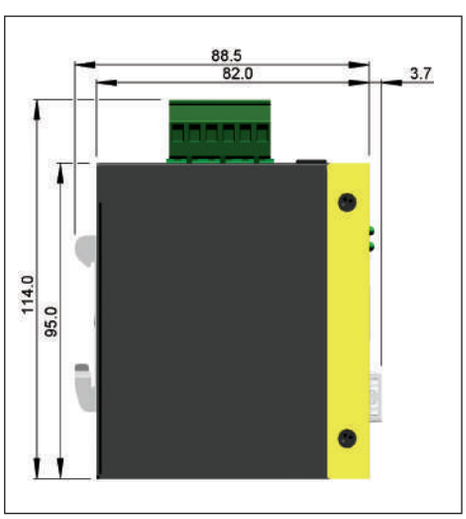
DC Power Input	Screwed terminator block: DC jack: Operating voltage range:	2 pairs of +/- contacts 1 pair of power alarm relay output contacts -D 6.3mm/+D 2.0mm +7 ~ +30VDC
Power Consumption	2W max. @30VDC power input	
Dimension	28 x 82 x 95 mm (WxDxH)	
Weight	240 g	
Housing	Enclosed metal with no fan	
Mounting Support	DIN-Rail mounting, Panel mounting	
Environment	Operating Temperature: Storage Temperature: Relative Humidity:	-20°C ~ 70°C -20°C ~ 85°C 5% ~ 95% non-condensing
Approval	FCC Class B, CE mark Class B, EN60950-1 safety	

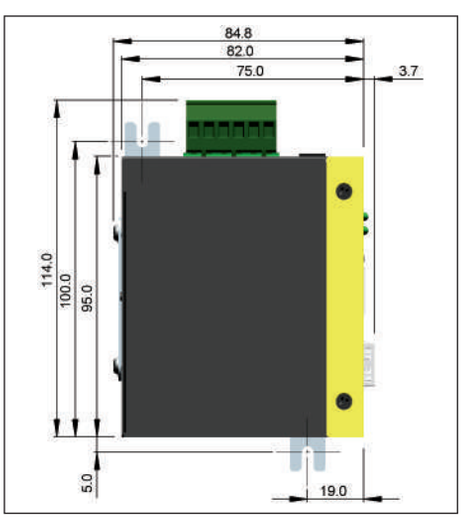
Fiber Optical Specifications:

Model	Fiber	Wavelength	Tx Power*	Rx Sens.	Rx Max.	Distance
-SX	LC 62.5/125 MMF 50/125 MMF	850nm	-9.5 ~ -4dBm	-18dBm	0dBm	220m 500m
-LX	LC MMF SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm	550m 10km
-LX20	LC SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm	20km
-LX110	LC SMF	1550nm	0 ~ +5dBm	-30dBm	-8dBm	110km

*Data for 62.5/125μm MMF, 9 /125μm SMF



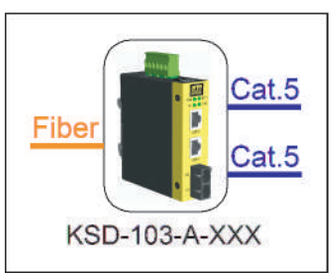
DIN-Rail Dimension

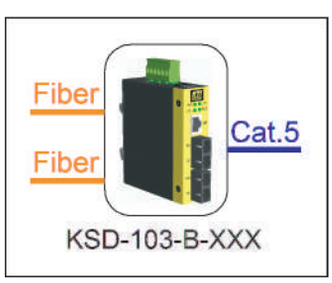


Panel Dimension

KSD-103-A, KSD-103-B

Industrial 3-Port L2 Fast Ethernet Media Converter Switches





Panel Mounting Bracket
PMB-400

The industrial rated KSD-103 Fast Ethernet switch series supports three switching-base segment communications and benefit the following applications and make fiber deployment easier:

- Copper to fiber bridging converter
- Multimode fiber to single mode fiber bridging converter
- Fiber cable extender
- Cascaded fiber networking

Key Features:

- Provide 3 switching-base network segments
- Auto MDI/MDI-X crossover function on the TP copper port
- Support IEEE 802.3x flow control for full-duplex operation
- Support Back-pressure flow control for half-duplex operation
- Wide operating temperature range for temperature critical environment
- Support DIN-rail mounting and panel mounting
- Provide two power input types to meet more application needs
- Accept wide power input voltage range for application flexibility
- Industrial-rated Emission and Immunity performance

Specifications:

Forwarding Method	Store-and-forward, Full wire speed switching
Packet Size	Support 1536 bytes max.
Packet Types	Transparent conversion with no modification to: - Standard IEEE 802.3 Ethernet packet frames - IEEE 802.1Q tagged packet frames - RSTP packet frames
TP Port	Shielded RJ-45 jack Auto MDI/MDI-X crossover function, auto-negotiation function Supports Cat.5, 5e or higher UTP cable up to 100m
Fiber (FX) Port	Multimode ST, SC, Single mode SC, Bi-directional SC MMF 50/125μm, 62.5/125μm fiber cable, SMF 9/125μm cable 100Mbps Full-duplex, Far End Fault Indication support
Model Definition	KSD-103-A: 2 TP ports, 1 FX port, KSD-103-B: 1 TP port, 2 FX ports
Flow Control	IEEE 802.3x for Full-duplex, Back pressure for Half-duplex
LEDs	Power status, Port link/activity
DC Power Input	Screwed terminal block: 2 pairs of +/- contacts DC jack: -D 6.3mm/+D 2.0mm Voltage range: +7 ~ +50VDC, 4W max. @50V DC IN
Relay Output	Alarm events: power failure, specific fiber port link fault Interface: 2 terminal contacts (30VDC/1A max. or 120VAC/0.5A max.)
Dimension	28 x 82 x 95 mm, Weight: 250g

Ordering Information:

Model	KSD-103-A FX KSD-103-B FX1 FX2	Ref. Distance	Operating Temperature
-T	ST MMF	2km	-30°C ~ 70°C
-C	SC MMF	2km	-30°C ~ 70°C
-SL2	SC SMF	20km	-30°C ~ 70°C
-SL3	SC SMF	30km	-30°C ~ 70°C
-SL4	SC SMF	40km	-30°C ~ 70°C
-SL6	SC SMF	60km	-30°C ~ 70°C
-W3520	Bi-Di SC SMF	20km	-30°C ~ 70°C
-W5320	Bi-Di SC SMF	20km	-30°C ~ 70°C
-CSL2	FX1: SC MMF FX2: SC SMF	2km 20km	-30°C ~ 70°C

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class B
CE/EMC/EMI	EN55022, CISPR 22	Class B
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-4KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	Level 3 Power: +/-2KV Signal: +/-1KV
Surge Immunity	IEC 61000-4-5	Power: 2KV Signal: 1KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 100A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/H

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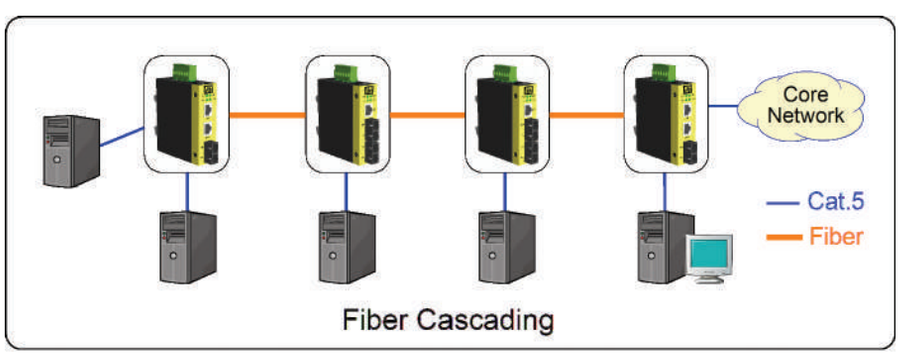
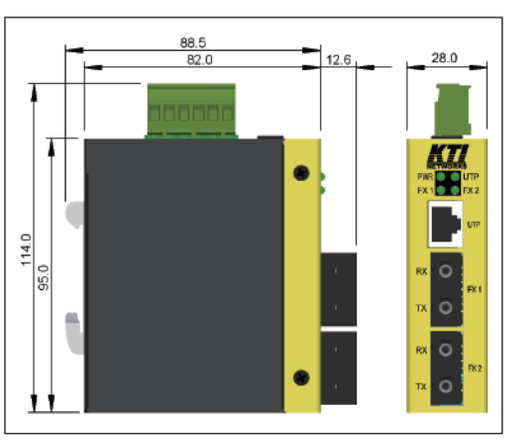
Housing	Enclosed metal with no fan
Mounting Support	DIN-Rail mounting, Panel mounting
Temperature	Operating Temperature: -30°C ~ +70°C Storage Temperature: -40°C ~ +85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class B, CE mark Class B, EN60950-1 safety

Fiber Optical Specifications:

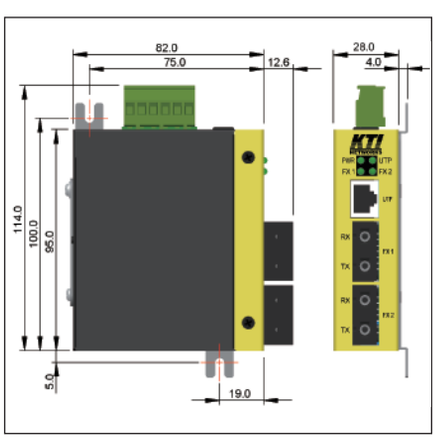
Model	FX & Cable	Wavelength	Tx Power*	Rx Sens.	Rx Max.
KSD-103-A-xxx & KSD-103-B-xxx					
-T	ST MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	SC MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-SL2	SC SMF	1310nm	-15 ~ -8dBm	-30dBm	-7dBm
-SL3	SC SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-SL4	SC SMF	1310nm	-5 ~ 0dBm	-34dBm	0dBm
-SL6	SC SMF	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-W3520	Bi-Di SC SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-31dBm	0dBm
KSD-103-B-xxx					
-CSL2	FX1: SC MMF FX2: SC SMF	1310nm 1310nm	-20 ~ -14dBm -15 ~ -8dBm	-31dBm -30dBm	0dBm -7dBm

*Data for 62.5/125μm MMF, 9 /125μm SMF





DIN-Rail Dimension



Panel Dimension

KCD-300

Industrial 10/100Base-TX to 100Base-FX Media Converters

Panel Mounting Bracket
KCD-3PB

The industrial KCD-300 media converter series provides industrial strength Ethernet copper-to-fiber media conversion, allowing for 10Base-T-100Base-FX or 100Base-TX-100Base-FX over multi-mode or optional single-mode fiber optical media.

Benefits:

- Comprehensive configuration settings to increase flexibility for application needs
- Wide operating temperature range for temperature critical environment
- Support DIN rail mounting and panel mounting
- Provide two power input types to meet more application needs
- Accept wide power input voltage range for application flexibility
- Industrial-rated Emission and Immunity performance

Key Features:

- Support full wire speed conversion for 10/100 speed and media types
- Support auto-negotiation 10/100Mbps or forced mode on TP copper port
- Auto MDI/MDI-X crossover function on the TP copper port
- Provide Link Fault Pass Through function
- Provide comprehensive manual configuration settings
- Transparent conversion to 802.1Q VLAN tagged packets
- Provides Far End Fault function on FX (fiber) port
- Low power consumption
- Two power interface types: screw terminal block and DC Jack
- Supports wide power input voltage range
- Supports DIN rail mounting and optional screwed plane mounting
- Supports wide operating temperature range
- Industrial-rated Emission and Immunity performance

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class B
CE/EMC/EMI	EN55022, CISPR 22	Class B
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	+/-8KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	Power: +/-4KV
Surge Immunity	IEC 61000-4-5	Data: +/-2KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 40A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: A
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, $0.1g^2$/Hz 200~500Hz, $0.03g^2$/Hz

Specifications:

Conversion	10BASE-T to 100BASE-FX, 100BASE-TX to 100BASE-FX
Conversion Methods	Smart-forward mode: - Store-and-forward for 10M to 100M - Direct conversion for 100M to 100M Store-and-forward always mode
Packet Types	Transparent conversion with no modification to: - Standard IEEE 802.3 Ethernet packet frames - IEEE 802.1Q tagged packet frames
TP Port	Shielded RJ-45 jack Auto MDI/MDI-X crossover function Auto-negotiation function for speed and duplex mode Full-duplex and Half-duplex support 10Mbps - Supports Cat.3, 4, 5 UTP cable up to 100m 100Mbps - Supports Cat.5, 5e or higher UTP cable up to 100m
Fiber (FX) Port	Multimode ST, SC, Single mode SC, 100Mbps Full-duplex and Half-duplex support MMF 50/125μm, 62.5/125μm fiber cable

	SMF 9/125μm cable Far End Fault Indication support
Flow Control	IEEE 802.3x for Full-duplex, Back pressure for Half-duplex
LEDs	- Power status - TP port link, activity, speed, duplex status - Per FX port link, activity, optical link status
Configuration Setting Switches	Auto/forced mode, TP speed, TP duplex FX duplex
DC Power Input	Screwed terminator block: 2 pairs of +/- contacts DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +7 ~ +30VDC
Power Consumption	3W max. @30VDC power input
Dimension	28 x 82 x 95 mm, Weight: 250g
Housing	Enclosed metal with no fan
Mounting Support	DIN-Rail mounting, Panel mounting
Environment	Operating Temperature: See ordering information Storage Temperature: -20°C ~ 85°C Relative Humidity: 5% ~ 90% non-condensing
Approval	FCC Class B, CE mark Class B, EN60950-1 safety

Ordering Information:

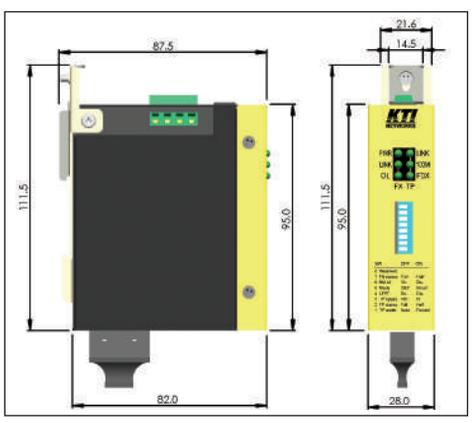
Model	Spec.
KCD-300	DC IN +7 ~ +30VDC
KCD-300-48-SL2	DC IN +12 ~ +57VDC SC SMF 20km

Model KCD-300-xxx	FX Port Fiber	Ref. Distance	Operating Temperature
-T	ST MMF	2km	-20°C ~ 70°C
-C	SC MMF	2km	-20°C ~ 70°C
-SL2	SC SMF	20km	-20°C ~ 70°C
-SL3	SC SMF	30km	-20°C ~ 70°C
-SL4	SC SMF	40km	-20°C ~ 70°C
-SL6	SC SMF	60km	-20°C ~ 70°C
-SL8	SC SMF	80km	-20°C ~ 70°C
-SL10	SC SMF	100km	-20°C ~ 70°C
-SL12	SC SMF	120km	-20°C ~ 70°C
-W3520	Bi-Di SC SMF	20km	-20°C ~ 70°C
-W5320	Bi-Di SC SMF	20km	-20°C ~ 70°C
-W3540	Bi-Di SC SMF	40km	-20°C ~ 70°C
-W5340	Bi-Di SC SMF	40km	-20°C ~ 70°C
-EC	SC MMF	2km	-20°C ~ 80°C

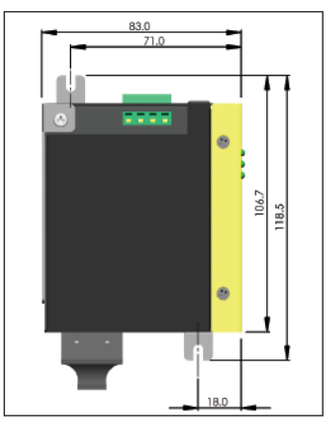
Fiber Optical Specifications:

Model	FX & Cable	Wavelength	Tx Power*	Rx Sens.	Rx Max.
-T	ST MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	SC MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-SL2	SC SMF	1310nm	-15 ~ -8dBm	-30dBm	-5dBm
-SL3	SC SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-SL4	SC SMF	1310nm	-5 ~ 0dBm	-34dBm	0dBm
-SL6	SC SMF	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-SL8	SC SMF	1310nm	0 ~ +5dBm	-36dBm	0dBm
-SL10	SC SMF	1550nm	-5 ~ 0dBm	-35dBm	-3dBm
-SL12	SC SMF	1550nm	0 ~ +5dBm	-35dBm	-3dBm
-W3520	Bi-Di SC SMF	Tx 1310nm Rx 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC SMF	Tx 1550nm Rx 1310nm	-14 ~ -8dBm	-31dBm	0dBm
-W3540	Bi-Di SC SMF	Tx 1310nm Rx 1550nm	-8 ~ 0dBm	-34dBm	0dBm
-W5340	Bi-Di SC SMF	Tx 1550nm Rx 1310nm	-8 ~ 0dBm	-34dBm	0dBm

*Data for 62.5/125μm MMF, 9 /125μm SMF



DIN-Rail Dimension



Panel Dimension

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URL: http: //www.ktinet.com

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KFC-241 Series

Industrial Compact 10/100BASE-TX to 100BASE-FX Media Converters

Product Highlights:

- Compact and robust
- Auto-crossover
- Auto-negotiation
- Smallest latency
- Far End Fault support
- Link Fault Pass Through support
- Wide range of DC IN voltage
- DC 110V support
- Industrial rated
- Flow control support

Key Features:

- Support full wire speed conversion for 10/100Mbps speed and media types
- Support auto-negotiation 10/100Mbps or forced mode on the copper port
- Support IEEE 802.3x flow control
- Auto MDI/MDI-X crossover function on the copper port
- Provide Link Fault Pass Through function
- Transparent conversion to 802.1Q VLAN tagged packets
- Provides Far End Fault function on FX (fiber) port
- The optimal latency for 100M to 100M conversion
- Two power interface types: screw terminal block and DC Jack
- Low power consumption
- DC power input options: +4.5 ~ +50VDC, 110VDC
- Supports DIN rail mounting and optional screwed plane mounting
- Compact design for easy installation in enclosure and chassis
- Supports wide operating temperature range
- Industrial-rated Emission and Immunity performance

Specifications:

Conversion	10BASE-T to 100BASE-FX, 100BASE-TX to 100BASE-FX 10/100BASE-T Auto to 100BASE-FX
Conversion Methods	Cut-through for 100M to 100M with the smallest latency Store-and-forward for 10M to 100M conversion Auto mode-switching
Copper Port	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX Shielded RJ-45 jacks with Auto MDI/MDI-X detection Auto-negotiation for speed and duplex
Fiber Port (FX)	IEEE 802.3u 100Base-FX compliant Forced 100Mbps, Full duplex, Far end fault Function
Network Cables	10/100Mbps copper: Cat.5, 5e or higher up to 100m, 100BASE-FX: 62.5/125μm, 50/125μm MM fiber, 9/125μm SM fiber
Packet Size	Up to 1600 bytes for 10M-to-100M conversion No packet size limit for 100M-to-100M conversion
DC IN Voltage	KFC-241-L: +4.5 ~ +50VDC KFC-241-H: +110VDC with polarity protection
DC IN Connectors	Industrial Terminal Block 3P: DC+, DC-, PE DC Jack (KFC-241-L)
Power Consumption	KFC-241-L: 1.6W@+7.5V, 1.6W@+12V, 2W@+48V KFC-241-H: 2.9W@110VDC
Housing	Enclosed metal with no fan

Ordering Information:

Model	DC IN	DC IN Voltage
KFC-241-L-x	TB-3P, DC Jack	+4.5 ~ 50VDC
KFC-241-H-x	TB-3P	+110VDC

KFC-241-L-x KFC-241-H-x	Fiber Mode	Connector	Ref. Distance
-T	MM	Duplex ST	2km
-C	MM	Duplex SC	2km
-SL2	SM	Duplex SC	20km
-SL3	SM	Duplex SC	30km
-SL6	SM	Duplex SC	60km
-W3520	SM	BiDi SC	20km
-W5320	SM	BiDi SC	20km

MM: Multimode Fiber
SM: Single Mode Fiber
Ref. Distance: Reference connection distance

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-6KV Air: +/-8KV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	DC IN: +/-1KV RJ-45: +/-0.5KV
Surge Immunity	IEC 61000-4-5	DC IN: +/-0.5KV RJ-45: +/-1KV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 100A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 72hrs
Storage Test	IEC 60068-2-48	-40°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz

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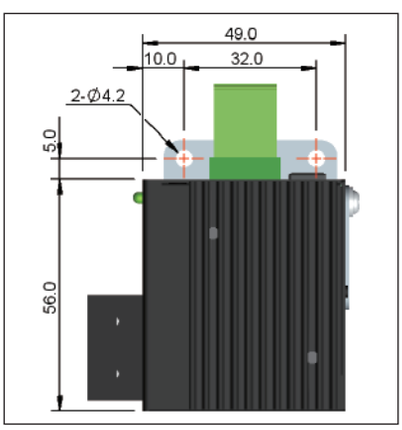
Dimension	KFC-241-L: 34 x 49 x 56mm (WxDxH) KFC-241-H: 45.5 x 49 x 56mm (WxDxH)
Mounting Support	DIN-Rail, Panel
Environment	Operating temperature: -40°C ~ 70°C (Main device) Storage temperature: -40°C ~ 85°C Relative Humidity: 10%~90% non-condensing
Certification	FCC Class A, CE mark Class A, LVD, TUV IEC 60950-1 safety, C-Tick

Fiber Optical Specifications:

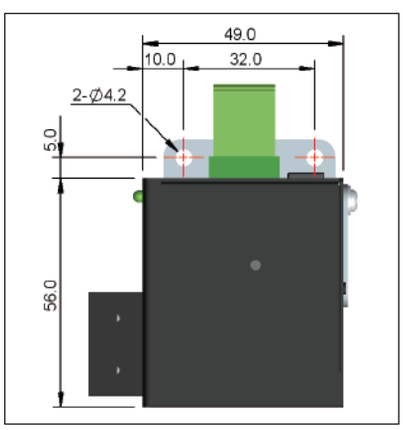
Model	Connector	Fiber*1	Wavelength	Tx Power*2	Rx Sens.	Rx Max.
-T	Duplex ST	MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	Duplex SC	MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-SL2	Duplex SC	SMF	1310nm	-15 ~ -8dBm	-30dBm	-7dBm
-SL3	Duplex SC	SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-SL6	Duplex SC	SMF	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-W3520	BiDi SC	SMF	Tx 1310nm Rx 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	BiDi SC	SMF	Tx 1550nm Rx 1310nm	-14 ~ -8dBm	-31dBm	0dBm

*1 MMF: Multimode fiber - 62.5/125 µm, 50/125 µm
SMF: Single Mode fiber - 9 /125 µm

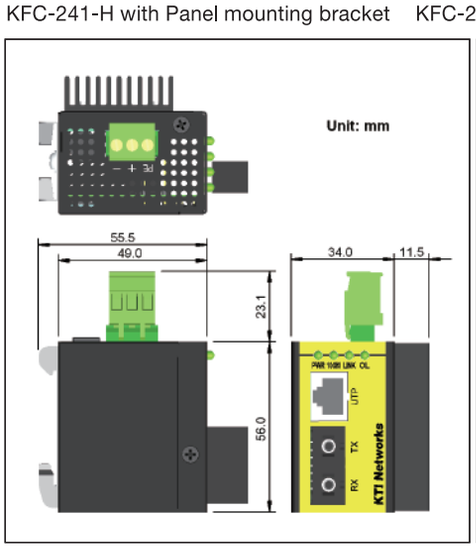
*2 Data for 62.5/125µm MMF, 9 /125µm SMF



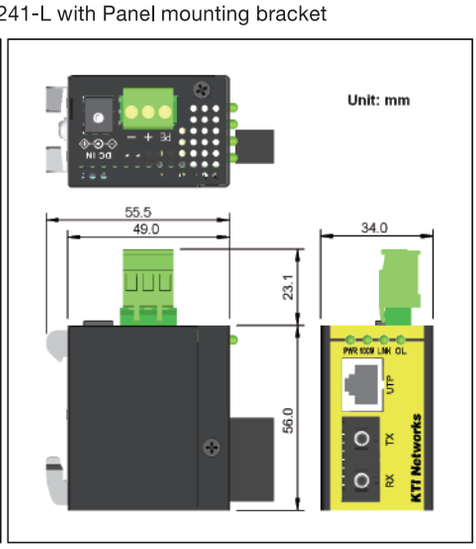
KFC-241-H with Panel mounting bracket



KFC-241-L with Panel mounting bracket



KFC-241-H with DIN-Rail bracket



KFC-241-L with DIN-Rail bracket

KCD-303P-A, KCD-303P-B

Industrial 3-Port Fast Ethernet POF Media Converter Switches

The industrial rated KCD-303P series supports three switched connections including copper and fiber for networks over POF (Plastic Optical Fiber). The copper ports support 10/100Mbps auto-negotiation and auto-MDI/MDIX for Cat.5 plug-and-play. The fiber ports support plug-less connections of high bandwidth 100Mbps data rate over POF cables. POF technology offers a complementary solution to UTP copper wire for industrial, office and home networks because it is low cost, weight little, thin, easy and safe to install and electronic noise immunity.

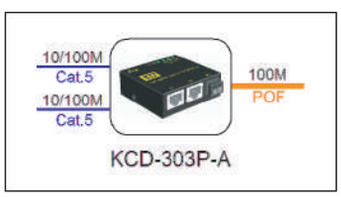
KCD-303P-A provides two copper ports and one fiber port for connecting two standard Ethernet devices and one POF cable. It is used as a terminal switch of POF deployment. It is also an ideal media converter between a Cat.5 and a POF cable. KCD-303P-B provides one copper port and two fiber ports. It can be used for cascading POF cables and connecting one Ethernet device. Both models offer an ideal solution for POF deployment in home and industrial networks.

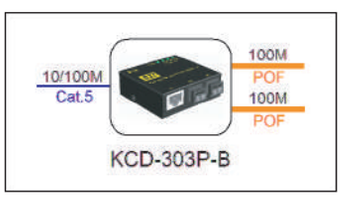
Key Features:

- Supports 3 switching-base network segments - [2 x Copper, 1 x Fiber] and [1 x Copper, 2 x Fiber]
- Auto MDI/MDI-X crossover function on the UTP copper port
- Supports IEEE 802.3x flow control for Full-duplex operation
- Supports Back-pressure flow control for Half-duplex operation
- Wide operating temperature range for temperature critical environment
- Support Wall mounting, Panel mounting and DIN-Rail mounting
- Industrial-rated Emission and Immunity performance

Product Highlights:

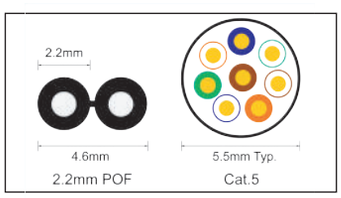
- Compact
- Complete Solution
- Easy Installation
- Plug-and-play





POF Advantages:

- Low cost
- Thin, but rugged
- Home friendly
- Easy and safe to install



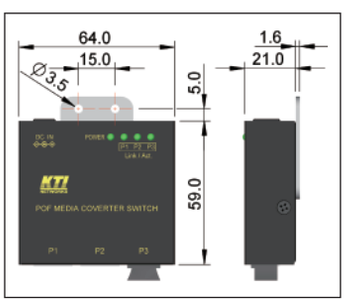
Specifications:

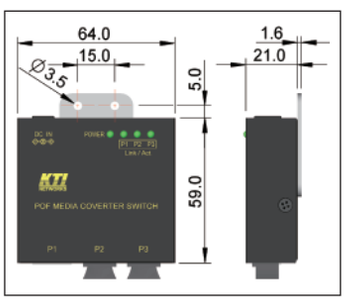
Forwarding Method	Store-and-forward, Full wire speed forwarding
Packet Size Support	1552 bytes max.
Packet Types	Transparent conversion with no modification to: - Standard IEEE 802.3 Ethernet packet frames - IEEE 802.1Q tagged packet frames - RSTP packet frames
UTP Port	Shielded RJ-45 jack Auto MDI/MDI-X crossover function Auto-negotiation function for 10/100Mbps speed and duplex mode Supports Cat. 5 UTP cable up to 100m
Fiber (POF) Port	OptoLock™ connector, Optical: RCLED 650nm 100Mbps Full-duplex, Far End Fault Indication support
Network Cable	1.5mm or 2.2mm POF (model dependent) Distance: 50 meters typical, The different numeric aperture of POF might result in different transmit distance. Distance of 100 meters tested with 0.3NA Mitsubishi Rayon Eska Mega POF
Flow Control	IEEE 802.3x for Full-duplex, Back pressure for Half-duplex

Powered via optional USB cable

Ordering Information:

Model	UTP Ports	POF Ports	POF Cable
KCD-303P-A1	2	1	1.5mm
KCD-303P-A2	2	1	2.2mm
KCD-303P-B1	1	2	1.5mm
KCD-303P-B2	1	2	2.2mm





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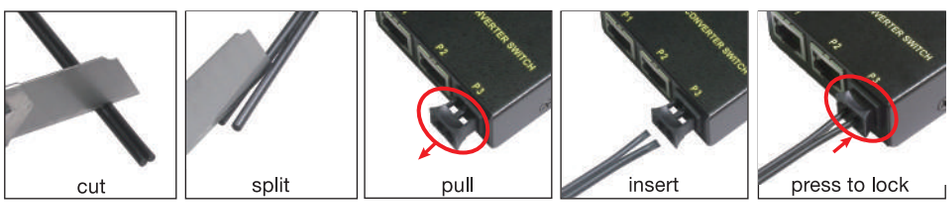
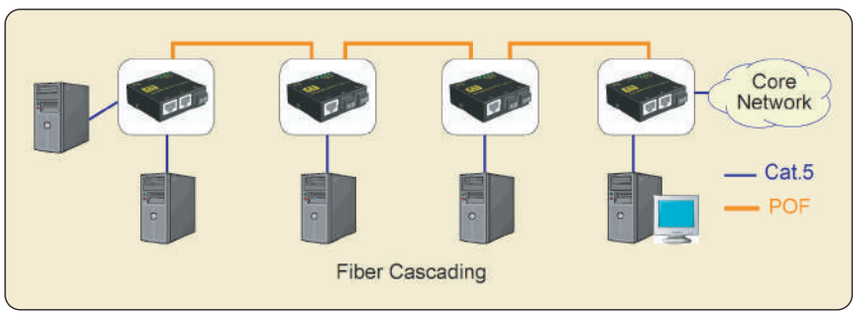
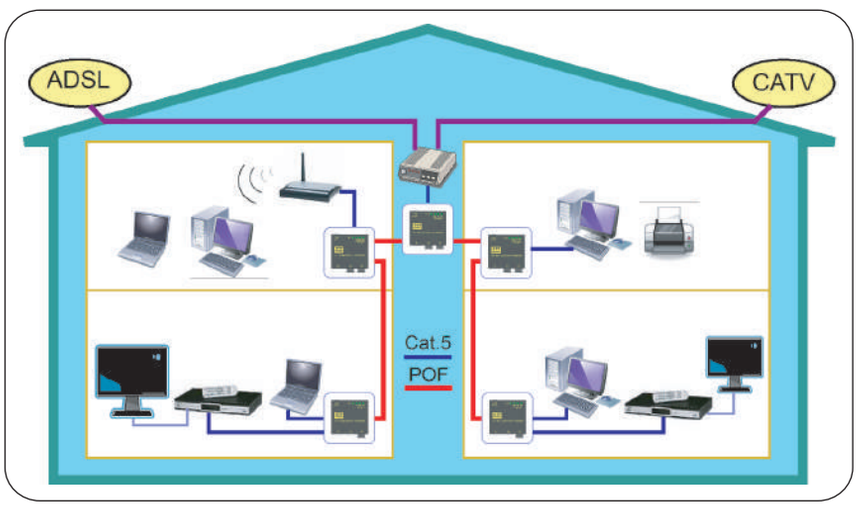
LEDs	Power status, Port link/activity
DC Power Input	DC jack: -D 6.3mm/+D 2.0mm Voltage range: +5 ~ +12VDC (+/-5%) Consumption: 2W max. Option: powered by USB via proprietary USB cable
Dimension	21 x 59 x 64 mm
Weight	112g
Housing	Enclosed metal with no fan
Mounting Support	Wall mounting, Panel mounting, DIN-Rail mounting
Environment	Operating Temperature: 0°C ~ 70°C main device -10°C ~ 60°C industrial-rated external power adapter Storage Temperature: -20°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class B, CE mark Class B, VCCI Class B, LVD, IEC60950-1 safety

Easy POF Installation:

The design of the product enables the POF to be cut and terminated to the exact required length on site, allowing even the most novice user to quickly and easily terminate the bare POF fiber. To terminate the POF cable into OptoLock™ connector, the end of the cable is cut cleanly, and the two strands are separated. One strand is inserted into each of two holes in the termination housing, which is then pressed closed to hold the POF in place.







KSC-200

Industrial Optically Isolated Serial RS-232 to Fiber Converters

Product Highlights:

- Transparent conversion
- Surge protection
- High ESD protection
- Optical isolation
- Versatile optical cables support
- DIN-Rail mounting
- Wide temperature range
- Wide power voltage range

DIN-Rail Mounting
KC-4DR

Panel Mounting Bracket
PMB-400

The converter is designed to provide the most versatile connection possible between 2 RS-232 serial equipment using fiber optic cable. It allows any two pieces of serial equipment to communicate full-duplex over typical duplex fibers, or over optional single fiber up to 20km. The converter supports transparent conversion for not only RS-232 data lines, but also all RS-232 control signals. It also supports all RS-232 baud rates with no need for user configuration. The DIN-Rail mountable design makes it ideal for industrial cabinets and enclosures. Further, more designs such as signal protection, wide operating temperature range, wide power voltage range are also provided to suit for more industrial applications.

Key Features:

- Transparent conversion for all RS-232 signals
- Supports RS-232 baud rate higher than 115.2Kbps
- Auto adaptation and conversion to any RS-232 baud received
- Operation with no required configuration
- Extending all RS-232 signals over long optical cables
- Supports versatile optical cables:
  - ST/SC multimode duplex fibers
  - SC single mode duplex fibers
  - SC single mode single fiber
- Provides surge protection (transient voltage) on RS-232 signals
- Provides high ESD protection on RS-232 signals
- Provides optical isolation between RS-232 and main circuitry
- Designed for industrial environments with:
  - RS-232 surge, ESD, and isolation protection
  - DIN-Rail and panel mounting support
  - Wide power voltage range support
  - Terminal block and Jack-type power connectors
  - Wide operating temperature range
  - Alarm relay output for device power failure
  - Industrial-rated emission and immunity performance

Specifications:

RS-232 Interface

Connector	DB9 Female
Pin Assignments	DCE
Signals	TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
Data Rate	0 ~ 115.2Kbps
Surge Protection	Transient Overvoltage outside +/-28V
Line ESD Protection	+/-15KV
Isolation	Optical isolation between RS-232 and main circuit, 3000 VDC rms Far End Fault support

Ordering Information:

Model KSC-200-X	Fiber Mode	Connec-tor	Ref. Distance
-T	MMF	Duplex ST	2km
-C	MMF	Duplex SC	2km
-SL2	SMF	Duplex SC	20km
-SL4	SMF	Duplex SC	40km
-SL6	SMF	Duplex SC	60km
-W3520	SMF	Bi-Di SC	20km
-W5320	SMF	Bi-Di SC	20km

MMF: Multimode Fiber
SMF: Single Mode Fiber

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class B
CE/EMC/EMI	EN55022, CISPR 22	Class B
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-8KV Air: +/-16KV
RS Test	IEC 61000-4-3	Strength:10V/m
EFT/BURST	IEC 61000-4-4	Power: 4KV Signals: 2KV
Surge Immunity	IEC 61000-4-5	Power: 4KV
CS Test	IEC 61000-4-6	10V Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 40A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-30°C, 24hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-30°C, 24hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz

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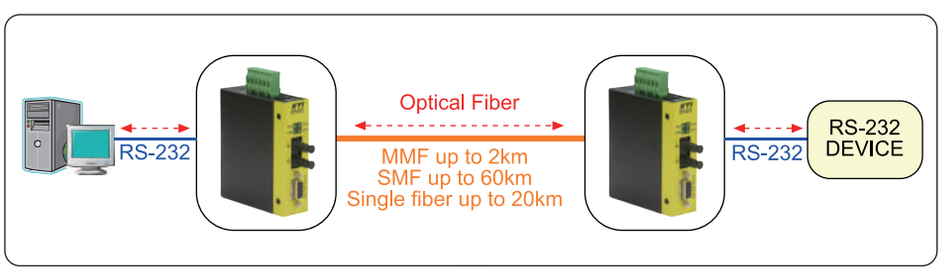
Optical Interface

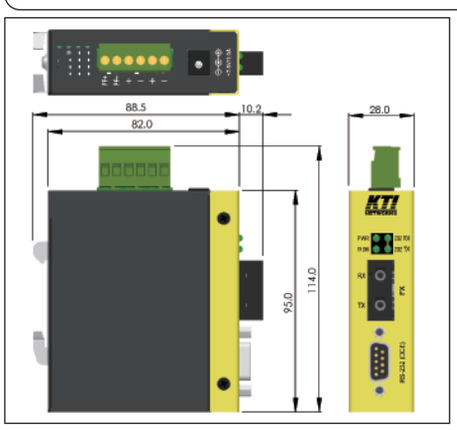
Connector	Duplex ST, Duplex SC, single SC (model dependent)
Fiber Cables	Multimode (MMF): 50/125μm, 62.5/125μm, Single mode (SMF): 9/125μm
Link Distance	Up to 20km (model dependent)
LEDs	Power status, RX-232 Tx, RS-232 Rx, Optical link status
DC Power Input	Screwed terminal block: 2 pairs of +/- contacts 1 pair of power alarm relay output contacts DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +7 ~ +30VDC
Dimension	28 x 82 x 95 mm (WxDxH), Weight: 240g
Housing	Enclosed metal with no fan
Mounting Support	DIN-Rail mounting, Panel mounting
Environment	Operating Temperature: -30°C ~ 70°C Storage Temperature: -30°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class B, CE mark Class B, EN60950-1 safety

Fiber Optical Specifications:

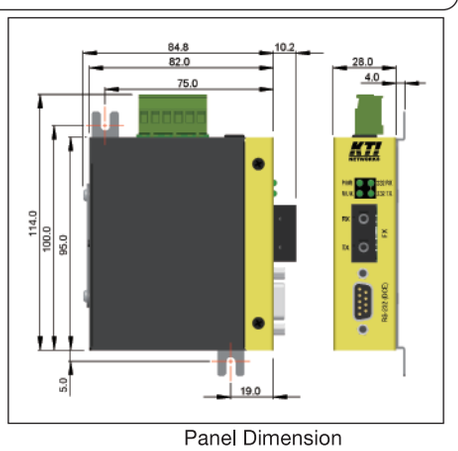
Model	Connector*1	Wavelength	Tx Power*2	Rx Sens.	Rx. Max
-T	Duplex ST	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	Duplex SC	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-SL2	Duplex SC	1310nm	-15 ~ -7dBm	-32dBm	-3dBm
-SL4	Duplex SC	1310nm	-5 ~ 0dBm	-34dBm	0dBm
-SL6	Duplex SC	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-W3520	Bi-Di SC	Tx 1310nm Rx 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC	Tx 1550nm Rx 1310nm	-14 ~ -8dBm	-31dBm	0dBm

*1 Duplex SC: 2 SC for TX and RX
Bi-Di SC: single SC for TX and RX
*2 Data for 62.5/125μm MMF, 9 /125μm SMF





DIN-Rail Dimension



Panel Dimension

KSC-240

Industrial Optically Isolated RS-232 to RS-485/422 Converter

Product Highlights:

- Surge protection
- ESD protection
- Optical isolation
- RTS control for RS-485
- ADC design for RS-485
- DIN-Rail mounting
- Wide temperature range
- Wide power voltage range

DIN-Rail Mounting
KC-4DR

Panel Mounting Bracket
PMB-400

The industrial converter is designed to convert RS-232 signals to optically isolated, balanced, full or half-duplex RS-422 or RS-485 signals at baud rate up to 115.2Kbps. It features remote RTS control design, which allows software to control RS-485 transmission. With smart ADC™ (Auto Data Control) design, the converter can uses send data signal to control RS-485 transmission automatically so no software control is required in RS-485 mode. The DIN-Rail mountable design makes it ideal for industrial cabinets and enclosures. Further, more designs such as signal protection, wide operating temperature range, wide power voltage range are provided to suit for more industrial applications.

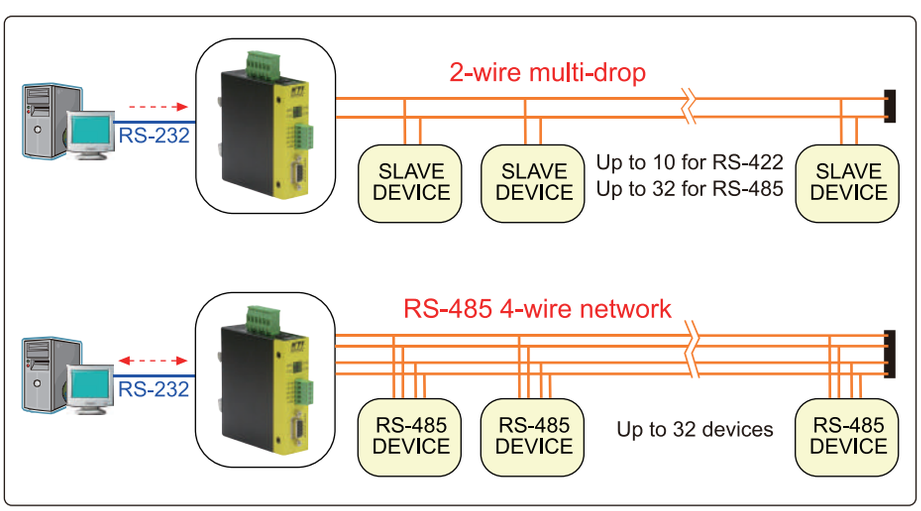
Key Features:

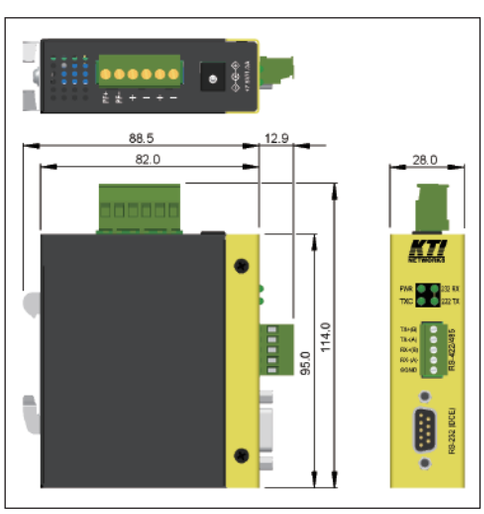
- Supports RS-232 baud rate up to 115.2Kbps
- Operation with no required configuration
- Provides surge protection (transient voltage) on all interface lines
- Provides high ESD protection on all line signals
- Provides optical isolation between RS-232 and RS-485/422
- Supports RS-422, 2-wire RS-485, and 4-wire RS-485 network
- Supports full-duplex or half-duplex for RS-485/422 interface
- Provides selectable remote RTS control for RS-485 transmission
- Provides ADC™ (Auto Data Control) for RS-485 transmission
- Designed for industrial environments with:
  - Surge, ESD, and isolation protection
  - DIN-Rail and panel mounting support
  - Wide power voltage range support
  - Terminal block and Jack-type power connectors
  - Wide operating temperature range support
  - Alarm relay output for device power failure
  - Industrial-rated emission and immunity performance

Specifications:

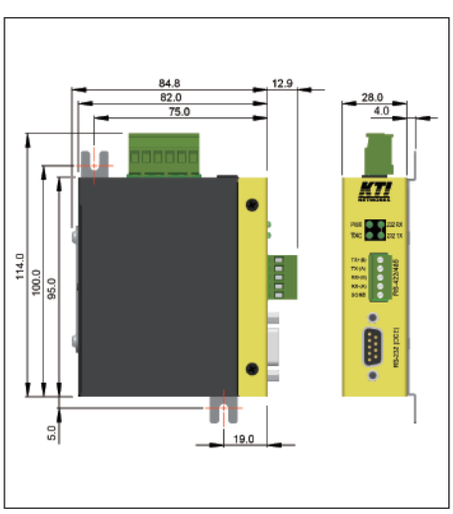
RS-232 Connector	DB9 Female, DCE
RS-232 Signals	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422/485 Connector	5 positions plug-in screw terminal block
Data Rate	up to 115.2Kbps
Surge Protection	Transient voltage outside +/-28V
Line ESD Protection	+/-15KV
Isolation	Optical isolated between RS-232 and RS-485/422 3000VDC rms
LEDs	Power status, RX-232 Transmission, RS-232 Receiving, RS-485 TX Control

Configuration Switches	RS-422/RS-485 selection 2-wire/4-wire selection Built-in bus termination & bias RS-485 TX/RX control selection ADC control timing settings
RS-485 Bus Control	RTS control (by DTE software RTS control) ADC (by DTE send data) control
DC Power Input	Screwed terminal block: 2 pairs of +/- contacts 1 pair of power alarm relay output contacts DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +7 ~ +30VDC Power consumption: 0.6W @+7.5V
Dimension	28 x 82 x 95 mm (WxDxH)
Weight	240g
Housing	Enclosed metal with no fan
Mounting Support	DIN-Rail mounting, Panel mounting
Environment	Operating Temperature: -20°C ~ 70°C Storage Temperature: -20°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class B, CE mark Class B, EN60950-1 safety





DIN-Rail Dimension



Panel Dimension

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class B
CE/EMC/EMI	EN55022, CISPR 22	Class B
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-8KV Air: +/-16KV
RS Test	IEC 61000-4-3	Strength:10V/m
EFT/BURST	IEC 61000-4-4	Power: 4KV Signals: 2KV
Surge Immunity	IEC 61000-4-5	Power: 4KV
CS Test	IEC 61000-4-6	10V Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 40A/m
Voltage Dips Imm.	IEC 61000-4-11	Interruption: C Dips: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +85°C, 40%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g²/Hz 200~500Hz, 0.03g²/Hz

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KSC-361

Industrial Ethernet to Serial Media Converters

Product Highlights:

- 10/100BASE-TX, 100BASE-FX support
- RS-232,RS-422/485 options
- Web, console managed
- Isolated serial interface
- Forwarding throughput up to 230Kbps
- PoE enabled

Ordering Information:

Model	Description
KSC-361-S2	Converter with RS-232 serial interface
KSC-361-S4	Converter with RS-422/485 serial interface

Optional Accessories:

Panel Mounting Bracket
PMB-0540

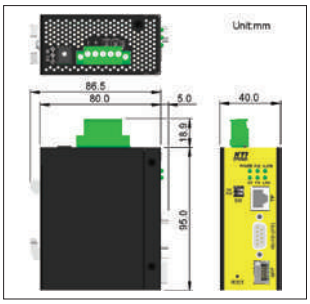
The converter provides a serial interface and an Ethernet interface. It packs and forwards the data stream between two interfaces. For flexibility, the Ethernet interface is equipped to support 10BASE-T, 100BASE-TX or 100BASE-FX physical connection for most of LAN requirement. Regarding to serial interface, two different models are offered alternatively for most serial applications. One model supports RS-232 interface and the other supports RS-422/RS-485 interface.
In terms of applications, the converter can be a distance extender for two serial devices cross a LAN topology. For a personal computer, the converter can serve as a remote COM port for the computer in a LAN to support most existing serial application software. For IP network, the converter can also serve as a serial server for serial devices attached to it over the network. With functional diversity and industrial design, the converters can be the ideal choice to extend the application range of the serial devices.

Key Features:

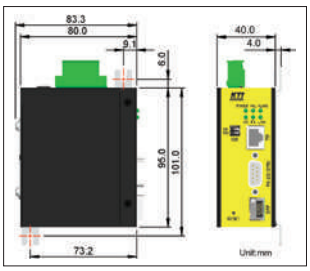
- Ethernet interface provides combo port of 10/100Mbps copper RJ-45 and 100M fiber SFP slot.
- Serial interface provides two options, RS-232 and RS-422/485.
- Serial port supports baud-rate up to 230400bps.
- Galvanic isolation on serial interface
- Data conversion throughput up to 230Kbps
- Wide range of direct power voltage support, DC 8V-60V
- Powered over Ethernet through RJ-45 interface (PoE-enabled)
- Alarm relay output for power failure, port link down and failure in connecting to server
- Application support for remote COM port, serial server over TCP, reverse telnet, pair connection, and serial broadcast
- Remote COM driver support for Windows PC
- Web-based and serial-based console configuration
- Event notification over SMTP and SNMP traps

Specifications:

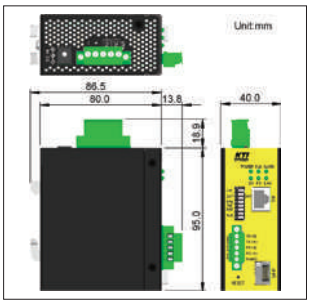
Standard	IEEE 802.3, 802.3u, 802.3x, 802.3af
Copper Port	Shielded RJ-45, 10BASE-T/100BASE-TX, Auto negotiation, auto-MDI/MDI-X support
SFP Slot	100BASE-FX SFP connector
Network Cables	10BASE-T/100BASE-TX: Cat.5 or better up to 100m 100BASE-FX: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
RS-232 Interface	DTE Male DB9, Baud-rate up to 230K, Galvanic isolated
RS-422/485 Interface	EIA-422/485 std., Flange terminal block 5P, Data rate up to 230K, Galvanic isolated
LED Indication	Power, PoE status, Alarm status LAN port link/activity, SFP selected, Serial port activity
Relay Output	Alarm events: power failure, LAN port link fault, Failure in connecting to server, Interface: 3 contacts supporting NC & NO logic
DC Power Input	Flange terminal block: DC+/- contacts Voltage input range: +8 ~ +60VDC



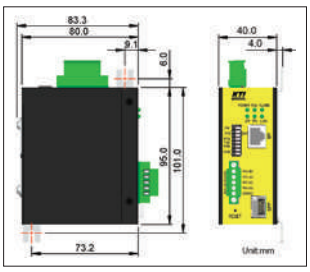
KSC-361-S2 DIN-Rail Dimension



KSC-361-S2 Panel Dimension



KSC-361-S4 DIN-Rail Dimension



KSC-361-S4 Panel Dimension

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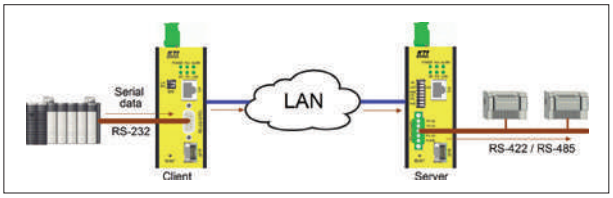
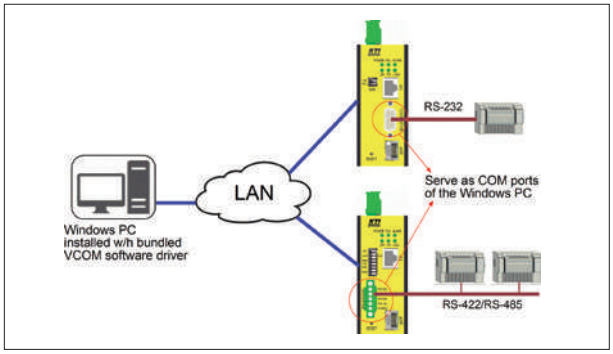
DC Power Jack	Jack (-D6.3mm/+D2.0mm) for external AC-DC power adapter Voltage input range: +8 ~ +30VDC
Power over Ethernet	IEEE 802.3af PD, Class 1, Input over RJ-45 Voltage input range: +36 ~ +57VDC
Power Consumption	2W max. @24V, 3W max. @48V via PoE
Housing	Enclosed metal with no fan
Dimension	40 x 80 x 95 mm (Case WxDxH)
Mounting Support	DIN-Rail, Panel Mounting (Optional)
Environment	Operating Temperature: -30°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 90% non-condensing
Approval	FCC Class A, VCCI Class A, CE mark Class A, EN60950-1 safety EN61000-6-4 emission, EN61000-3-2, EN61000-3-3 EN61000-6-2 Immunity for industrial environment IEC 60068-2-64 Vibration, IEC 60068-2-27 shock 50G test

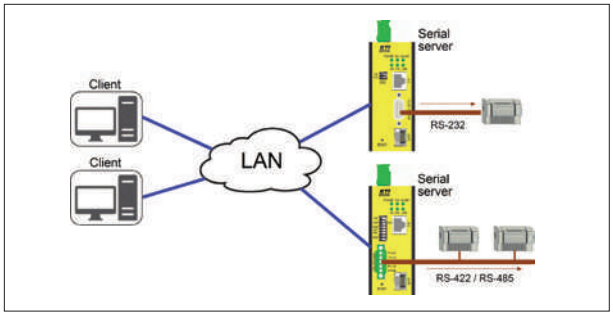
Applications:



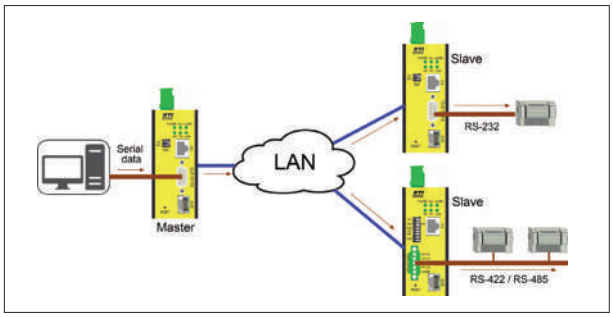
Pair Connection



Remote COM



Serial Server,Reverse telnet



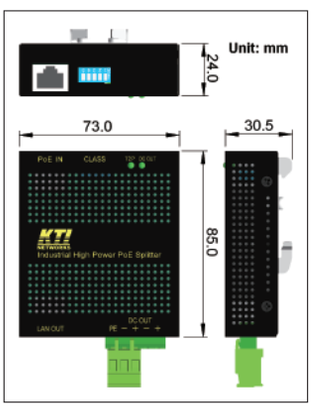
Serial Broadcasting

KPW-T2P25

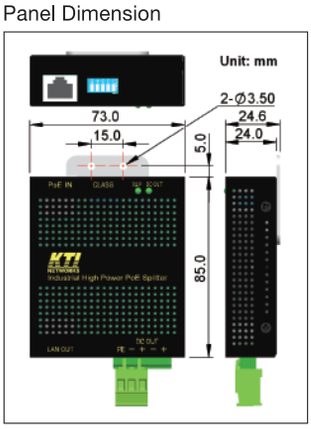
Industrial IEEE 802.3at High Power PoE Splitters

Solution Product

DIN-Rail Dimension



Panel Dimension



KTI Network's KPW-T2P25 is a high power PoE splitter which integrates Power over Ethernet (PoE) technology to PoE incapable network device by just using a single Cat.5 cable for both power and data transaction. The equipments such as Wireless Router, AP, Network Camera, Print server, and Media converter which connect to the PoE splitter, all devices become PoE enabled to eliminate the need of power outlets as well as cable installation and expense.

The splitter is equipped with DIP SW that allows user to select one from five different classes for demanding power from a remote PoE switched port or mid-span injector. This feature supports efficient power management at the advanced PSE side. It supports Type 1 PSE for power up to 13 Watts min. and Type 2 PSE for power up to 30 Watts. For industrial applications, the splitter is also equipped with optional brackets for Din-Rail mounting and panel mounting. To enhance application safety, the splitter is featured short-circuit protection, low voltage lock out, inrush current limit and thermal protection.

Four optional models with different DC output voltages, 5V/9V/12V are available for purchasing to meet different appliance power specification. For easier, cost-effective PoE network installation, the PoE splitter is your best solution to protect original investment.

Key Features:

- Enable PoE incapable network device with PoE capability
- IEEE 802.3at and 802.3af compliance
- Support 10BASE-T, 100BASE-TX, and 1000BASE-T
- Support Alternative A or Alternative B PoE input over Cat.5
- Provide a power class selection DIP for demanding power from PSE
- Support Type 1 PSE classification and Type 2 PSE 2-event classification
- Regulated DC power output with four optional voltages
- Flexible mounting support, light weight and compact

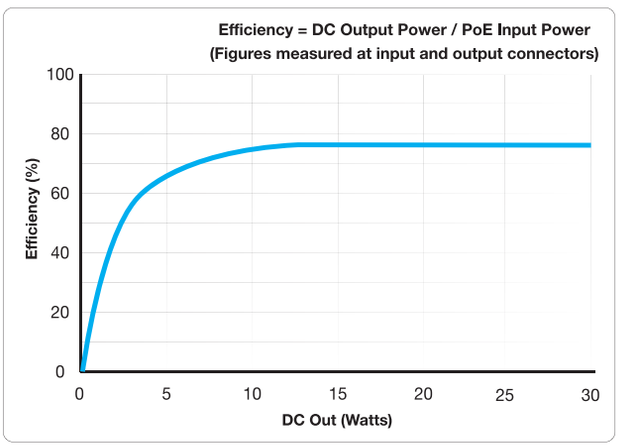
Specifications:

Standard	IEEE 802.3 10BASE-T, 100BASE-TX, 1000BASE-T
PoE In Jack	Shielded RJ-45 10BASE-T, 100BASE-TX, 1000BASE-T support Power pins – Pin1/2/3/6 and Pin4/5/7/8 (support both) LAN cable - Cat.5 or better
PoE Standard	IEEE 802.3af Type 1, IEEE 802.3at Type 2
PoE Power Class	Type 1 Class 0 ~ Class 3, Type 2 Class 4 (DIP SW selectable)
PoE Input Voltage	Class 0~3: 36 ~ 57VDC (PSE Type 1 output) Class 4: 42.5 ~ 57VDC (PSE Type 2 output)
LAN Out Jack	Shielded RJ-45 10BASE-T, 100BASE-TX, 1000BASE-T std. LAN cable - Cat.5 or better

DC Power Output	5P Terminal block – PE (protective earth), DC+/DC-, DC+/DC- Voltage options: 5V, 9V, 12V (Model options) Power wires: 12 ~ 22 AWG (1 meter max.)

PSE Type	PoE Input Range* (W)	DC Power Output (W)
1	12.95 ~ 15.4	9 ~ 11
2	25.5 ~ 34	21 ~ 28

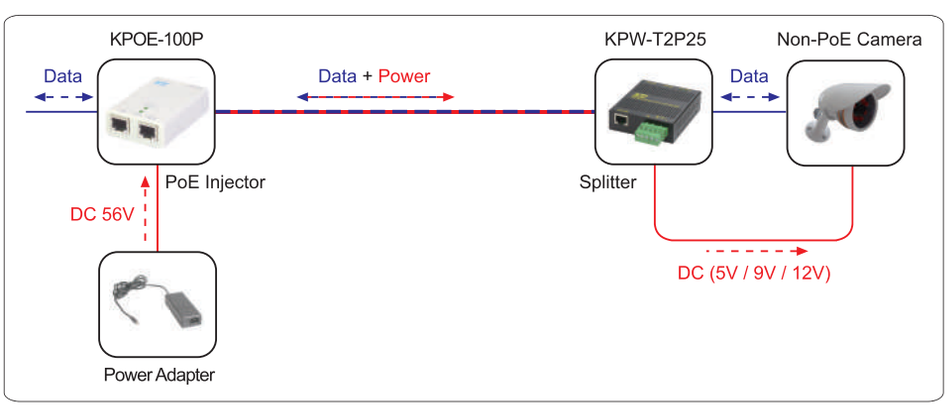
*The range means the possible maximum power received by the splitter. It depends on the power capability delivered by PSE and the connection length between the PSE and splitter.



LED Display	Type 2 PoE input status, DC Power output status
DIP SW	Power class selection for PSE classification
Housing	Enclosed metal with no fan
Dimension	73 x 85 x 24 mm (WxDxH)
Accessory	TB-to-DC plug cable
Mounting Support	DIN-Rail, Panel mounting (Optional)
Temperature	Operating Temperature: -30°C ~ 70°C Storage Temperature: -30°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Approval	FCC Class A, VCCI Class A, CE mark Class A, IEC60950-1 safety

Ordering Information:

KPW-T2P25-5V	5VDC power output
KPW-T2P25-9V	9VDC power output
KPW-T2P25-12V	12VDC power output
KC-4DR	DIN-Rail mounting
PMB-303	Panel mounting bracket



Related PoE Products:

KPOE-100
IEEE 802.3af mid-span injector

KPOE-100P
IEEE 802.3at PSE High Power
Mid-span Injector

KPOE-800
Modular 8-Port Midspan
Power over Ethernet Injector

KSD-541-HP
Industrial 5-Port
Fast Ethernet Switches with
1 SFP Slot and 4 PoE+ PSE Ports

KGS-0820-P
Managed 8-Port
Gigabit Ethernet Switches with
2 SFP Slots and PoE options

KGD-802-B-P
Industrial 8-Port
Gigabit Ethernet Switches with
2 SFP Slots and 4 PoE PSE Ports

KGS-2423-Px
Managed 24-Port
Stackable Gigabit Ethernet Switches
with 4 SFPs and 24 PoE+ PSE Ports

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Solution Product

KPW-RDP-7A/18A

Industrial-rated Redundant DC Power Input Adapters

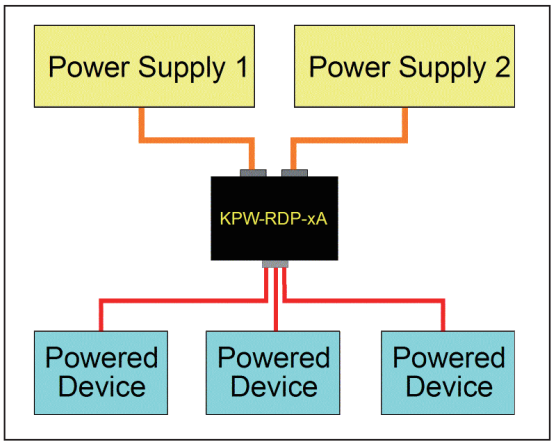
KPW-RDP-7A:
Support current of DC power up to 7Amp

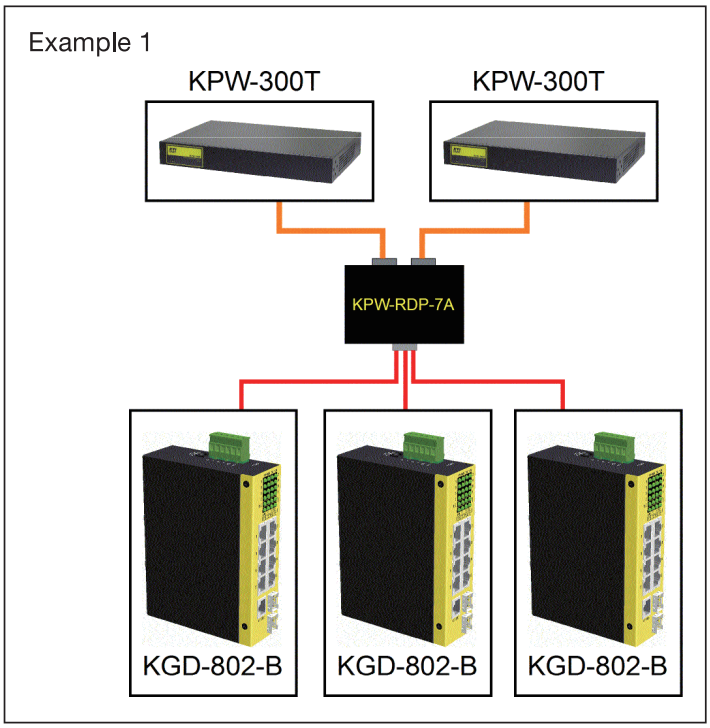
KPW-RDP-18A:
Support current of DC power up to 18Amp

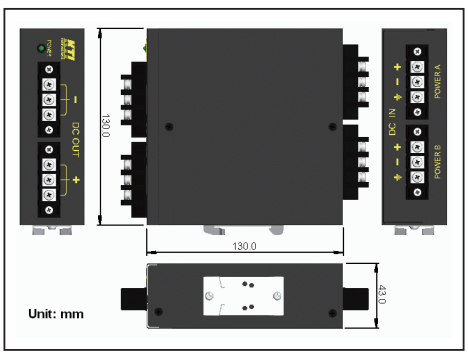
Specifications:

DC IN Power A	Voltage range	+12VDC ~ +62VDC
	Current rating	KPW-RDP-7A: 7Amp max. KPW-RDP-18A: 18Amp max.
	Contacts	V_{in}A+ / V_{in}A-
DC IN Power B	Voltage range	+12VDC ~ +62VDC
	Current rating	KPW-RDP-7A: 7Amp max. KPW-RDP-18A: 18Amp max.
	Contacts	V_{in}B+ / V_{in}B-
DC OUT	Voltage range	+12VDC ~ +62VDC
	Current rating	KPW-RDP-7A: 7Amp max. KPW-RDP-18A: 18Amp max.
	V_{out}+	3 Contacts
	V_{out}-	3 Contacts
LED Indication	DC OUT Power status	
PE Contact	Frame ground	
Protection	Over-current	KPW-RDP-7A: 10Amp max. KPW-RDP-18A: 25Amp max.
Isolation	Frame ground vs. DC IN lines: 10MΩ/DC500V, Frame ground vs. DC OUT lines: 10MΩ/DC500V,	
Mounting Support	DIN-Rail mount bracket, Panel mount bracket(Optional)	
Dimension	130mm x 130mm x 43mm (WxDxH)	
Environment	Operating temperature: -30°C ~ 70°C Storage temperature: -40°C ~ 85°C Humidity: 5%~95% non-condensing	
Compliance	FCC Class A, CE mark EMC Class A	
Test	Vibration IEC 60068-2-6	

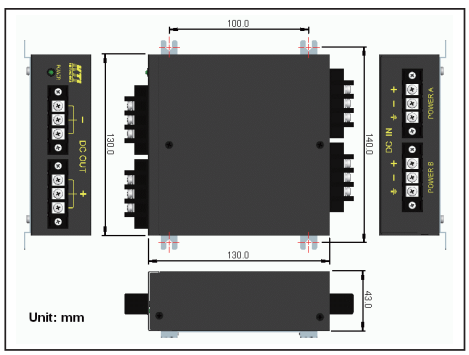
Applications:







DIN-Rail Dimension



Panel Dimension

Solution Product

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KPW-DCT48-D

Isolated DC to 48V 100W Converter

Solution Product

Key Features:

- Isolated DC Output
- Industrial terminal block connectors for DC input and output interface
- Efficiency to 83%
- Protections: Under voltage lockout/Over current/Short circuit/Thermal shutdown
- Internal power module with UL60950-1 safety approval
- Wide range of operating temperature -30°C ~ 70°C

Applications:

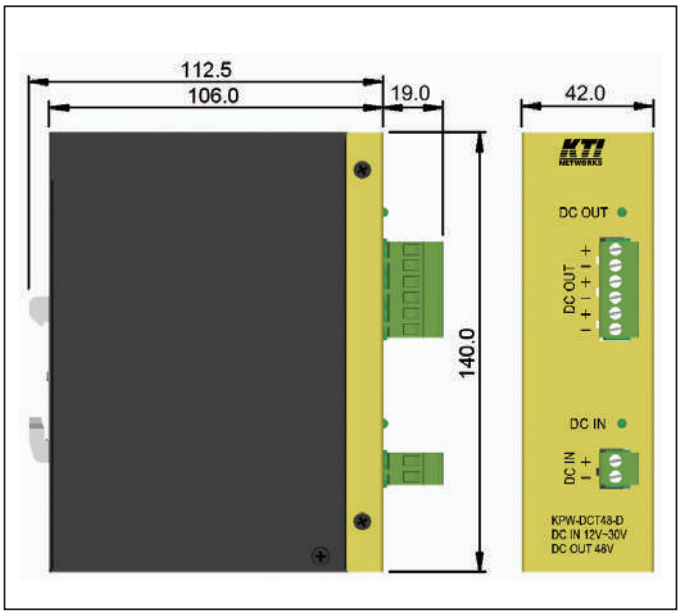
- External power supply for typical PoE & high power PoE switches with 24VDC power input

Specifications:

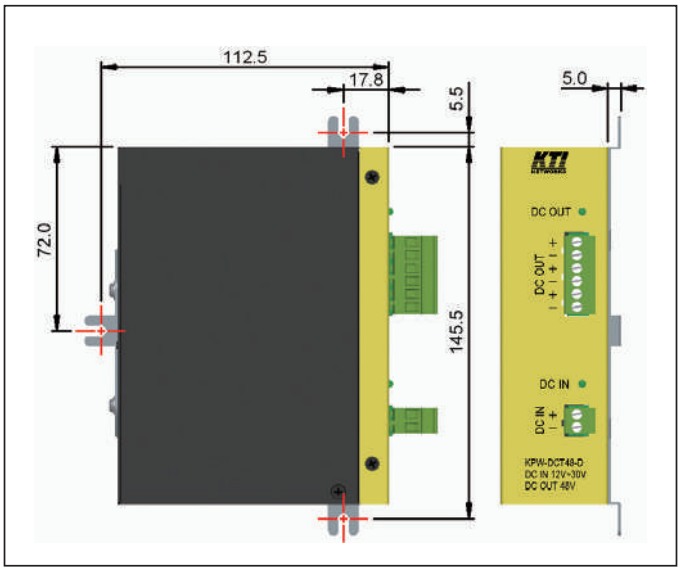
DC Input voltage	+12 ~ +30VDC
DC Output voltage	+48V (+/-1.5%)
DC Output current	2A max.
Efficiency	83% (Typ.)
Input connectors	Terminal block 2P: Vin+/Vin-
Output connectors	Terminal block 6P: 3 Vout+/Vout- pairs
LEDs	DC IN, DC OUT
Isolation	DC IN vs. DC OUT: 1.5KVDC DC IN vs. Frame : 1.5KVDC DC OUT vs. Frame : 1.5KVDC
Protection	Under voltage lockout: DC IN < 8VDC Short circuit Over current: 110% ~ 140% Thermal shutdown: Internal Power Case Temp. 105°C (Typ.)
Environment	Operating Temperature: -30°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Fan Cooling	Yes
Mounting Support	DIN-Rail, Panel
Dimensions	42 x 106 x 140 mm (WxDxH)
Internal Power Module	UL60950-1 approved
Approval	FCC Class A, CE mark Class A, VCCI Class A

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN 61000-6-4	Class A
VCCI	VCCI V-3 VCCI V-4	Class A
CE/EMC/EMS	EN 61000-6-2	
ESD Test	IEC 61000-4-2	Contact: +/-6k Air: +/-8k
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	+/-2k
Surge Immunity	IEC 61000-4-5	+/-0.5k
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 30A/m



DIN-Rail Dimension



Panel Dimension

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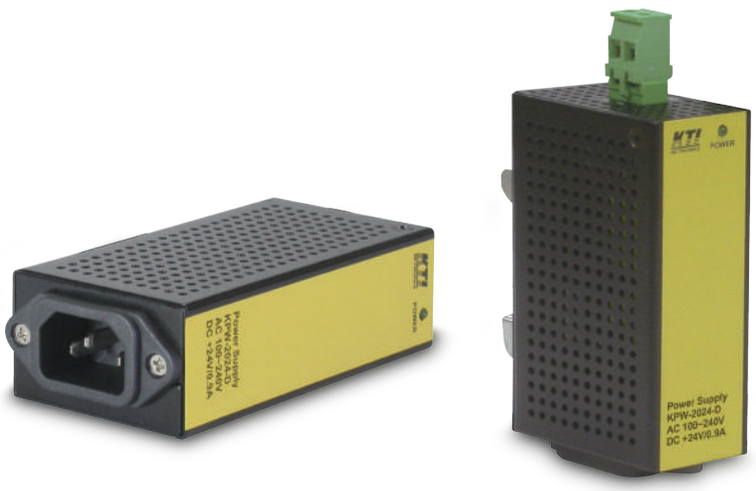
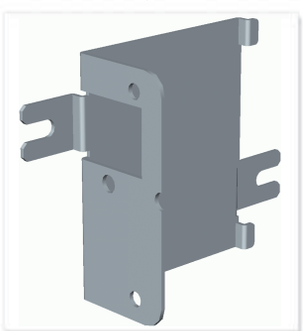
KPW-2024-D



Solution Product

DIN-Rail Mounting

Panel Mounting Bracket



Optional Accessories

DIN-Rail AC-DC 24V/20W Power Supply

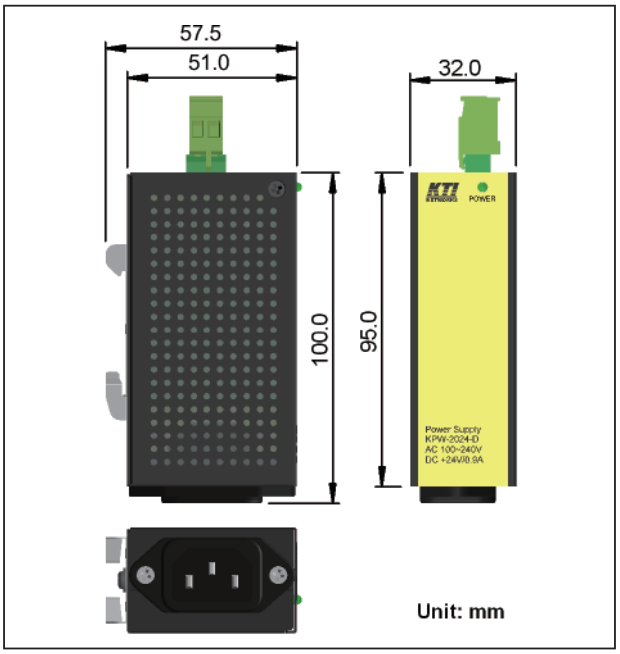
Key Features:

- Universal AC input/Full range
- Typical IEC320 AC socket for universal installation
- Dual types of DC output interfaces:
  - One industrial terminal block connector for industrial installations
  - Typical DC plug support for universal installation
- No load power consumption < 0.3W
- Protections: Short circuit/Over load/Over voltage
- UL60601-1/IEC60601-1/UL60950-1/IEC609501-1 safety approved internal Power Module
- TUV EN60950-1 certified
- High operating temperature range

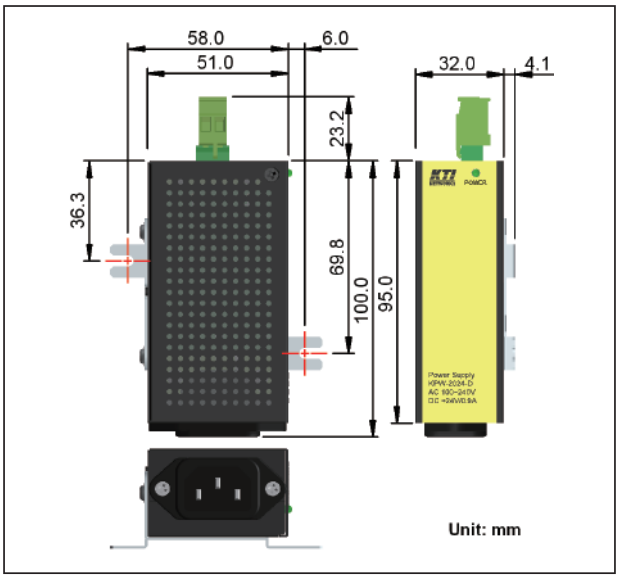
Specifications:

AC Input voltage	100 ~ 240VAC
DC Output voltage	+24V (+/-1%), 0.9A max.
Output Rated Power	21.6W
Efficiency	85% (Typ.)
Input connectors	IEC320 C14 socket
Output connectors	Terminal block 2P: Vout+/Vout- DC plug cable for Device's DC jack interface
LED	Power status
Mounting Support	DIN-Rail, Wall, Panel, Desktop
Protection	Short circuit, Over load, Over voltage
Environment	Operating Temperature: -25°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Power Derating:	100% @ -25°C ~ 60°C, 50% @ 70°C
Air Flow	Still air @ -25°C ~ 70°C
Dimensions	32 x 51 x 95 mm (WxDxH)
Internal Power Module	UL60601-1, IEC60601-1, UL60950-1, IEC60950-1 certification
MTBF	136K Hours

Approval	FCC Class A, CE mark Class A, VCCI Class A LVD, TUV EN60950-1 safety



DIN-Rail Dimension



Panel Dimension

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
VCCI	VCCI V-3 VCCI V-4	Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: 6KV Air: 8KV
RS Test	IEC 61000-4-3	Strength: 3V/m
EFT/BURST	IEC 61000-4-4	Line-Line: 2KV Line-Ground: 2KV
Surge Immunity	IEC 61000-4-5	Line-Line: 1KV Line-Ground: 2KV
CS Test	IEC 61000-4-6	Level 2
Magnetic Field Imm.	IEC 61000-4-8	50Hz 1A/m
Voltage Dips Imm.	IEC 61000-4-11	Interrupt 95%: C Dips 95%: B
Safety	TUV 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/10mA
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 24hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+70°C, 90%RH, 72hrs
Vibration test	IEC 60068-2-64 Fh	10-200Hz, 0.1g²/Hz 200-500Hz, 0.03g²/Hz
Shock test	IEC 60068-2-27 Ea	50G

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KPW-2012-D-E

DIN-Rail AC-DC 12V/20W Power Supply

Solution Product

DIN-Rail Mounting

Panel Mounting Bracket
PMB-0540

Key Features:

- Universal AC input/Full range
- Dual types of input interfaces:
  - Typical IEC320 AC socket for commercial installation
  - Industrial Terminal block connector for industrial installations
- Dual types of DC output interfaces:
  - 2 pairs of industrial Terminal block connectors for industrial installations
  - Typical DC plug support for commercial installation
- No load power consumption < 0.75W
- Protections: Short circuit/Overload/Over voltage
- UL60601-1/IEC60601-1/EN60601-1 safety approved internal Power Module
- IEC60950-1 safety approved for Power Supply

Specifications:

AC Input voltage	100 ~ 240VAC Power Load: 100%@115~240VAC, 90%@100~115VAC
DC Output voltage	+12V (+/-1%), 1.8A max.
Output Rated Power	21.6W
Efficiency	81% (Typ.)
Input connectors	IEC320 C14 socket Terminal block 3P: L/N/PE
Output connectors	Terminal block 4P (2 pairs): Vout+/Vout-/Vout+/Vout- DC plug cable for Device's DC jack interface
LEDs	Power status
Mounting Support	DIN-Rail, Wall, Panel, Desktop
Protection	Short circuit, Overload, Over voltage
Environment	Operating Temperature: -20°C ~ 60°C Power Load: 100%@-20°C ~ 50°C, 50%@60°C Storage Temperature: -30°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Dimensions	40 x 80 x 95 mm (WxDxH)
Internal Power Module	UL60601-1, IEC60601-1, TUV EN60601-1 Certified
MTBF	400K Hours
Approval	FCC Class A, CE mark Class A, LVD, IEC60950-1 safety, IEC 60068-2-64 Vibration, IEC 60068-2-27 Shock 50G test NEMA TS2 environment

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: +/-8kV Air: +/-16kV
RS Test	IEC 61000-4-3	Strength: 10V/m
EFT/BURST	IEC 61000-4-4	Line-Line: 2kV Line-Ground: 4kV
Surge Immunity	IEC 61000-4-5	Line-Line: 2kV Line-Ground: 4kV
CS Test	IEC 61000-4-6	Level 3
Magnetic Field Imm.	IEC 61000-4-8	50Hz 100A/m
Voltage Dips Imm.	IEC 61000-4-11	Interrupt 95%: C Dips 95%: B
Safety	EN 60950, IEC 60950	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/60sec.
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-20°C, 96hrs
Dry Heat Test	IEC 60068-2-2 Bd	+60°C, 42%RH, 96hrs
Damp Heat Test	IEC 60068-2-3 Ca	+60°C, 90%RH, 96hrs
Storage Test	IEC 60068-2-48	-20°C, 96hrs +90°C, 95%RH, 96hrs
Vibration Test	IEC 60068-2-64 Fh	10~200Hz, 0.1g^2/Hz 200~500Hz, 0.03g^2/Hz
Shock test	IEC 60068-2-27 Ea	50G
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	5~30Hz, 0.5g xYz, 1hr/axis

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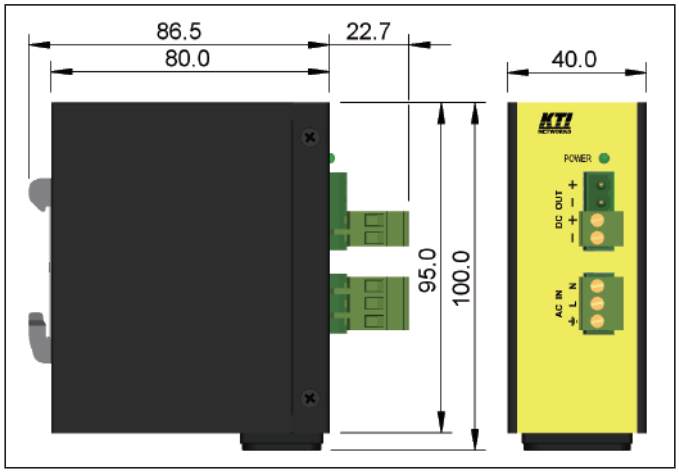
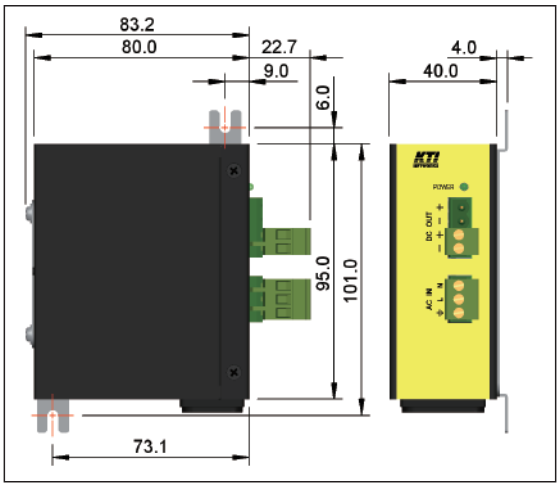
Optional Accessories:

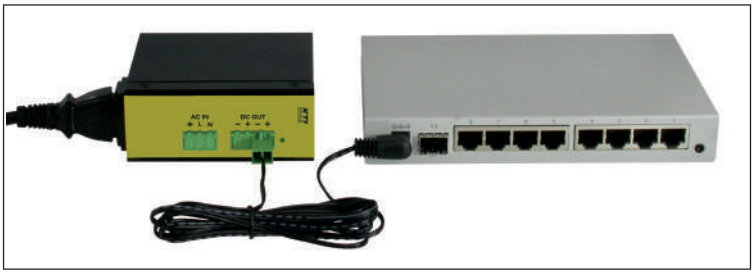
PMB-0540 Panel mounting kit for KFS-0540, KFS-0840, KPW-2012-D-E



DIN-Rail Dimension



Panel Dimension



AC power cord + Power supply + DC plug cable + KGS-810F

Solution Product

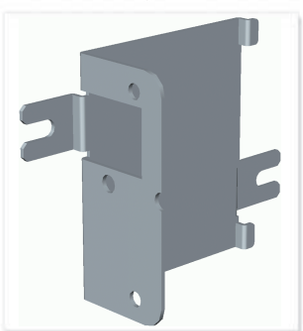
KPW-1012-D

Solution Product

DIN-Rail AC-DC 12V/10W Power Supply

DIN-Rail Mounting

Panel Mounting Bracket



Optional Accessories

Key Features:

- Universal AC input/Full range
- Typical IEC320 AC socket for universal installation
- Dual types of DC output interfaces:
  - One industrial terminal block connector for industrial installations
  - Typical DC plug support for universal installation
- No load power consumption < 0.3W
- Protections: Short circuit/Over load/Over voltage
- UL60601-1/IEC60601-1/UL60950-1/IEC609501-1 safety approved internal Power Module
- TUV EN60950-1 certified
- High operating temperature range

Specifications:

AC Input voltage	100 ~ 240VAC
DC Output voltage	+12V (+/-1%), 0.85A max.
Output Rated Power	10.2W
Efficiency	83% (Typ.)
Input connectors	IEC320 C14 socket
Output connectors	Terminal block 2P: Vout+/Vout- DC plug cable for Device's DC jack interface
LED	Power status
Mounting Support	DIN-Rail, Wall, Panel, Desktop
Protection	Short circuit, Over load, Over voltage
Environment	Operating Temperature: -40°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Dimensions	32 x 51 x 95 mm (WxDxH)
Internal Power Module	UL60601-1, IEC60601-1, UL60950-1, IEC60950-1, certification
MTBF	136K Hours
Approval	FCC Class A, CE mark Class A LVD, TUV EN60950-1 safety, VCCI Class A NEMA TS2-2003 Environment tested

EMI EMS Safety Environmental Tests:

Test	Standard	Specifications
FCC/EMI	FCC Rule Part 15	Class A
CE/EMC/EMI	EN55022, CISPR 22	Class A
VCCI	VCCI V-3 VCCI V-4	Class A
CE/EMC/Harmonic	EN 61000-3-2	< 75 W
CE/EMC/VFF	EN 61000-3-3	Clause 5
CE/EMC/EMS	EN 55024	
ESD Test	IEC 61000-4-2	Contact: 4k Air: 8k
RS Test	IEC 61000-4-3	Strength: 3V/m
EFT/BURST	IEC 61000-4-4	Line-Line: 1k Line-Ground: 1k
Surge Immunity	IEC 61000-4-5	Line-Line: 1k Line-Ground: 2k
CS Test	IEC 61000-4-6	Level 2
Magnetic Field Imm.	IEC 61000-4-8	50Hz 1A/m
Voltage Dips Imm.	IEC 61000-4-11	Interrupt 95%: C Dips 95%: B
Safety	TUV 60950-1	
Dielectric Voltage	IEEE 802.3	TP, 1500VAC/10mA
Insulation Resistance	IEEE 802.3	TP, 500VDC/10Mohm
Cold Test	IEC 60068-2-1 Ad	-40°C, 24hrs
Dry Heat Test	IEC 60068-2-2 Bd	+70°C, 40%RH, 72hrs
Damp Heat Test	IEC 60068-2-3 Ca	+70°C, 90%RH, 72hrs
NEMA TS2 Vibration test	NEMA TS2-2003 Proc, 2.2.8	5~30Hz, 0.5g xYz, 1hr/axis
NEMA TS2 Shock test	NEMA TS2-2003 Proc, 2.2.9	10G
NEMA TS2 Environment test	NEMA TS2-2003 Proc, 2.2.7	Temp: -34°C ~ 74°C Humid: 0%~90%

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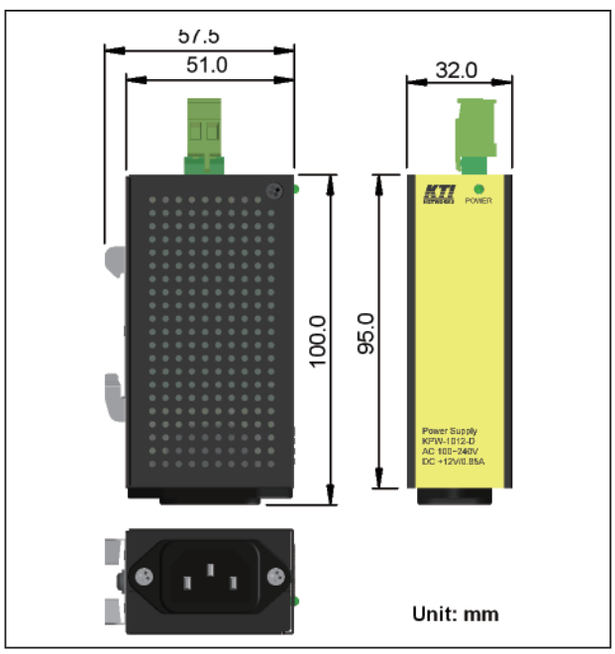
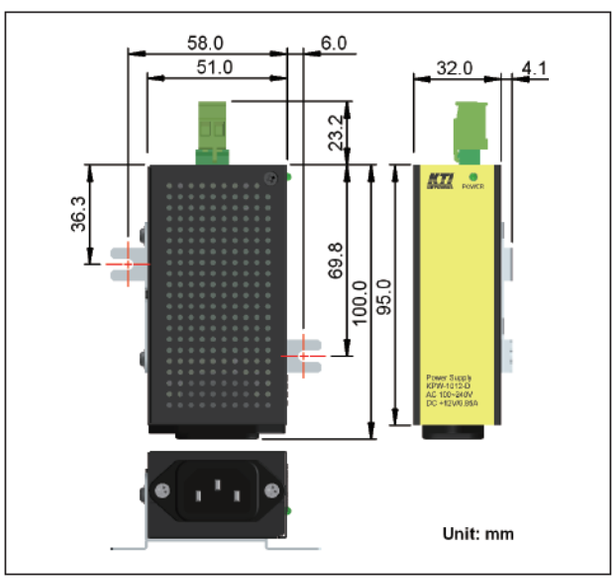


DIN-Rail Dimension



Panel Dimension

Solution Product

KGS-2423

Product Highlights:

- Web/CLI/SNMP/SSH/HTTPS /CLI switch stack management
- IPv6 support
- 802.1Q Tagged VLAN
- Comprehensive QoS
- STP/RSTP/MSTP support
- Variety of security features
- ACL configuration
- IGMP snooping
- PoE/PoE+ PSE option

KGS-2423 Combo Ports

Stacking Ports

19" Rack Mounting

Wall Mounting

Managed 24-Port Stackable L2 Gigabit Ethernet Switches with 4 SFPs and 24 PoE+ PSE Ports

The managed 24-port Stackable Gigabit Ethernet Switches are standard L2 switches that meets all IEEE 802.3/u/x/z Gigabit, Fast Ethernet specifications. The switch has 20 10/100/1000Mbps copper ports and 4 combo ports with four additional Gigabit SFP slots. The SFP slots support standard SFP fiber optical transceivers for fiber optic application.

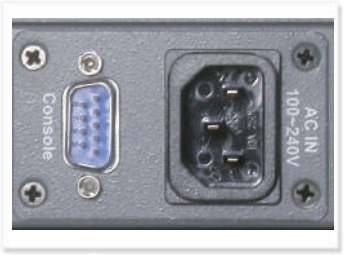
To expand the number of the connected users, the switch provides two 5G stack ports for cascading more than one switch together. Up to five switches are allowed to cascade as one single switch stack that is able to support 120 users and 20 fiber connections. The stack can also be managed with a single IP address and as a single entity for greater management simplicity. For more and more Power over Ethernet applications, the switch provides optional PoE function on all copper ports. With PoE function, the ports can deliver power to the connected powered devices over Cat.5.

The switches support Telnet CLI, Web GUI, SNMP and console CLI interface for switch stack management. The network administrator can logon the switch to monitor and configure port operating mode, Quality of Service, and powerful L2 switching functions such as VLAN, IGMP, RSTP etc. In addition, the switches are also featured with powerful security functions such as SSH, HTTPS, IEEE 802.1x & MAC-based authentication, and ACL control to make them suitable for office core applications.

Key Features:

- Provides 24 10/100/1000Mbps RJ-45 and four Gigabit SFP slots (4 combo ports)
- Provides optional 24 802.3af and 802.3at compliant PoE/PoE+ PSE ports
- Provides two 5G stack ports for stacking multiple switches and single point of management
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- The SFP slots support 1000BASE-X SFP transceivers
- Supports Gigabit full wire speed forwarding
- Supports power saving mode when port link up or down.
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Supports console and in-band Web/Telnet/SSH/HTTPS/SNMP/CLI interfaces for stack switch management with single IP
- Supports configurable maximum frame length from 1518 up to 9600 jumbo frame
- Supports port-based ,802.1Q tag-based VLAN and private VLAN
- Provides QoS function
- Supports port bandwidth control for ingress and egress
- Supports packets storm control function for broadcast, unicast and multicast
- Supports MAC address learning, ageing and filtering control
- Supports static and LACP port link aggregation
- Supports IEEE 802.1d, 802.1w, 802.1s STP (Spanning Tree Protocol), RSTP, MSTP
- Provides port mirroring function
- Supports IPv6 configuration
- Provides IP Multicasting with IGMP snooping function
- Supports DHCP client for dynamic IP configuration
- Provides DHCP snooping and relay function
- Supports 802.1X port-based radius authentication for access security
- Provides ACL filtering function
- Provides port data rate control function

AC Power Option



DC Power Option

PoE DC IN

Ordering Information:

Model	Power	PoE
KGS-2423-S	AC Power	-
KGS-2423-PS	AC Power	v
KGS-2423-D	DC Power	-
KGS-2423-PD	DC Power	v

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- Supports SNTP Client
- Supports LLDP
- Provides SNMP v1/v2C/v3 agent and event trap function
- Supports Configuration download and upload
- Supports SFP with Digital Diagnostic Monitoring DDM support
- Supports Green Ethernet power saving
- Both AC powered model and DC powered model are available for choice

Specifications:

Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.3af, 802.3at, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	20 10/100/1000Mbps Gigabit copper ports 4 combo ports - 10/100/1000Mbps copper & 1000M fiber SFP
Copper Ports	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X support
SFP Slots	SFP connector for 1000M SFP fiber transceiver modules, auto-negotiation, Digital Diagnostics Monitoring DDM support
Stack Ports	Aggregated 10Gbps bandwidth 2 HDMI connectors Up to 5 switches in one stack
Network Cables	10/100/1000Mbps copper: Cat.5, 5e or higher up to 100 meters 1000BASE-X: 62.5/125μm, 50/125μm MM fiber, 9/125μm SM fiber
MAC Addresses	Table with 8K entries
Power over Ethernet	Optional PSE function on all copper ports IEEE 802.3af (PoE) and 802.3at (PoE+) compliant
LED Indication	Per unit: Power, Mngt, SA, SB , Per port: Speed/Link/Activity/PoE Status Per SFP status: Fiber selected
PoE Power Input	Screw type terminal block PoE Voltage range: +45 ~ +57VDC for support Type 1 PDs PoE+ Voltage range: +51 ~ +57VDC for support Type 1 & 2 PDs Power: 720W max. Current: 13.3A max.@DC IN +54V
Link Aggregation	The number of local trunk groups : 12 in one switch Member ports of local trunk group in same switch unit : 16 Global trunk groups in a stack : 2 max. Members of aggregated ports per global trunk group : 8 port in a stack
AC Power Input	IEC320 receptacle, Operating voltage range: +100 ~ 240VAC
DC Power Input	Screw type terminal block, Operating voltage range: +/- 40 ~ 72VDC
Power Consumption	39W max. (Not including PoE)
Housing	Enclosed metal with fan
Dimension	443 x 245 x 43 mm (WxDxH)
Mounting Support	19” rack and wall mountable
Environment	Operating Temperature: -5°C ~ +40°C Storage Temperature: -20°C ~ +85°C Relative Humidity: 10% ~ 90% non-condensing
Approval	FCC Class A, VCCI Class A, CE mark Class A, LVD, TUV IEC60950-1 safety

Ordering Informations:

KPW-1000T-52	1000W Power supply for PoE+, AC110-240V DC52V
KPW-1000T-48	1000W Power supply for PoE, AC110-240V DC48V
KPW-300T-52	300W Power supply for PoE+ AC110-240V DC52V
KPW-300T-48	300W Power supply for PoE, AC110-240V DC48V

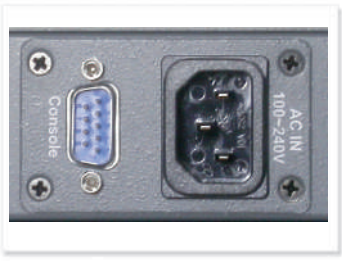
KGS-2422-B

Managed 24-Port Modular L2/L3 Gigabit Ethernet Switches with 100BASE-FX Support

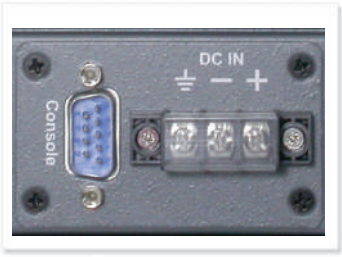
Product Highlights:

- 24-Port Managed Gigabit switch
- Three 8-Port Module slots for mix & match configuration
- 10/100/1000M copper connectivity
- 1000M and 100M fiber connectivity
- 100/1000M support on SFP ports
- IPv4 and IPv6 support
- L2 & L3 switching functions
- Web/Telnet CLI/SNMP/SSH /HTTPS support
- ACL configuration
- L3 Multicast IGMP & MLD snooping

AC Power Option



DC Power Option



The 24-port Managed Gigabit Ethernet Switches are standard L2/L3 switches that meets all IEEE 802.3/u/x/z Gigabit, Fast Ethernet specifications. The switches provide three 8-port modular slots. Each slot can accommodate one 8-port module. A variety of modules is available for selection. They include 10/100/1000M copper module, 100/1000M SFP module, Copper and SFP mixed modules, and Fast Ethernet fiber modules. Different modules can be installed flexibly in one device rack. The system detects the types of the installed modules and configures the modules automatically. With variety of modules and flexibility of installation, the switches can meet most requirements of deployment of fiber networks no matter they are Gigabit Ethernet base, Fast Ethernet base or even combination of both.

The switches support console CLI, Telnet CLI, Web GUI and SNMP interface for switch management. Network administrator can logon the switch to monitor and configure port operating mode, Quality of Service, and powerful Layer 2 switching functions such as VLAN, IGMP, RSTP etc. In addition, the switches are also featured Layer 3 switching functions that enable to route IPv4/IPv6 Unicast and IPv4 Multicast frames. With comprehensive security functions such as IEEE802.1x and ACL control to make them suitable for medium enterprise applications.

Key Features:

- Fully modular design with three 8-port module slots supporting Gigabit and Fast Ethernet
- A variety of optional modules is available for selection including Gigabit copper, SFP fiber, mix of copper and SFP fiber, and Fast Ethernet fibers
- The copper ports support 10/100/1000Mbps auto-negotiation and auto-MDI/MDI-X.
- The SFP ports support both 100Mbps and Gigabit Ethernet SFP fiber transceivers.
- The Fast Ethernet fibers includes variety of 100BASE-FX with SC/ST/BiDi transceivers.
- Flexible installation with any combination of different modules in one rack
- Provides L2 switching at Gigabit full wire speed
- Provides L3 switching functions for IPv4/IPv6 Unicast static routing and IPv4 Multicast static routing
- Supports console/Web/Telnet/SSH/HTTPS/SNMP interfaces for switch management
- Supports configurable maximum frame length from 1518 up to 10056 jumbo frame
- Supports port-based ,802.1Q tag-based VLAN and private VLAN
- Provides tag-based and DSCP-based QoS function
- Supports port bandwidth control for ingress and egress
- Supports packets storm control function for broadcast, unicast and multicast
- Supports LACP port link aggregation
- Supports MAC address learning, ageing and filtering control
- Supports IEEE 802.1d, 802.1w, 802.1s STP (Spanning Tree Protocol), RSTP, MSTP
- Provides port mirroring function
- Provides IP Multicasting with IGMP & MLD Snooping function
- Supports DHCP client & server for dynamic IP configuration
- Supports DHCP option 82 relay
- Supports complete 802.1X authentication for access security
- Provides ACL filtering function
- Provides port data rate control function
- Supports NTPv4 Client
- Provides SNMP v1/v2C/v3 agent and event trap function
- Supports Configuration download and upload
- 19” rack mountable
- Both AC powered model and DC powered model are available for choice.

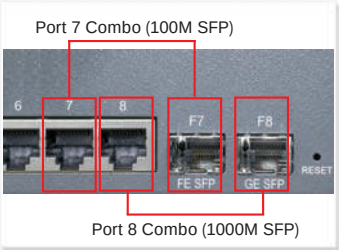
KGS-0820

Managed 8-Port Gigabit Ethernet Switches with 2 SFP Slots and PoE options

Product Highlights:

- 802.1Q Tagged VLAN
- QoS WFQ support
- LACP link aggregation
- 802.1x access control
- DHCP client
- Two speed SFP support
- SFP DDM support
- STP / RSTP support
- Port mirroring
- PoE PSE option
- DC power input option

SFP Slots



DC Power Option

Key Features:

- Provides 8 10/100/1000Mbps RJ-45, one 100M SFP slot and one 1000M SFP slot
- Provides in-band web and SNMP management interface
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- Two SFP slots support 100BASE-FX and 1000BASE-X SFP transceivers
- Provides Gigabit full wire speed forwarding
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Provides port status, statistic monitoring and control function
- Supports port-based and 802.1Q Tag-based VLAN
- Provides QoS function
- Provides port link aggregation (trunk) function with LACP support
- Provides port mirroring function
- Provides 802.1x authentication for port access
- Support 802.1w RSTP and 802.1D STP
- Watchdog timer function
- Supports DHCP for dynamic IP configuration
- Provides optional 8 PoE (Power over Ethernet) PSE ports
- 19” rack mountable

Specifications:

Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.3af, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	6 10/100/1000Mbps Gigabit copper ports 1 combo port - 10/100/1000Mbps copper & 100M fiber SFP 1 combo port - 10/100/1000Mbps copper & 1000M fiber SFP
Copper Ports	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X support
SFP Slots	One 100M SFP connector for 100M SFP fiber transceiver modules One 1000M SFP connector for 1000M SFP fiber transceiver modules DDM support
Network Cables	10/100/1000Mbps copper: Cat.5 up to 100m,100Base-FX, 1000Base-X: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
MAC Addresses	Table with 8K entries
VLAN Function	Port based VLAN, 802.1Q Tag-based VLAN
Port Link Aggregation	Static trunking groups: 2 max., Ports/group: 2, LACP link aggregation
QoS Function	4 priority queues, Classification: Port-based, 802.1p, IP DSCP
Power over Ethernet	IEEE 802.3af compliant, PSE on Port 1 ~ Port 8 (optional) Power delivery 48V 15.4W max. at port output for a Cat.5 distance of 100 meters
LED Indication	Per unit: Power, Mngt Per port: 1000M,100M/10M speed/link/activity status Per PSE port: PoE status
Web Management	Web browser software System settings, port status/statistics, port control, VLAN, QoS, Link aggregation, port mirroring, Firmware upgrade, 802.1x, 802.1w, Configuration backup and restore

SNMP Support	SNMP v1, v2c management, MIB-II, Event traps
AC Power Input	IEC320 receptacle, Operating voltage range: +100 ~ 240VAC
DC Power Input	Screw type terminal block Voltage range with PoE option: +44 ~ +54VDC Voltage range with no PoE: +36 ~ +57VDC
Power Consumption	AC: 16W max. (No PoE), 150W max. (PoE) @110VAC DC: 10W max. (No PoE), 133W max. (PoE) @48VDC
Housing	Enclosed metal
Dimensions	295 x 160 x 43 mm (WxDxH)
Mounting Support	19” rack mountable
Environment	Operating Temperature: -5°C ~ 50°C Storage Temperature: -20°C ~ 85°C Humidity: 10% ~ 90% non-condensing
Approval	FCC Class A, CE mark Class A, IEC60950 safety

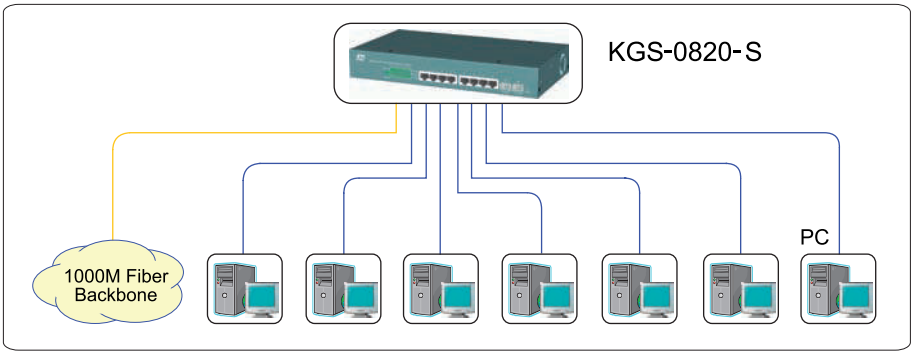
Ordering Informations:

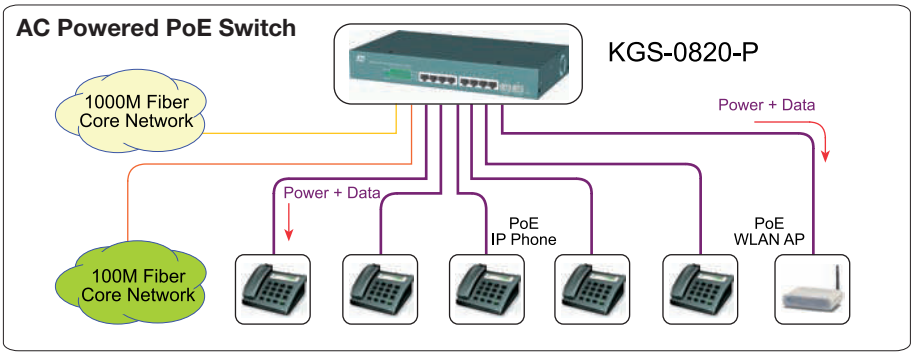
Model	Managed	PoE	Power
KGS-0820-P	v	v	AC100~240V
KGS-0820-D	v	v	DC44~57V
KGS-0820-S	v	-	AC100~240V
KGS-0820-L	-	-	AC100~240V

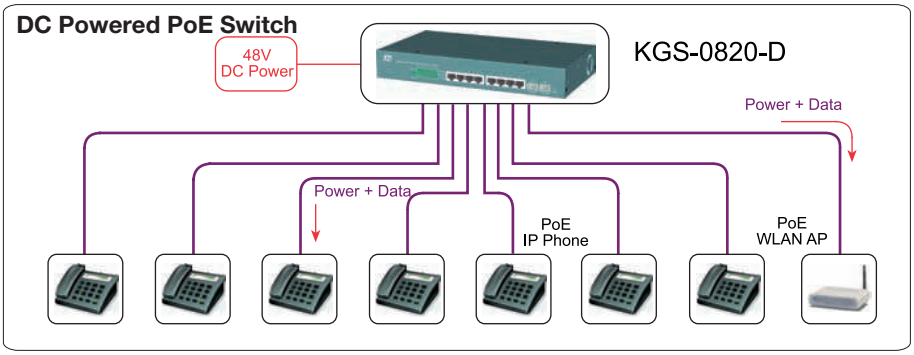
Optional Accessories:

KTI 100M SFP fiber transceivers
KTI 1000M SFP fiber transceivers

Applications:







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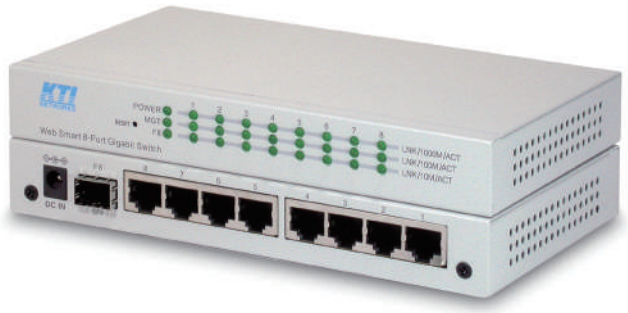
KGS-810F Ver.B



Web Smart 8-Port L2 Gigabit Ethernet Switches with 1 GbE SFP Port

Product Highlights:

- Web management
- One 1000M SFP fiber
- DHCP support
- 802.1Q Tagged VLAN support
- QoS WFQ support
- Port mirroring function
- 802.1x port access control
- RSTP support
- LACP link aggregation
- Jumbo frame support
- IGMP snooping
- High power saving

DIN-Rail Mounting Backet
KC-4DR

Panel Mounting Backet
PMB-810

Key Features:

- Provides 8 10/100/1000Mbps RJ-45 and 1 Mini-GBIC SFP slot
- Provides in-band web and SNMP management interfaces
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- Provides full wire speed forwarding
- Supports jumbo frame at all speeds
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Provides port status, statistic monitoring and control function
- Provides DHCP client & static IP configuration
- Supports port-based and 802.1Q Tag-based VLAN
- Provides QoS function
- Provides port link aggregation (trunking) function with LACP support
- Provides port mirroring function
- Provides 802.1x authentication for port access
- Supports 802.1w RSTP
- Provides IGMP snooping
- Supports SFP with Digital Diagnostic Monitoring (DDM)

Specifications:

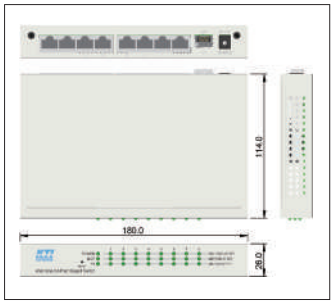
Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.1x, 802.1w, 802.1s, 802.1Q
Network Ports	7 10/100/1000Mbps Gigabit copper ports Shielded RJ-45, auto-negotiation, auto-MDI/MDI-X support 1 1000Mbps Gigabit fiber SFP port SFP supports standard SFP fiber transceiver installation
Network Cables	10/100/1000Mbps copper: Cat.5, 5e or higher up to 100m 1000Base-X: 62.5/125μm, 50/125μm MM fiber, 9/125μm SM fiber
MAC Addresses	Table with 8K entries
IP Multicast Groups	8K
Buffer Memory	176K bytes
VLAN Function	Port based VLAN, 8021Q Tag-based VLAN
Port Link Aggregation	LACP (802.3ad) support
QoS Function	4 priority queues, Classification: Port-based, 802.1p, IP DSCP
LED Indication	Per unit: Power Per copper port: 1000M,100M, 10M speed/link/activity status SFP port: 1000M speed/link/activity status, Optical link status
Management Support	Web browser software, SNMP MIB-2
Management Objects	System settings, Port status/statistics, Port control, VLAN, QoS, LACP aggregation, port mirroring, Firmware upgrade, 802.1w RSTP, 802.1x, IGMP snooping, Storm control, Power saving, Configuration backup and restore

Environment	Operating Temperature: -5°C ~ 50°C (Main device) Storage Temperature: -20°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Dimension	180 x 114 x 26 mm (WxDxH)
Power Input	+5V ~ +12VDC (+/-5%) via external power adapter
Power Consumption	7.3W max. @+5V (DC IN) Less than 1.1W when no link ports under power saving mode
Approval	FCC Class A, VCCI Class A, CE mark Class A

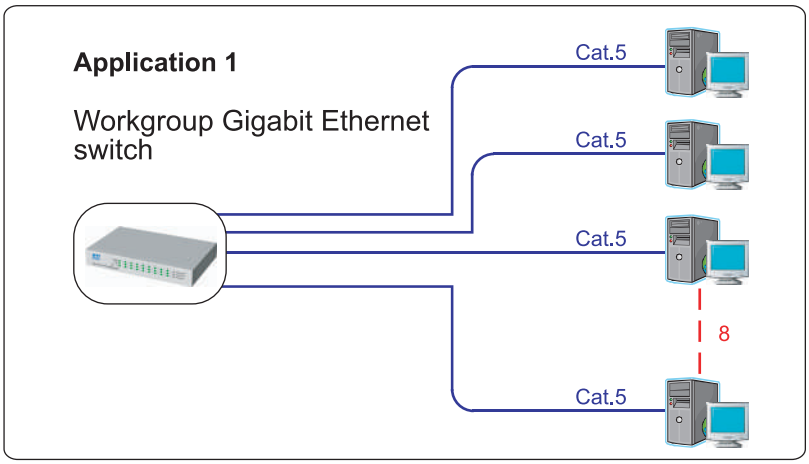
Optional Accessories:

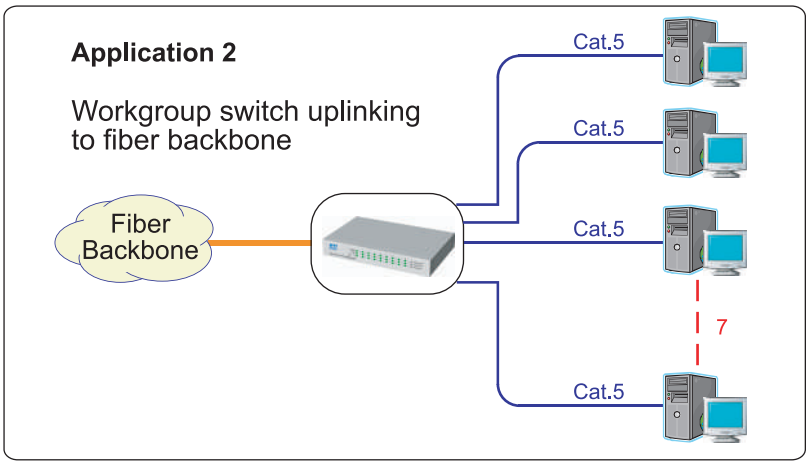
KC-4DR	DIN-Rail mounting bracket
PMB-810	Panel mounting bracket
KTI quality SFP transceivers	

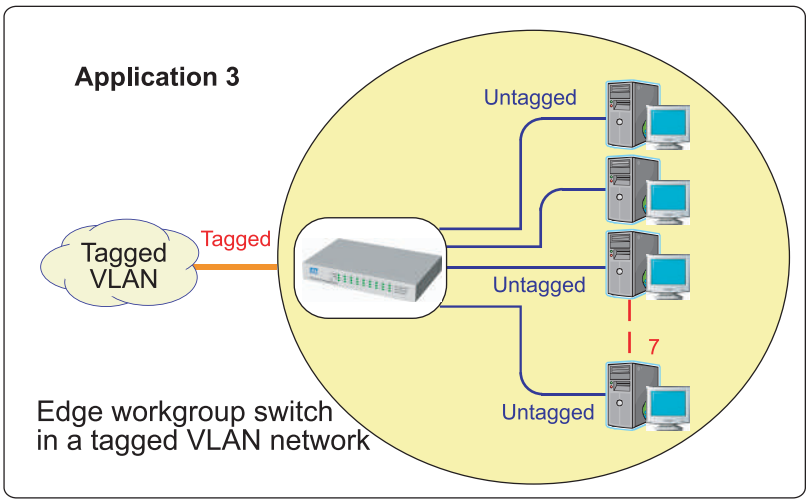
Dimension



Applications:







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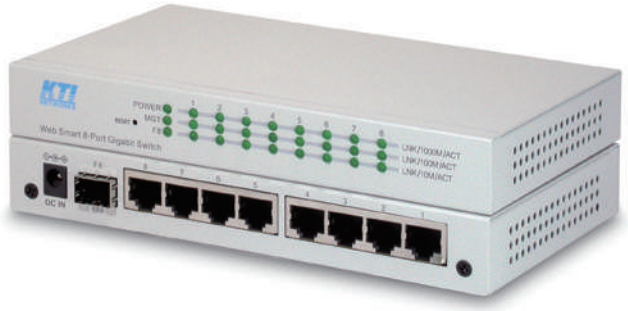
KGS-810F



Web Smart 8-Port L2 Gigabit Ethernet Switch with 1 GbE SFP Port

Product Highlights:

- 802.1Q Tagged VLAN
- QoS WFQ support
- LACP link aggregation
- 802.1x access control
- DHCP client
- SFP DDM support
- STP / RSTP support
- Port mirroring

DIN-Rail Mounting Backet
KC-4DR

Panel Mounting Backet
PMB-810

Key Features:

- Provides 8 10/100/1000Mbps RJ-45 and 1 Mini-GBIC SFP slot
- Provides in-band web and SNMP management interfaces
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- Provides full wire speed forwarding
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Provides port status, statistic monitoring and control function
- Supports port-based and 802.1Q Tag-based VLAN
- Provides QoS function
- Provides port link aggregation (trunking) function and LACP support
- Provides port mirroring function
- Provides 802.1x authentication for port access
- Support 802.1w RSTP and 802.1D STP
- Watchdog timer function
- Supports SFP with Digital Diagnostic Monitoring (DDM)
- Supports DHCP for dynamic IP configuration

Specifications:

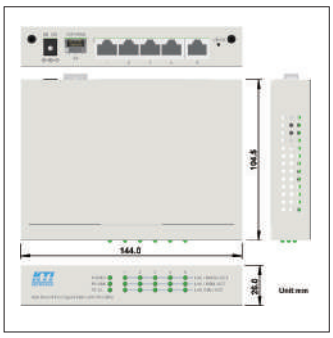
Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	7 10/100/1000Mbps Gigabit copper ports 1 combo port -10/100/1000Mbps copper & mini-GBIC SFP
Copper Port	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X support
Mini-GBIC SFP	Gigabit Ethernet 1000Base-X compliant SFP connector
Network Cables	10/100/1000Mbps copper: Cat.5 up to 100m 1000Base-X: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
MAC Addresses	Table with 8K entries
VLAN Function	Port based VLAN, 8021Q Tag-based VLAN
Port Link Aggregation	Static trunking groups: 2 max., Ports/group: 2, LACP link aggregation
QoS Function	4 priority queues, Classification: Port-based, 802.1p, IP DSCP
LED Indication	Per unit: Power, management status Per port: 1000M,100M, 10M speed/link/activity status
Web Management	Web browser software System settings, port status/statistics, port control, VLAN, QoS, Link aggregation, port mirroring, Firmware upgrade 802.1x, 802.1w, Configuration backup and restore
SNMP Support	SNMP v1, v2c management MIB-II, Event traps
DC Power Input	DC jack: -D 6.3mm/+D 2.0mm Operating voltage range: +5 ~ +12VDC (+/-5%) Power Consmption: 7.3W max.

Environment	Operating Temperature: 0°C ~ 40°C (Main device) Storage Temperature: -20°C ~ 70°C Relative Humidity: 10% ~ 90% non-condensing
Dimension	144 x 104.5 x 26 mm (WxDxH)
Power Input	+5V ~ +12VDC (+/-5%) via external power adapter
Power Consumption	5W max. @+5V (DC IN) Less than 0.5W when no link ports under power saving mode
Approval	FCC Class A, CE mark Class A

Optional Accessories:

WMK5	Wall mounting kit
KTI quality SFP transceivers	

Dimension



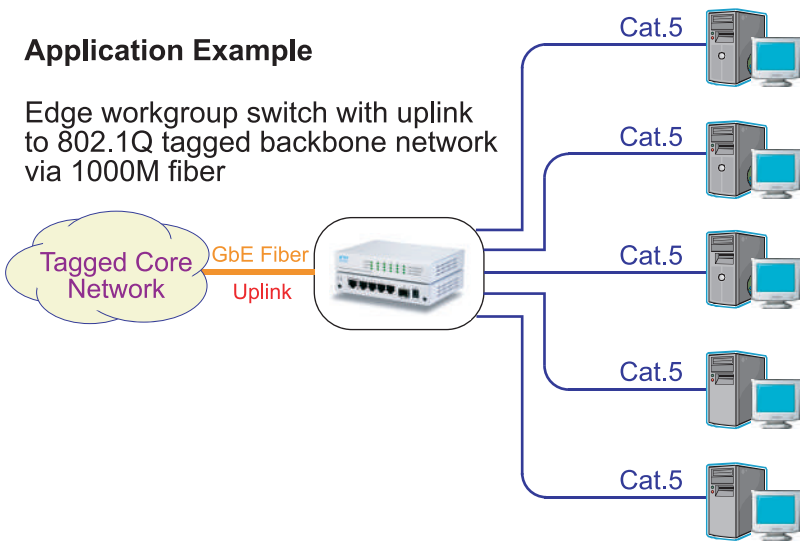
Fiber Optical Specifications:

Model	Connector	Fiber	Wavelength	Tx Power*	Rx Sens.	Rx Max.	Distance
-SX	LC	62.5/125 MMF 50/125 MMF	850nm	-9.5 ~ -4dBm	-18dBm	0dBm	200m 500m
-LX	LC	MMF SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm	550m 10km
-LX20	LC	SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm	20km
-LX30	LC	SMF	1310nm	-4 ~ +1dBm	-24dBm	-3dBm	30km
-LX50	LC	SMF	1550nm	-4 ~ +1dBm	-24dBm	-3dBm	50km
-LX70	LC	SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm	70km
-W3510	Bi-Di LC	SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W5310	Bi-Di LC	SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W3520	Bi-Di LC	SMF	Tx 1310nm Rx 1550nm	-8 ~ -3dBm	-23dBm	-1dBm	20km
-W5320	Bi-Di LC	SMF	Tx 1550nm Rx 1310nm	-8 ~ -3dBm	-23dBm	-1dBm	20km
-W3410	Bi-Di LC	SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W4310	Bi-Di LC	SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W3410S	Bi-Di SC	SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm	10km
-W4310S	Bi-Di SC	SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm	10km

*Data for 62.5/125μm MMF, 9 /125μm SMF

Application Example

Edge workgroup switch with uplink to 802.1Q tagged backbone network via 1000M fiber



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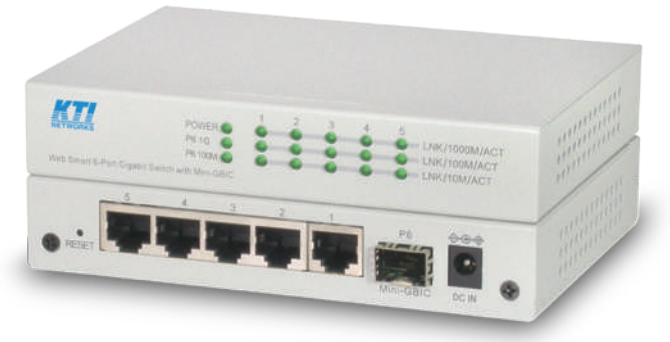
KGS-510F Ver.D



Managed 6-Port L2 Gigabit Ethernet Switches with 1 dual-speed SFP Slot

Product Highlights:

- Compact design
- Web, telnet, SNMP managed
- SFP dual speed support
- IPv6 support
- RSTP, STP, MSTP support
- IGMP & MLD snooping
- OPA function
- ALS function
- Powerful management support

Key Features:

- 5 10/100/1000Mbps RJ-45 and one dual-speed SFP slot
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- The SFP slot supports dual speed for 100BASE-FX and 1000BASE-X SFP transceivers
- Full wire speed forwarding
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Supports SFP with Digital Diagnostic Monitoring (DDM)
- Provides Automatic Laser Shutdown (ALS) function
- Provides fiber optical power Alarm (OPA) function
- Alarm e-mail notification

Management Features:

- Management:
  HTTP/HTTPS/SSHv2/CLI telnet/SNMP v1/v2c/v3/RMON
  DHCP/DHCPv6 client, DNS client, NTPv4
  IPv6 support, System Syslog, Configuration down load/upload, Software upload
  KTI's private MIB for DDM monitoring, OPA, ALS, Remote boot, TFTP firmware update over SNMP
- Security:
  NAS, 802.1X, MAC-based/Web/CLI authentication
  IP MAC binding, TACACS+, IP source guard
- Layer 2:
  QoS, 802.1Q/Private VLAN, Port Isolation
  Storm control for UC/MC/BC packets
  Static MAC configuration
  IGMP v2/v3 snooping, MLD v1/v2 snooping, DHCP snooping
  Multiple Spanning Tree – MSTP. RSTP, STP

Specifications:

Standard	IEEE 802.3, 802.3ab, 802.3z, 802.3x, 802.1x, 802.1w, 802.1D, 802.1Q
Network Ports	5 10/100/1000Mbps Gigabit copper ports 1 1G/100Mbps SFP slot
Copper Port	Shielded RJ-45, 10/100/1000Mbps, auto-negotiation, auto-MDI/MDI-X support
Mini-GBIC SFP	SFP connector Interface: 1000BASE-X and 100BASE-FX support
Network Cables	10/100/1000Mbps copper: Cat.5 up to 100m 1000Base-X: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
MAC Addresses	Table with 8K entries
Buffer Memory	4Mbits

LED Indication	Per unit: Power Per port: Speed/link/activity status SFP port: Speed, Link/activity status
Power Input	DC jack, Voltage range: +5 ~ +30VDC via external power adapter
Power Consumption	5.4W max. @12VDC (DC IN)
Housing	Enclosed metal with no fan
Dimension	144 x 104.5 x 26 mm (WxDxH)
Mounting Support	Desktop and wall mounting
Environment	Operating Temperature: -10°C ~ 45°C (Main device) Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class A, CE mark Class A, VCCI Class A, IEC60950-1 safety

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KGS-0800-4HP

8-Port Gigabit Ethernet Switch with 4 PoE+ PSE Ports

Product Highlights:

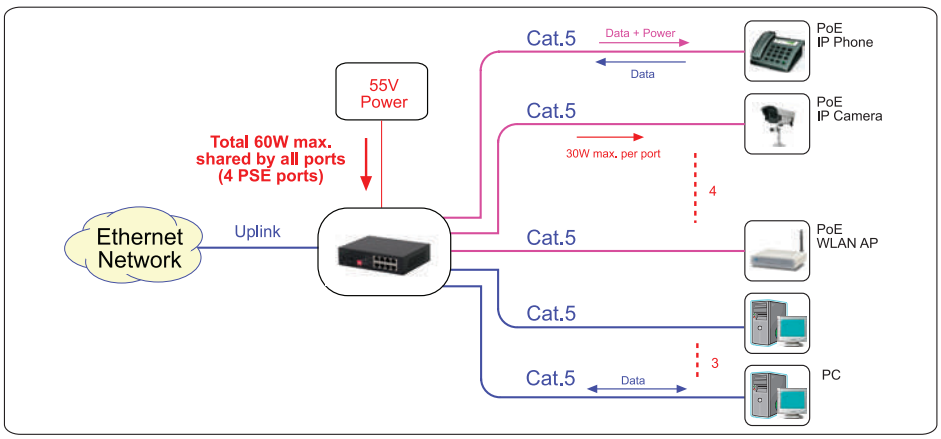
- Full wire speed performance
- Plug and play
- Four 802.3at PoE Ports
- Jumbo frame support
- Power saving support

Key Features:

- Provides 8 10/100/1000Mbps copper ports
- Provides 4 802.3at PoE PSE ports
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- Supports 802.3x flow control
- Supports jumbo frame length of 9K bytes
- Supports link-up cable length power saving and link-down power saving
- Alert system start when PoE power close to power budget
- DIP switch configuration for supporting 10Mbps transmission with PoE up to 180 meters

Specifications:

Standard	IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x, IEEE 802.3af, IEEE 802.3at
Network Ports	8 10/100/1000Mbps Gigabit copper ports Shielded RJ-45, auto-negotiation, auto-MDI/MDI-X support
Network Cables	Cat.5, 5e UTP or higher up to 100 meters
Power over Ethernet	IEEE 802.3at compliant (High power PoE) , PSE on Port 1 ~ Port 4 30W max. per port output
PoE Power Budget	60W max. shared by 4 PSE ports
PoE Alert	LED alert when delivered PoE power over 50W
MAC Addresses	4K entries
Buffer Memory	1.5M bits
LED Indication	Per unit: Power, PoE Alert Per port: Speed/Link/Activity, PoE status
Environment	Operating Temperature: 0°C ~ 40°C Storage Temperature: -40°C ~ 70°C Relative Humidity: 10% ~ 90% non-condensing
Housing	Enclosed metal with no fan
Dimension	165 x 118 x 39 mm (WxDxH)
Power	External Power 55V/1.3A
Approval	FCC Class A, CE mark Class A, LVD



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KGS-0500

5-Port GbE Switch with 1 Dual-speed SFP

Product Highlights:

- Full wire speed performance
- Plug and play
- Fiber connectivity
- Jumbo frame support
- Power saving support
- SFP dual-speed support
- 802.1p QoS support

Key Features:

- Provides four tri-speed copper ports and one dual-speed SFP slot
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- SFP slot supports dual speed for 100M and 1000M SFP transceivers
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Supports jumbo frame length of 9216 bytes at full wire speed forwarding
- Supports 802.1p QoS classification
- Supports link-up cable length power saving and link-down power saving

Specifications:

Standard	IEEE 802.3, 802.3u, 802.3ab, 802.3x
Network Ports	4 10/100/1000Mbps Gigabit copper ports: Shielded RJ-45, auto-negotiation, auto-MDI/MDI-X support 1 100Mbps or 1000Mbps fiber SFP port: SFP supports standard SFP fiber transceiver installation
Network Cables	10/100/1000Mbps Copper: Cat. 5, 5e, 6 or higher up to 100m 100/1000Mbps Fiber: MMF 50/125µm, 60/125µm, SMF 9/125µm
MAC Address Table	2K entries
Buffer Memory	128K bytes
LED Indication	Per unit: Power Per copper port: link/activity status SFP port: link/activity status
Environment	Operating Temperature: 0°C ~ 40°C Storage Temperature: -20°C ~ 70°C Relative Humidity: 10% ~ 90% non-condensing
Dimension	148 x 107 x 29mm (WxDxH)
Mounting Support	Wall, Magnetic
Power Input	+5V via external power adapter
Power Consumption	3.5W max. @+5V (DC IN)
Approval	FCC Class A, CE mark Class A

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KFS-2621

Web Smart 24-Port 10/100 L2 Fast Ethernet Switches with 2 Gigabit Combo Ports

Product Highlights:

- 24 FE 10/100 ports
- 2 GbE combo ports
- 2 GbE SFP for fiber
- Web managed
- 802.1Q VLAN and QoS
- Port bandwidth control
- STP / RSTP support
- LACP trunking
- IGMP snooping
- DC power option

DC Power

19” Rack Mountable

Key Features:

- Provide 24 10/100Mbps Fast Ethernet ports & 2 Gigabit combo ports
- All copper ports support auto-negotiation and auto-MDI/MDI-X detection
- Wire speed reception and transmission
- Supports 802.3x flow control for full-duplex and backpressure for half-duplex
- Store-and-Forward switching method
- Self learning for active MAC addresses up to 4K entries
- Provide in-band web-based management interface
- Provide port status, statistic monitoring and control function
- Provide port bandwidth control function
- Provide static and LACP port link aggregation function
- Support port-based and 802.1Q Tag-based VLAN
- Provide QoS function
- Support 802.1w RSTP and 802.1D STP
- Provide IGMP snooping function
- Support DHCP for dynamic IP configuration
- 19” rack mountable
- No fan design
- Wide operating temperature range

Specifications:

Standards	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3z 1000Base-T IEEE 802.3ab, IEEE 802.1Q, IEEE 802.1p
FE 10/100 Ports	Port 1 - 24, Shielded RJ-45 with auto MDI/MDI-X detection
Gigabit Ports	Combo Port 25, 26, each with: - Shielded RJ-45 with 10/100/1000Mbps, auto MDI/MDI-X detection - SFP slot for mini-GBIC fiber transceiver
Network Cables	10Base-T: Cat. 3, 4, 5 UTP or higher up to 100m 100Base-TX: Cat. 5 UTP or higher up to 100m 1000Base-T: Cat. 5, 5e UTP or higher up to 100m 1000Base-X: 62.5/125µm, 50/125µm MM fiber, 9/125µm SM fiber
MAC Address Table	4K entries
LEDs	Per unit: Power, Mngt Per copper port: Link/ACT, and speed Per fiber port: Link
Web Management	Web browser software System settings, port status/statistics, port control, VLAN, QoS, Link aggregation, port mirroring, port bandwidth control, IGMP snooping, TCP/UDP filtering, Static MAC address filtering Firmware upgrade, STP/RSTP, Configuration backup and restore

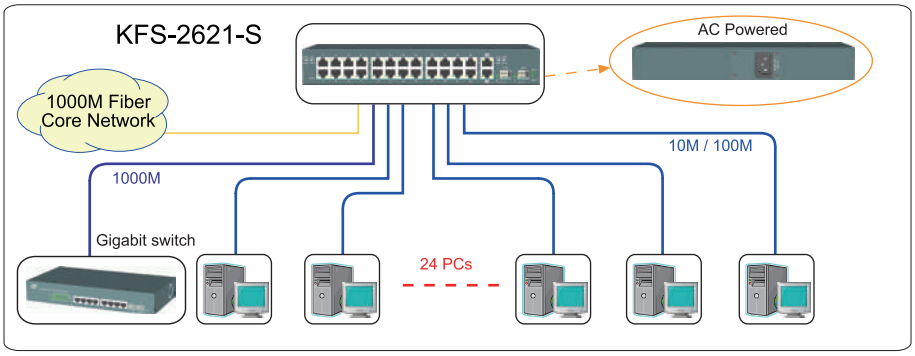
Ordering Information:

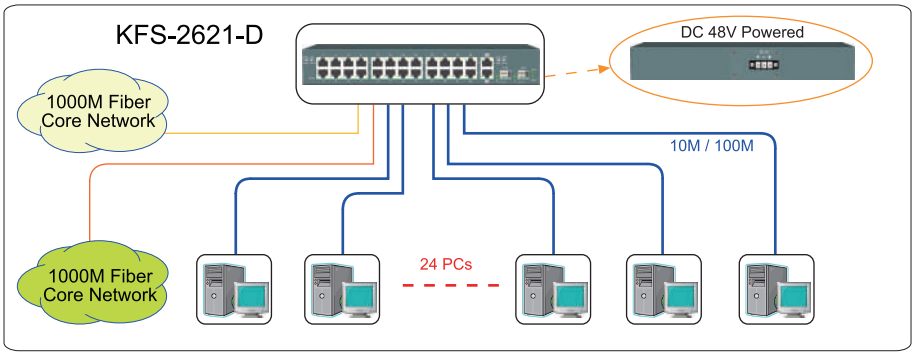
KFS-2621-S
Web Smart 24-Port 10/100 L2 Fast Ethernet Switch with AC power

KFS-2621-D
Web Smart 24-Port 10/100 L2 Fast Ethernet Switch with DC power

Housing	Enclosed metal with no fan
Dimension	295 x 160 x 43 mm (WxDxH)
Mounting Support	19” rack mountable
AC Power Input	IEC320 receptacle Operating voltage range: +100 ~ 240VAC
DC Power Input	Screw type terminal block Operating voltage range: +36 ~ +72VDC
Power Consumption	20W max.
Environment	Operating Temperature: -20°C ~ 60°C Storage Temperature: -30°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Approval	FCC Class A, CE mark Class A, LVD, IEC60950-1

Applications:





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KS-115FM-V, KS-117FM-V

Web Smart 5/7-Port L2 Fast Ethernet Switches with 1 Fiber Connection

Product Highlights:

- 5/7-port switch
- Web management
- 4/6 FE 10/100 ports
- 1 FE 100FX port
- Compact design
- 802.1Q Tagged VLAN support
- Fiber connectivity

Key Features:

- Comply with IEEE 802.3 10Base-T and IEEE 802.3u 100Base-TX, 100Base-FX standards
- Provide 4/6 10/100Mbps Fast Ethernet ports and 1 100Base-FX port
- Each TP port supports auto-negotiation and auto-MDI/MDI-X detection
- Support full/half-duplex operation for each TP switched port
- Support a variety of fiber connectors such as ST, SC, MT-RJ, VF-45 and LC
- Multimode and single mode fiber cables (model dependent)
- Self learning for active MAC addresses up to 2K entries
- Store-and-forward switching that only good packets are forwarded
- Forwarding and filtering at full wire speed
- Flow control for traffic congestion
- Broadcast packet storm protection
- Comprehensive LED indicators

Management Features:

- Web-based interface for easy management
- Static IP or DHCP supports for IP configuration
- Port status and configuration
- VLAN configuration
- Security check for management login
- Restore factory default settings
- Remote boot

Specifications:

Number of Ports	KS-115FM-V: 4 x 10/100TX ports with 1 x 100FX port KS-117FM-V: 6 x 10/100TX ports with 1 x 100FX port
TX Port	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX std. Shielded RJ-45 jacks with Auto MDI-X detection Auto-negotiation capable Speed for 10Mbps or 100Mbps Full-duplex or Half-duplex operation
FX Port	IEEE 802.3u 100BASE-FX compliant Fixed 100Mbps Full-duplex operation
Flow control	IEEE 802.3x pause packet for Full-duplex operation Back pressure for Half-duplex operation
Cables	10Base-T: Cat. 3, 4, 5 or higher (100 meters max.) 100Base-TX: Cat. 5, 5e or higher (100 meters max.) 100Base-FX: Multimode or single mode fiber cable
LEDs	Power status TX ports: Speed, Link/Act, Duplex/Collision status FX port: Link/Act status, Duplex/Collision status

Filtering Rate	14,880 pps for Ethernet (10BASE-T) 148,800 pps for Fast Ethernet (100BASE-TX)
Forwarding Rate	14,880 pps for Ethernet (10BASE-T) 148,800 pps for Fast Ethernet (100BASE-TX)
MAC Address Table	2K entries
Ageing Time	300 seconds
VLAN Mode	Port-based VLAN, 802.1Q Tag-based VLAN
VLAN groups	16 groups (Group 0 ~ 15)
Port PVID	Full 12-bit VID, per port setting
Port Tag Mode	Tag/Untag mode, per port setting
Environment	Operating Temperature: 0°C ~ 40°C (Main device) Relative Humidity: 10% ~ 90% non-condensing (* The operating temperature range of the bundled power adapter may differ from the temperature range of the main device.)
Dimension	144 x 100 x 26 mm (WxDxH)
Power Input	+5V ~ +12VDC (+/-5%) via external power adapter
Power Consumption	KS-115FM-V: 5W max. @+5V (DC IN) KS-117FM-V: 5.5 W max. @+5V (DC IN)

Fiber Optical Specifications:

Model	Connector	Fiber & Cable*1	Wavelength	Tx Power*2	Rx Sens.	Rx Max.
-VT	ST Duplex	MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-VC	SC Duplex	MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-VJM	MT-RJ	MMF	1310nm	-19 ~ -14dBm	-31dBm	-14dBm
-VVM	VF-45	MMF	1310nm	-20 ~ -14dBm	-31dBm	-14dBm
-VSA2	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-31dBm	-7dBm
-VSL2	SC Duplex	SMF	1310nm	-15 ~ -7dBm	-32dBm	-3dBm
-VSL3	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-VSL4	SC Duplex	SMF	1310nm	-5 ~ 0dBm	-34dBm	-3dBm
-VSL6	SC Duplex	SMF	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-VW3520	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-VW5320	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-31dBm	0dBm

*1 MMF: Multimode fiber - 62.5/125 µm, 50/125 µm
SMF: Single Mode fiber - 9 /125 µm

*2 Data for 62.5/125µm MMF, 9 /125µm SMF

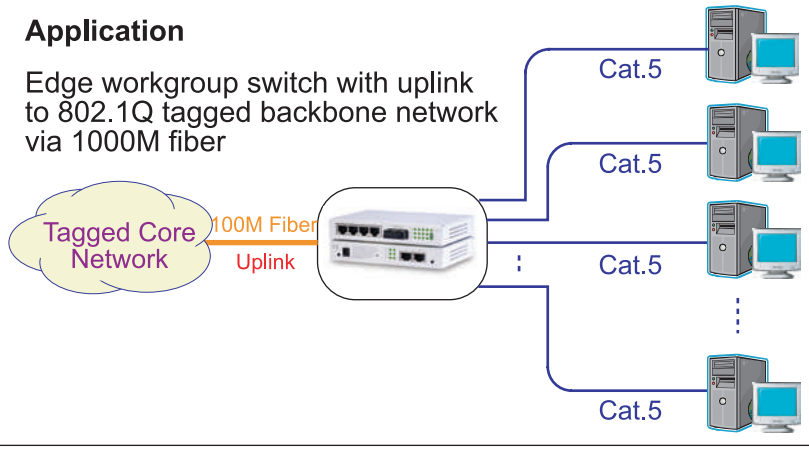
Ordering Information:

Model KS-115FM-V-X KS-117FM-V-X	Fiber Mode	Connec-tor	Ref. Distance
-VT	MM	Dual ST	2km
-VC	MM	Dual SC	2km
-VJM	MM	MT-RJ	2km
-VVM	MM	VF-45	2km
-VSA2	SM	Dual SC	20km
-VSL2	SM	Dual SC	20km
-VSL3	SM	Dual SC	30km
-VSL4	SM	Dual SC	40km
-VSL6	SM	Dual SC	60km
-VW3520	SM	Bi-Di SC	20km
-VW5320	SM	Bi-Di SC	20km

MM: Multimode Fiber
SM: Single Mode Fiber

Application

Edge workgroup switch with uplink to 802.1Q tagged backbone network via 1000M fiber



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KS-105F-B, KS-108F-B

5/8-Port L2 Fast Ethernet Switches with 1 Fiber Connection

Key Features:

- Provide 4/7 10/100Mbps Fast Ethernet Switch ports and 1 100Base-FX port
- Each TP port supports auto-negotiation and auto-MDI/MDI-X detection
- For the 100Base-FX fiber port, the switch series supports variety of fiber connectors for different application needs. The fiber connectors include ST, SC, MT-RJ, LC and VF-45 types for multimode and single mode fiber cables
- Support duplex mode selector for the 100BASE-FX fiber port
- Self learning for active MAC addresses and address aging
- Store-and-forward switching to ensure only good packets are forwarded
- Forwarding and filtering at full wire speed
- Support IEEE 802.3x flow control for full-duplex mode and backpressure flow control for half-duplex mode
- Comprehensive LED indicators provide quick, easy to read port and switch information

KS-105F-B

- Power saving mode when Port link down
- Broadcast storm filtering

Specifications:

10/100 Ports	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX std. Shielded RJ-45 jacks with Auto MDI-X detection Auto-negotiation capable Speed for 10Mbps or 100Mbps Full-duplex or Half-duplex mode support
100FX Port	IEEE 802.3u 100BASE-FX compliant, Fixed 100Mbps operation Duplex mode selector - Full-duplex or Half-duplex KS-105F-B - Far End Fault function
Flow control	IEEE 802.3x pause packet for Full-duplex operation Back-pressure for Half-duplex operation
Cables	10Base-T: Cat. 3, 4, 5 or higher (100 meters max.) 100Base-TX: Cat. 5, 5e or higher (100 meters max.) 100Base-FX: Multimode or single mode fiber cable
LEDs	Power status Per port: Speed, Link, Activity, Duplex, Collision status
Forwarding rate	14,880 pps for Ethernet (10M) 148,800 pps for Fast Ethernet (100M)
MAC Address Table	KS-105F-B: 2K entries KS-108F-B: 1K entries
Aging time	KS-105F-B: 280 seconds KS-108F-B: 240 seconds

Ordering Information:

KS-105F-B-x KS-108F-B-x	Fiber Mode	Connector	Ref. Distance
-T	MM	Dual ST	2km
-C	MM	Dual SC	2km
-JM	MM	MT-RJ	2km
-VM	MM	VF-45	2km
-SA2	SM	Dual SC	20km
-SL2	SM	Dual SC	20km
-SL3	SM	Dual SC	30km
-SL4	SM	Dual SC	40km
-W3520	SM	Bi-Di SC	20km
-W5320	SM	Bi-Di SC	20km

MM: Multimode Fiber
SM: Single Mode Fiber
Ref. Distance: Reference connection distance

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Environment	Operating Temperature: 0°C ~ 40°C (Main device) Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing (* The operating temperature range of the bundled power adapter may differ from the temperature range of the main device.)
Dimensions	KS-105F-B: 144 x 104.5 x 26 mm (WxDxH) KS-108F-B: 180 x 114.5 x 26 mm (WxDxH)
Power Input	+5V ~ +12VDC (+/-5%) via external power adapter
Power Consumption	KS-105F-B: 3W max. @+5V (DC IN) KS-108F-B: 3.5W max. @+5V (DC IN)

Fiber Optical Specifications: KS-105F-B-x, KS-108F-B-x

Model	Connector	Fiber & Cable*1	Wavelength	Tx Power*2	RX Sens.	Rx Max.
-T	ST Duplex	MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	SC Duplex	MMF	1310nm	-20~ -14dBm	-31dBm	0dBm
-JM	MT-RJ	MMF	1310nm	-19 ~ -14dBm	-31dBm	-14dBm
-VM	VF-45	MMF	1310nm	-20 ~ -14dBm	-31dBm	-14dBm
-SA2	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-31dBm	-7dBm
-SL2	SC Duplex	SMF	1310nm	-15 ~ -7dBm	-32dBm	-3dBm
-SL3	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-SL4	SC Duplex	SMF	1310nm	-5 ~ 0dBm	-34dBm	-3dBm
-W3520	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-31dBm	0dBm

*1 MMF: Multimode fiber - 62.5/125 µm, 50/125 µm
SMF: Single Mode fiber - 9 /125 µm
*2 Data for 62.5/125µm MMF, 9 /125µm SMF

KC-1300

Intelligent Media Converter Center Chassis

Product Highlights:

- Supports 16 slots for hot-plug converters
- 19" rack mountable
- Supports 90-264VAC and -48VDC power
- Power redundancy design
- Management
  - In-band console support
  - Web-based management
  - SNMP management
  - Telnet management
  - SNMP trap

KC-1300 Intelligent Media Converter Center Chassis provides 16 slots for standalone media converters. A variety of optional media converts is provided and includes Gigabit copper to fiber and Fast Ethernet copper to fiber.

The chassis provides centered power supply to the installed media converters and serves as a converter center and wiring concentrator. The power system is featured with power redundancy for commercial AC and DC power input. For easy monitoring the media converter operation in each slot, KC-1300 also provides many network management interfaces including in-band console, telnet, web browsing, SNMP, and event SNMP trap for different application needs.

Key Features:

- Managed Media Converter Center with 19-inch rack-mountable 2U chassis
- Managed system accommodates up to 16 media converters
- Highly modularized chassis design with
  - modular media converters
  - modular management module
  - two system power modules for power redundancy
- Provides high availability and maintainability
- Power backup (dual power inputs) featured with two power chassis
- Visible system status indication
- Supports in-band Telnet, SNMP and web-based management
- Supports out-of-band direct console management
- Management from anywhere and any platform using a web browser
- Easy-to-use point and click user interface
- Photographic quality interface to configure and monitor the system
- Supports in-band event SNMP trap report
- TFTP Software Upgrade

Optional Media Converters

- Gigabit copper to Gigabit fiber converter
- Tri-speed 10/100/1000 copper to Gigabit fiber converter series
- 10/100 Fast Ethernet Copper to Fast Ethernet fiber converter series
- Multimode to single mode optical fiber media converter series

KC-300D

KGC-300

KGC-310M

KGC-311

KC-300DM

Ordering Information:

Chassis	Slots	Managed	Power
KC-1300L-1A	16	None	1 AC
KC-1300L-2A	16	None	2 AC
KC-1300-1A	16	Yes	1 AC
KC-1300-2A	16	Yes	2 AC
KC-1300L-1D	16	None	1 DC
KC-1300L-2D	16	None	2 DC
KC-1300-1D	16	Yes	1 DC
KC-1300-2D	16	Yes	2 DC

Specifications:

System Model	**KC-1300-1A**	**KC-1300-2A**	**KC-1300-1D**	**KC-1300-2D**
Management	Managed	Managed	Managed	Managed
System Model	**KC-1300L-1A**	**KC-1300L-2A**	**KC-1300L-1D**	**KC-1300L-2D**
Management	Unmanaged	Unmanaged	Unmanaged	Unmanaged
LEDs	Power1, Power2, CPU status, Fan status, Console Rx status, pork link status			
Number of Power	1 AC power	2 AC power	1 DC power	2 DC power
Input Voltage	90-264VAC	90-264VAC	-48VDC	-48VDC
Power Supply	60W	60W	60W	60W
19" Rack Mount	Yes	Yes	Yes	Yes
Number of MC Slots	16	16	16	16

Mechanical:

Chassis Height (2U)	88mm	88mm	88mm	88mm
Dimension	443x88x300 mm	443x88x300 mm	443x88x300 mm	443x88x300 mm
Weight	5.5kg	6.2kg	5.5kg	6.2kg

(with 1 or 2 AC power, management module and no MC converters)

Environmental:

Operating Temperature	-5°C ~ 40°C
Storage Temperature	-20°C ~ 80°C
Relative Humidity	5% ~ 90% non-condensing
Approval	FCC Class A, CE mark Class A

Information of Optional Standalone Media Converters:

KC-300D	10/100Base-TX to 100Base-FX media converter series
KC-300DM	10/100Base-TX to 100Base-FX media converter series with remote loopback test and remote TP link monitoring functions
KGC-300	1000Base-T to 1000Base-X media converter series
KGC-310	10/100/1000Base-T to 1000Base-X media converter series with remote loopback test and remote TP link monitoring functions
KGC-310M	Web Smart 10/100/1000Base-T to 1000Base-X media converter series with remote loopback test, remote TP link monitoring functions and web-based management
KGC-311	Multimode to single mode optical fiber media converter series

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KGC-311 Series

Multimode to Single Mode Optical Fiber Media Converters

Product Highlights:

- Full wire speed performance
- SFP flexibility
- Low power consumption
- Optional DIN-Rail mounting
- Center Chassis installation support
- Options for Bi-Di communication

DIN-Rail Mounting Bracket
KC-3DR

Managed Center Chassis
KC-1300

Powered via optional USB cable

Key Features:

- Complies with IEEE 802.3z 1000Base-SX/LX and IEEE 802.3u 100Base-FX standard
- Provides media conversion between single mode and multimode optical fiber media types
- Supports both 1000Mbps Gigabit Ethernet fiber and 100Mbps Fast Ethernet fiber applications
- Provides two SFP slots and supports standard SFP fiber transceivers
- Support center chassis installation with advantages of central power, power redundancy and management
- Provides LEDs for easy network monitoring

Specifications:

Standard	IEEE 802.3z 1000Base-SX/LX, IEEE 802.3u 100Base-FX
Fiber Ports	MM port: SFP-A slot for Multimode fiber transceiver SM port: SFP-B slot for Single mode fiber transceiver
Fiber Cable	MM port: MMF 62.5/125µm, 50/125µm SM port: SMF 9/125µm
LEDs	Power status, GbE/FE status MM port optical link status, SM port optical link status
Mounting	Desktop, Wall, DIN-Rail (optional), Center chassis
Center Chassis	Up to 16 units in one KC-1300 rack chassis Support optional power redundancy and management
Power Input	+5 ~ +12VDC (+/-5%), Consumption 2W max. @7.5V
Environment	Operation Temperature: -5°C ~ 55°C Storage Temperature: -20°C ~ 85°C Relative Humidity: 10% ~ 70% non-condensing
Dimension	108 x 72.5 x 23 mm (WxDxH)
Compliance	FCC Class A, CE mark Class A

Fiber Ordering Information:

Model	Fiber	Tx Power*	Connector	Rx Sens.	Wavelength	Ref. Distance
FE 100Mbps series						
-FSL3	MM	-20 ~ -14dBm	LC	-31dBm	1310nm	2km
	SM	-15 ~ -8dBm	LC	-34dBm	1310nm	30km
-FSL6	MM	-20 ~ -14dBm	LC	-31dBm	1310nm	2km
	SM	-5 ~ 0dBm	LC	-35dBm	1310nm	60km
-FSL10	MM	-20 ~ -14dBm	LC	-31dBm	1310nm	2km
	SM	-5 ~ 0dBm	LC	-35dBm	1550nm	100km

Ordering Information:

Model: KGC-311 -xxx	FE/GbE	MM Port	SM Port
-FSL3	FE	2km	30km
-FSL6	FE	2km	60km
-FSL10	FE	2km	100km
-FW3520	FE	2km	Tx 1310nm Bi-Di 20km
-FW5320	FE	2km	Tx 1550nm Bi-Di 20km
-LX	GbE	200/500m	10km
-LX20	GbE	200/500m	20km
-LX30	GbE	200/500m	30km
-LX50	GbE	200/500m	50km
-LX70	GbE	200/500m	70km
-W3510	GbE	200/500m	Tx 1310nm Bi-Di 10km
-W5310	GbE	200/500m	Tx 1550nm Bi-Di 10km
-W3410	GbE	200/500m	Tx 1310nm Bi-Di 10km
-W4310	GbE	200/500m	Tx 1490nm Bi-Di 10km
-W3520	GbE	200/500m	Tx 1310nm Bi-Di 20km
-W5320	GbE	200/500m	Tx 1550nm Bi-Di 20km

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-FW3520	MM SM	-20 ~ -14dBm -14 ~ -8dBm	LC Bi-Di LC	-31dBm -32dBm	1310nm Tx 1310nm Rx 1550nm	2km 20km
-FW5320	MM SM	-20 ~ -14dBm -14 ~ -8dBm	LC Bi-Di LC	-31dBm -32dBm	1310nm Tx 1550nm Rx 1310nm	2km 20km
GbE 1000Mbps series						
-LX	MM SM	-9.5 ~ -4dBm -9.5 ~ -3dBm	LC LC	-18dBm -20dBm	850nm 1310nm	200m/500m 10km
-LX20	MM SM	-9.5 ~ -4dBm -8 ~ -2dBm	LC LC	-18dBm -23dBm	850nm 1310nm	200m/500m 20km
-LX30	MM SM	-9.5 ~ -4dBm -4 ~ +1dBm	LC LC	-18dBm -24dBm	850nm 1310nm	200m/500m 30km
-LX50	MM SM	-9.5 ~ -4dBm -4 ~ +1dBm	LC LC	-18dBm -24dBm	850nm 1550nm	200m/500m 50km
-LX70	MM SM	-9.5 ~ -4dBm 0 ~ +5dBm	LC LC	-18dBm -24dBm	850nm 1550nm	200m/500m 70km
-W3510	MM SM	-9.5 ~ -4dBm -9 ~ -3dBm	LC Bi-Di LC	-18dBm -21dBm	850nm Tx 1310nm Rx 1550nm	200m/500m 10km
-W5310	MM SM	-9.5 ~ -4dBm -9 ~ -3dBm	LC Bi-Di LC	-18dBm -21dBm	850nm Tx 1550nm Rx 1310nm	200m/500m 10km
-W3410	MM SM	-9.5 ~ -4dBm -9 ~ -3dBm	LC Bi-Di LC	-18dBm -21dBm	850nm Tx 1310nm Rx 1490nm	200m/500m 10km
-W4310	MM SM	-9.5 ~ -4dBm -9 ~ -3dBm	LC Bi-Di LC	-18dBm -21dBm	850nm Tx 1490nm Rx 1310nm	200m/500m 10km
-W3520	MM SM	-9.5 ~ -4dBm -8 ~ -3dBm	LC Bi-Di LC	-18dBm -23dBm	850nm Tx 1310nm Rx 1550nm	200m/500m 20km
-W5320	MM SM	-9.5 ~ -4dBm -8 ~ -3dBm	LC Bi-Di LC	-18dBm -23dBm	850nm Tx 1550nm Rx 1310nm	200m/500m 20km

GbE: Gigabit Ethernet, FE: Fast Ethernet
200m/500m: 200 meters with MMF 62.5/125 , 500 meters with MMF 50/125
∗Data for 62.5/125μm MMF, 9 /125μm SMF

KGC-310M-C

Performance enhanced !

Function enhanced !

Managed 10/100/1000Base-T to Dual-speed Fiber Media Converters

Product Highlights:

- Tri-speed copper to dual-speed fiber conversion
- Fiber link loop back test
- Remote Copper link monitoring
- Optional DIN-Rail mounting
- Center Chassis support
- Web & SNMP management
- 802.1Q Control
  - Packet type filtering
  - Packet VID filtering
  - 802.1Q tag stripping
  - 802.1Q tagging
  - 802.1ad Q-in-Q support
  - 802.1ad S-tag tagging

DIN-Rail Mounting Bracket
KC-3DR

Center Chassis

Key Features:

- Tri-speed 10/100/1000Mbps copper to dual-speed 1G/100Mbps fiber conversion
- Comply with IEEE 802.3, 802.3u, 802.3ab, 802.3z standard
- Support full wire speed conversion for Gigabit copper to Gigabit fiber
- Support auto-negotiation with link partners
- Provide dual-speed SFP on fiber port for mounting variety of fiber options
- Provide loop back test function with link partner over fiber link
- Provide monitoring function for remote link partner's copper link status
- Provide important LFPT (Link Fault Pass Through) media converter function
- Support optional DIN-Rail installation
- Support center chassis installation to achieve the advantages of central power, optional power redundancy and network management
- Ideal solution for multimode, short reach up to long reach single mode fiber, Bi-Di applications
- Web-based configuration management support
- Support SNMP management
- Port operating mode, flow control and status monitoring functions
- Tagged or untagged packet filtering
- 802.1Q VLAN tag stripping and tagging
- Support Provider bridging (VLAN Q-in-Q) application with double tag capability
- Support S-tag ethernet type tagging
- Support Jumbo frame conversion
- LLDP support
- Energy efficient ethernet (EEE) support

Specifications:

Standard	IEEE 802.3, 802.3u, 802.3ab, 802.3z, 802.1ad, 802.3az, 802.1Q
Copper Port	Shielded RJ-45, 10/100/1000Mbps, Full/Half duplex Auto-negotiation, Auto-MDI/MDI-X
Fiber Port	SFP connector with pre-configured SFP fiber transceiver 1G/100Mbps Full duplex, Auto-negotiation Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125µm, 62.5/125µm, SMF 9/125µm
DIP Switches	Copper port operating mode Flow control Auto report for remote copper link status
LED Indication	Power status Local copper port status - link, speed, duplex Local fiber port link status Remote copper port status - link, speed, duplex Loop back test status
Jumbo Frame size	Support 9600 bytes max.

Ordering Information:

KGC-310M-C

Model	Fiber			Distance
-	No SFP Transceiver			
-SX	LC	850	50/125 62.5/125	500m 200m
-LX	LC	1310	MMF SMF	550m 10km
-LX20	LC	1310	SMF	20km
-LX30	LC	1310	SMF	30km
-LX50	LC	1550	SMF	50km
-LX70	LC	1550	SMF	70km
-W3510	LC	Tx1310 Rx1550	Bi-Di SMF	10km
-W5310	LC	Tx1550 Rx1310	Bi-Di SMF	10km
-W3520	LC	Tx1310 Rx1550	Bi-Di SMF	20km
-W5320	LC	Tx1550 Rx1310	Bi-Di SMF	20km
-W3410	LC	Tx1310 Rx1490	Bi-Di SMF	10km
-W4310	LC	Tx1490 Rx1310	Bi-Di SMF	10km
-W3410S	SC	Tx1310 Rx1490	Bi-Di SMF	10km
-W4310S	SC	Tx1490 Rx1310	Bi-Di SMF	10km

KC-3DR	DIN-Rail mounting bracket
KC-1300	Managed center chassis

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Loop Back Test	Push button to start remote loop-back test with link partner over fiber link
Mounting	Desktop, Wall, DIN-Rail (optional), Center chassis
Center Chassis	Up to 16 units in one rack chassis with central power Support optional power redundancy and management
Power Input	+5 ~ +12VDC (+/-5%) Consumption 4.2W max. @5V Less than 3.5W when no link ports under power saving mode
Environment	Operating Temperature: -40°C ~ 70°C (Main device) 0°C ~ 40°C (External power adapter) Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Dimension	108 x 72.5 x 23 mm (WxDxH)
Approval	FCC Class A, CE mark Class A, VCCI Class A, C-Tick

Management:

Management	Web-based browser interface, SNMP manager
Port Control	Operating mode, Flow control
Packet Filtering	802.1Q tagged packet filtering, Untagged packet filtering
802.1Q VLAN	Ingress 802.1Q tag stripping, Egress 802.1Q tagging (tag insertion) S-tag tagging (802.1ad double tagging)
Monitoring	Local Port status, Remote Port status, Port statistics
Maintenance	Restore factory default, reboot, firmware update
SNMP Trap	Trap events: Boot up, Login failure, Copper port link change, Fiber port link change
Power saving	Disable, Link Up, Link Down, Full

Fiber Optical Specifications:

Model	Fiber Port	Wavelength	Tx Power*	Rx Sens.	Rx Max.
-SX	LC MMF	850nm	-9.5 ~ -4dBm	-18dBm	0Bm
-LX	LC SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm
-LX20	LC SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm
-LX30	LC SMF	1310nm	-4 ~ +1dBm	-24dBm	-3dBm
-LX50	LC SMF	1550nm	-4 ~ +1dBm	-24dBm	-3dBm
-LX70	LC SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm
-W3510	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm
-W5310	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm
-W3520	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-8 ~ -2dBm	-23dBm	-1dBm
-W5320	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-8 ~ -2dBm	-23dBm	-1dBm
-W3410	Bi-Di LC SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm
-W4310	Bi-Di LC SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm
-W3410S	Bi-Di SC SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm
-W4310S	Bi-Di SC SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm

*Data for 62.5/125μm MMF, 9 /125μm SMF

KGC-300

1000Base-T to 1000Base-X Gigabit Media Converters

Product Highlights:

- Full wire speed performance
- SFP flexibility
- Low power consumption
- Optional DIN-Rail mounting
- Center Chassis installation support
- Options for Bi-Di communication
- Options for CWDM

DIN-Rail Mounting Bracket
KC-3DR

Managed Center Chassis
KC-1300

Powered via optional USB cable

The Gigabit media converter is designed to convert 1000Base-T signals to/from 1000Base-X fiber signals. It is used to extend the connection distance between two Gigabit Ethernet devices via fiber cable transparently with no performance degradation.

With the SFP (Mini-GBIC) connector design, the media converter not only supports existing variety of multimode and single mode fibers, but also preserves the flexibility to adapt to any change of your fiber network in the future. It also supports center chassis installation with optional power redundancy and management features when a larger fiber network is required. With pre-configured fiber transceivers, the converter also can support Bi-Di WDM and CWDM fiber network applications.

Key Features:

- Comply with IEEE 802.3ab 1000Base-T, 802.3z 1000Base-SX/LX standard
- Provide direct media conversion for Gigabit copper and Gigabit fiber
- Support full wire speed conversion
- Support transparent conversion of any packet types with no packet length limitation
- Support auto-negotiation with link partners
- Provide link fault pass through between copper and fiber link
- Provide SFP on fiber port for mounting variety of fiber options
- Support optional DIN-Rail installation
- Support center chassis installation to achieve the advantages of central power, optional power redundancy and management
- Ideal solution for multimode, short reach up to long reach single mode fiber, Bi-Di and CWDM applications

Specifications:

Standard	IEEE 802.3ab, 802.3z
Copper Port	Shielded RJ-45, 1000Mbps, Auto-negotiation capable, Auto-MDI/MDI-X
Fiber Port	SFP connector with pre-configured SFP fiber transceiver Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125µm, 62.5/125µm, SMF 9/125µm
Port-to-Port Latency	1µs (Cut-through latency for all frame sizes)
LED Indication	Power status, SFP On status, Link status, Optical link status
Mounting	Desktop, Wall, DIN-Rail (optional), Center chassis
Center Chassis	Up to 16 units in one rack chassis with one central power Support optional power redundancy and management
Power Input	+5 ~ +12VDC (±5%) Consumption 2W max. @7.5V
Environment	Operation Temperature: -5°C ~ 55°C Storage Temperature: -45°C ~ 85°C Relative Humidity: 5% ~ 90% non-condensing

Ordering Information:

Model	Fiber			Distance
	No SFP Transceiver			
-SX	LC	850	50/125 62.5/125	500m 200m
-LX	LC	1310	MMF SMF	550m 10km
-LX20	LC	1310	SMF	20km
-LX30	LC	1310	SMF	30km
-LX50	LC	1550	SMF	50km
-LX70	LC	1550	SMF	70km
-W3510	LC	Tx1310 Rx1550	Bi-Di SMF	10km
-W5310	LC	Tx1550 Rx1310	Bi-Di SMF	10km
-W3520	LC	Tx1310 Rx1550	Bi-Di SMF	20km
-W5320	LC	Tx1550 Rx1310	Bi-Di SMF	20km
-W3540	LC	Tx1310 Rx1550	Bi-Di SMF	40km
-W5340	LC	Tx1550 Rx1310	Bi-Di SMF	40km
-W3410	LC	Tx1310 Rx1490	Bi-Di SMF	10km
-W4310	LC	Tx1490 Rx1310	Bi-Di SMF	10km
-W3410S	SC	Tx1310 Rx1490	Bi-Di SMF	10km
-W4310S	SC	Tx1490 Rx1310	Bi-Di SMF	10km
-ESX	LC	850	MMF	500m
-ELX	LC	1310	SMF	10km

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Dimension	108 x 72.5 x 23 mm (WxDxH)
Approval	FCC Class B, CE mark Class B

Fiber Ordering Information:

Model	Fiber Port	Wavelength	Tx Power*	Rx Sens.	Rx Max.
-SX	LC MMF	850nm	-9.5 ~ -4dBm	-18dBm	0dBm
-LX	LC SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm
-LX20	LC SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm
-LX30	LC SMF	1310nm	-4 ~ +1dBm	-23dBm	-3dBm
-LX50	LC SMF	1550nm	-4 ~ +1dBm	-23dBm	-3dBm
-LX70	LC SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm
-W3510	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm
-W5310	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-3dBm
-W3520	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-8 ~ -3dBm	-23dBm	-3dBm
-W5320	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-8 ~ -3dBm	-23dBm	-3dBm
-W3540	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-3 ~ +2dBm	-23dBm	-1dBm
-W5340	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-3 ~ +2dBm	-23dBm	-1dBm
-W3410	Bi-Di LC SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm
-W4310	Bi-Di LC SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm
-W3410S	Bi-Di SC SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm
-W4310S	Bi-Di SC SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm

*Data for 62.5/125μm MMF, 9 /125μm SMF

Extended operating temperature -10 ~ 70°C

-ESX	LC MMF	850nm	-9.5 ~ -4dBm	-18dBm	0dBm
-ELX	LC SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm

KC-300D, KC-300DM

10/100Base-TX to 100Base-FX Media Converters

Product Highlights:

- Full wire speed performance
- Comprehensive configuration options
- Loop back test support
- Remote TP link monitoring
- Low power consumption
- Loop back test support
- Optional DIN-Rail mounting
- Center Chassis installation support
- Options for Bi-Di communication
- Options for CWDM

DIN-Rail Mounting Bracket
KC-3DR

Managed Center Chassis
KC-1300

The media converters are designed to convert 10Base-T or 100Base-T signals to/from 100Base-FX fiber signals. It is used to extend the connection distance between two Ethernet devices via fiber cable transparently with no performance degradation. The media converters not only support existing variety of multimode and single mode fibers but also support Bi-Di WDM and CWDM fiber network applications. It is also featured with design to support center chassis installation with optional power redundancy and management features when a larger fiber network is required.

Key Features:

- Convert speed and media type in full wire speed
- Support 10/100M dual speed on TP connections, auto-negotiation, and auto-MDI/MDI-X detection
- Link fault pass through function
- Transparent to 802.1Q VLAN tagged packets
- Far End Fault function on FX port
- Support desktop, wall and DIN-Rail mounting
- Support center chassis installation
- Low power consumption
- Support wide range of fiber options
- Provide user accessible settings for TP port configuration,disabling link fault pass through function

KC-300DM Specific

- Provides indications of remote media converter's TP port status
- Provides Loop Back Test function with connected remote media converter

Specifications:

TP Port	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX Shielded RJ-45 jacks with Auto MDI/MDI-X detection Auto-negotiation for speed and duplex auto detection Forced mode with speed and duplex settings Speed for 10Mbps or 100Mbps, Full-duplex or half-duplex support	
FX Port	IEEE 802.3u 100Base-FX compliant Forced 100Mbps, Full duplex (factory default) Far end fault Function	
Cable	Cat.5, 5e or higher UTP cable, MMF - 62.5/125µm, 50/125µm, SMF - 9 /125µm	
LEDs	KC-300D: TP Ports: FX Ports: KC-300DM: TP Ports: FX Ports: Remote TP Ports:	 Power status Link/Act, Speed, Duplex status Link/Act status, Fiber signal detected Power status Link/Act, Speed, Duplex status Link/Act status, Fiber signal detected Link, Speed, Duplex status

Powered via optional USB cable

Ordering Information:

KC-300D-X KC-300DM-X	Fiber Mode	Connector	Ref. Distance
-T	MM	Dual ST	2km
-C	MM	Dual SC	2km
-JM	MM	MT-RJ	2km
-VM	MM	VF-45	2km
-SA2	SM	Dual SC	20km
-SL2	SM	Dual SC	20km
-SL3	SM	Dual SC	30km
-SL4	SM	Dual SC	40km
-SL6	SM	Dual SC	60km
-SL8	SM	Dual SC	80km
-SL10	SM	Dual SC	100km
-SL12	SM	Dual SC	120km
-W3520	SM	Bi-Di SC	20km
-W5320	SM	Bi-Di SC	20km
-W3540	SM	Bi-Di SC	40km
-W5340	SM	Bi-Di SC	40km
-W3580	SM	Bi-Di SC	80km
-W5380	SM	Bi-Di SC	80km
-CxxW40	SM	CWDM SC	40km
-CxxW50	SM	CWDM SC	50km
-CxxW80	SM	CWDM SC	80km

MM: Multimode Fiber
SM: Single Mode Fiber
Ref. Distance: Reference connection distance

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Configuration Switches	Accessible settings: KC-300D - TP mode, TP duplex, TP speed, Link fault pass through KC-300DM - TP mode, TP duplex, TP speed, Link fault pass through, Auto status report
Packet Size	Up to 1522 bytes for store-and-forward mode No packet size limit for smart-forward mode (100-to-100)
Environment	Operating Temperature: -5°C ~ 50°C (Main device) Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 90% non-condensing (* The operating temperature range of the bundled power adapter may differ from the temperature range of the main device.)
Weight	KC-300D: 210g, KC-300DM: 213g
Dimension	108 x 72.5 x 23 mm (WxDxH)
Power Input	+5V ~ +12VDC (±5%) via external power adapter
Power Consumption	2W max. @+7.5V (DC IN)
Approval	FCC class B, CE mark Class B

Optical Specifications:

Model	Connector	Fiber*1	Wavelength	Tx Power*2	Rx Sens.	Rx Max.
-T	ST Duplex	MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	SC Duplex	MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-JM	MT-RJ	MMF	1310nm	-19 ~ -14dBm	-31dBm	-14dBm
-VM	VF-45	MMF	1310nm	-20 ~ -14dBm	-31dBm	-14dBm
-SA2	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-31dBm	-7dBm
-SL2	SC Duplex	SMF	1310nm	-15 ~ -7dBm	-32dBm	-3dBm
-SL3	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-SL4	SC Duplex	SMF	1310nm	-5 ~ 0dBm	-34dBm	-3dBm
-SL6	SC Duplex	SMF	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-SL8	SC Duplex	SMF	1310nm	0 ~ 5dBm	-36dBm	0dBm
-SL10	SC Duplex	SMF	1550nm	0 ~ -5dBm	-35dBm	0dBm
-SL12	SC Duplex	SMF	1550nm	0 ~ 5dBm	-35dBm	0dBm
-W3520	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-31dBm	0dBm
-W3540	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-8 ~ 0dBm	-34dBm	0dBm
-W5340	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-8 ~ 0dBm	-34dBm	0dBm
-W3580	Bi-Di SC	SMF	TX 1310nm RX 1550nm	0 ~ 5dBm	-34dBm	0dBm
-W5380	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-2 ~ 4dBm	-35dBm	0dBm
-CxxW40	CWDM SC	SMF	Tx 1xx0nm RX 1100-1650nm	-5 ~ 0dBm	-35dBm	0dBm
-CxxW50	CWDM SC	SMF	Tx 1xx0nm RX 1260-1620nm	-4 ~ 3dBm	-35dBm	0dBm
-CxxW80	CWDM SC	SMF	Tx 1xx0nm RX 1100-1650nm	0 ~ 5dBm	-37dBm	0dBm

*1 MMF: Multimode fiber - 62.5/125 µm,50/125 µm
SMF: Single Mode fiber - 9 /125 µm

*2 Data for 62.5/125µm MMF, 9 /125µm SMF

KGC-200

Preliminary

10/100/1000Base-T to Dual-speed Fiber Media Converters

Product Highlights:

- Copper 10/100M/1G support
- Fiber 100M/1G support
- SFP flexibility
- Jumbo frame support
- 802.3x flow control support

Powered via optional USB cable

Key Features:

- Tri-speed 10/100/1000Mbps copper to dual-speed 1G/100Mbps fiber conversion
- Support full wire speed conversion for Gigabit copper to Gigabit fiber
- Comply with IEEE 802.3, 802.3u, 802.3ab, 802.3z standard
- Support auto-negotiation and auto-MDI/MDI-X detection
- Supports jumbo frame length of 9.2K bytes
- Supports 802.3x flow control

Specifications:

Standard	IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x, IEEE 802.3az
Copper Port	Shielded RJ-45, 10/100/1000Mbps, Full/Half duplex Auto-negotiation, auto-MDI/MDI-X support
Fiber Port	SFP connector with pre-configured SFP fiber transceiver 100Mbps/1Gbps Full duplex, Auto-negotiation
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125µm, 62.5/125µm, SMF 9/125µm
LED Indication	Unit: Power status Per port: Fiber Speed/Link/Activity, Copper Speed/Link/Activity
Jumbo Frame size	Up to 9.2K bytes
Power	External Power 5V/1A
Power Consumption	2.5W max
Housing	Enclosed metal
Dimension	75 x 60 x 23 mm (WxDxH)
Environment	Operating Temperature: 0°C ~ 40°C Storage Temperature: -20°C ~ 70°C Relative Humidity: 10% ~ 90% non-condensing
Approval	FCC Class A, CE mark Class A

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KFC-200 Ver.B

Powered via optional USB cable

10/100BASE-TX to 100BASE-FX Media Converters

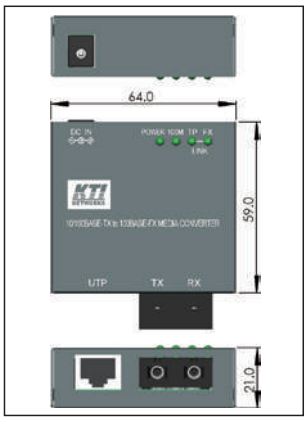
Product Highlights:

- Compact
- Plug and play
- Auto-negotiation 10/100Mbps
- Auto-crossover
- Fiber Far End Fault

Ordering Information:

Model	Fiber Mode	Connector	Ref. Distance
-T	MM	Duplex ST	2km
-C	MM	Duplex SC	2km
-SL3	SM	Duplex SC	30km
-W3520	SM	Bi-Di SC	20km
-W5320	SM	Bi-Di SC	20km

MM: Multimode Fiber
SM: Single Mode Fiber



CE FC

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Key Features:

- Support full wire speed conversion for 10/100Mbps speed and media types
- Support auto-negotiation 10/100Mbps on the copper port
- Auto MDI/MDI-X crossover function on the copper port
- Support IEEE 802.3x flow control
- Transparent conversion to 802.1Q VLAN tagged packets
- Provides Far End Fault function on FX (fiber) port
- Low power consumption
- Supports DIN rail mounting and wall mounting

Specifications:

TP Port	IEEE 802.3 10BASE-T, IEEE 802.3u 100BASE-TX Shielded RJ-45 jacks with Auto MDI/MDI-X detection Auto-negotiation for speed and duplex auto detection Speed for 10Mbps or 100Mbps, Full-duplex or half-duplex support
FX Port	IEEE 802.3u 100BASE-FX compliant Forced 100Mbps, Full duplex Far end fault Function
Cables	10/100BASE-TX: Cat.5, 5e or higher UTP cable, 100BASE-FX: MMF - 62.5/125µm, 50/125µm, SMF - 9 /125µm
LEDs	Power status, TP speed, TP Link/Activity, FX Link/Activity
Packet Size	Up to 1536 bytes
Environment	Operating Temperature: 0°C ~ 50°C Storage Temperature: -30°C ~ 80°C Relative Humidity: 5% ~ 95% non-condensing
Dimension	64 x 59 x 21 mm (WxDxH)
Mounting Support	Desktop, Wall mounting, Optional: DIN-Rail, Panel
Power Input	+5VDC via external power adapter
Power Consumption	1.53W max. @+5V
Approval	FCC Class B, CE mark Class B

Optical Specifications:

Model	Connector	Fiber	Wavelength	Tx Power	Rx Sens.	Rx Max.
-T	Duplex ST	MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	Duplex SC	MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-SL3	Duplex SC	SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-W3520	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-31dBm	0dBm

MMF: Multimode fiber - 62.5/125 µm, 50/125 µm
SMF: Single Mode fiber - 9 /125 µm

KC-10FM

10Base-T to 10Base-FL Media Converters

Ordering Information:

Model: KC-10FM	Fiber Mode	Connec-tor	Max. Distance
-T	MM	ST	2km
-C	MM	SC	2km

MM: Multimode Fiber

These converters are designed to convert 10Base-T to/from 10Base-FL media types, and it support three fiber connector types: multimode SC and ST connectors respectively. All two models support convenient connection to either a straight-through or a cross-over cable on the UTP end. The KC-10 Series is a cost effective and easy solution for using in a mixed cabling environment or extending the network span to include a fiber optic backbone.

Key Features:

- Complies with IEEE 802.3 10Base-T and 10Base-FL standards
- Provides media conversion from UTP to fiber optic media types
- Provides a push button to set the crossover function for the TP port
- Interoperable with other 10Base media converters, 10Base, 10/100Base-T NICs, hubs or switches
- Provides LEDs for easy network monitoring
- Supports a variety of fiber optic connectors, including duplex multimode ST, SC, and single mode ST

Specifications:

Standards	IEEE 802.3 Ethernet 10Base-T and 10Base-FL
Fiber Port	MM ST, MM SC
Fiber Cable	MM 850nm 50/125μm fiber cable (max. distance: 2km) MM 850nm 62.5/125μm fiber cable (max. distance: 2km)
TP Port	Shielded RJ-45 jack
Cable	Cat. 3, 4, 5 UTP cable (100m max.)
LEDs	- Power status - Link and receive status for TP port - Link and receive status for fiber port
Environment	Operation Temperature: 0°C ~ 40°C Relative Humidity: 10% ~ 90% non-condensing
Dimension	74 x 51 x 20 mm (WxDxH)
Operating voltage	+7.5V~+12VDC

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KGC-320-HP

Managed 10/100/1000Base-T to Dual-speed Fiber Media Converters with PoE+ Support

Product Highlights:

- Tri-speed copper to dual-speed fiber conversion
- SFP fiber port flexibility
- Fiber link loop back test
- Remote Copper link monitoring
- Web and SNMP management support
- Traffic control functions
  - Port control and monitoring
  - Flow control
  - Packet type filtering
  - 802.1Q VLAN support
  - Tag stripping
  - Tag insertion
  - IGMP snooping
  - Q-in-Q support
- SNMP trap for port link change
- Firmware update
- High power PoE PSE

Key Features:

- Tri-speed 10/100/1000Mbps copper to dual-speed 100/1000Mbps fiber conversion
- Comply with IEEE 802.3, 802.3u, 802.3ab, 802.3z standard
- Support full wire speed copper to fiber Gigabit conversion
- Support Jumbo frame conversion
- Support auto-negotiation with link partners
- Provide one 100M and one 1000M SFP slots for mounting variety of fiber options
- Provide loop back test function with link partner over fiber link
- Provide monitoring function for remote link partner's copper link status
- Ideal solution for multimode, short reach up to long reach single mode fiber, Bi-Di applications
- Provide high power PoE PSE function on copper port to support PoE-enable Ethernet device
- Web-based and SNMP configuration management support
- Port operating mode, flow control and status monitoring functions
- Tagged or untagged packet filtering
- 802.1Q VLAN tag stripping and tagging
- Provide IGMP snooping
- Support Q-in-Q application with double tag capability
- Support SNMP trap for port link change

Specifications:

Standard	IEEE 802.3, 802.3u, 802.3ab, 802.3z
Copper Port	Shielded RJ-45 10/100/1000Mbps, Full/Half duplex, Auto-negotiation, Auto-MDI/MDI-X
Fiber Port	Two SFP connectors with pre-configured SFP fiber transceiver 100/1000Mbps Full duplex, Auto-negotiation, Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125μm, 62.5/125μm, SMF 9/125μm
DIP Switches	Copper port operating mode, Flow control, Auto report for remote copper link status
LED Indication	Power status, Local copper port status - link, speed, duplex Remote copper port status - link, speed, duplex Loop back test status, Local fiber port status - link, speed
Jumbo Frame size	Support 9600 bytes max.
Loop Back Test	Push button to start loop back test with link partner over fiber link
PoE PSE	IEEE 802.3at standard (Optional on copper port) PSE pin 4/5 -Positive DC, Pin 7/8 -Negative DC Power delivery 56V/30W max. at port output 2-Event classification support
DC Power Input	Operating voltage range for PoE applications: +45 ~ +57VDC Operating voltage range for Non-PoE applications: +6.5 ~ +60VDC

Power Consumption	3.7W@7.5V, 5.4W@56V (No PoE use)
Power Supply	External type AC-DC power adapter Rated input voltage 100~240 VAC Rated input frequency 50/60Hz Output voltage 56VDC (+1%/-3%) Output current 1.16A max. IEC320 AC power cord (attachable)
Mounting	Desktop, wall, Din-Rail
Environment	Operating Temperature: -10°C~ 50°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 90% non-condensing
Dimension	144 x 104.5 x 26 mm (WxDxH)
Approval	FCC Class A, CE mark Class A, C-Tick, IEC60950-1 safety
Management:	
Management	Web-based browser interface, SNMP
Port Control	Operating mode, Flow control
Packet Filtering	802.1Q tagged packet filtering, Untagged packet filtering
802.1Q VLAN	Ingress 802.1Q tag stripping, Egress 802.1Q tagging (tag insertion)
IGMP Snooping	Configuration, status
Monitoring	Local Port status, Remote Port status, Port statistics
Maintenance	Restore factory default, reboot, firmware update
SNMP Trap	Trap events: Boot up, Login failure, Copper port link change, Fiber port link change

Ordering Information:

KGC-320-HP-xxx	Media conveter with PoE+ PSE function
KGC-320-xxx	Media converter with no PoE function

Fiber Optical Specifications:

Model Ext.	1000M Fiber	Wavelength	Tx Power*	Rx Sens.	Rx Max.
-SX	LC MMF	850nm	-9.5 ~ -4dBm	-18dBm	0dBm
-LX	LC SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm
-LX20	LC SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm
-LX30	LC SMF	1310nm	-4 ~ +1dBm	-24dBm	-3dBm
-LX50	LC SMF	1550nm	-4 ~ +1dBm	-24dBm	-3dBm
-LX70	LC SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm
-W3510	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm
-W5310	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm
-W3520	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-8 ~ -2dBm	-23dBm	-1dBm
-W5320	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-8 ~ -2dBm	-23dBm	-1dBm

Model Ext.	100M Fiber	Wavelength	Tx Power*	Rx Sens.	Rx Max.
-FM	LC MMF	1310nm	-20 ~ -14dBm	-31dBm	-8dBm
-FS30	LC SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-FS100	LC SMF	1550nm	-5 ~ 0dBm	-35dBm	0dBm
-FW3520	Bi-Di LC SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-32dBm	0dBm
-FW5320	Bi-Di LC SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-32dBm	0dBm

*Data for 62.5/125μm MMF, 9 /125μm SMF

Ordering Information:

KGC-320-HP-xxx, KGC-320-xxx

Model Ext.	1000M Fiber			Distance
-SX	LC	850	50/125 62.5/125	500m 200m
-LX	LC	1310	MMF SMF	550m 10km
-LX20	LC	1310	SMF	20km
-LX30	LC	1310	SMF	30km
-LX50	LC	1550	SMF	50km
-LX70	LC	1550	SMF	70km
-W3510	LC	Tx1310 Rx1550	Bi-Di SMF	10km
-W5310	LC	Tx1550 Rx1310	Bi-Di SMF	10km
-W3520	LC	Tx1310 Rx1550	Bi-Di SMF	20km
-W5320	LC	Tx1550 Rx1310	Bi-Di SMF	20km

Model Ext.	100M Fiber			Distance
-FM	LC	1310	MMF	2km
-FS30	LC	1310	SMF	30km
-FS60	LC	1310	SMF	60km
-FS100	LC	1550	SMF	100km
-FW3520	LC	Tx1310 Rx1550	Bi-Di SMF	20km
-FW5320	LC	Tx1550 Rx1310	Bi-Di SMF	20km

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KGC-352

PoE-PD-enabled 1000Base-T to 1000Base-X Gigabit Media Converters

Product Highlights:

- Full wire speed performance
- SFP flexibility
- Best conversion latency
- Low power consumption
- Optional DIN-Rail mounting
- Options for Bi-Di communication
- Options for CWDM
- Powered by PoE, AC adapter

PoE PSE switch
KS-1080

PoE PSE mid-span injector
KPOE-100

The Gigabit media converter is designed to convert 1000Base-T signals to/from 1000Base-X fiber signals. It is used to extend the connection distance between two Gigabit Ethernet devices via fiber cable transparently with no performance degradation. With the SFP (Mini-GBIC) connector design, the media converter not only supports existing variety of multimode and single mode fibers, but also preserves the flexibility to adapt to any change of your fiber network in the future. It also supports center chassis installation with optional power redundancy and management features when a larger fiber network is required. With pre-configured fiber transceivers, the converter also can support Bi-Di WDM and CWDM fiber network applications.

Because of 802.3af compliance, the converters can draw the power via Cat.5 cable connected to a PoE PSE switch or mid-span injector. THis feature makes the converter ideal for remote areas of a network without AC power outlets.

Key Features:

- Comply with IEEE 802.3ab 1000Base-T, 802.3z 1000Base-SX/LX standard
- Provide direct media conversion for Gigabit copper and Gigabit fiber
- Provide 1000Mbps conversion with a minimum and the best latency
- Support full wire speed conversion
- Support transparent conversion of any packet types with no packet length limitation
- Support auto-negotiation with link partners
- Provide link fault pass through between copper and fiber link
- Provide SFP on fiber port for mounting variety of fiber options
- Support optional DIN-Rail installation
- Ideal solution for multimode, short reach up to long reach single mode fiber, Bi-Di and CWDM applications
- Support being powered by PoE via Cat.5 in addition to typical AC power adapter

Specifications:

Standard	IEEE 802.3ab, 802.3z, IEEE 802.3af
Copper Port	Shielded RJ-45, 1000Mbps, Auto-negotiation capable, Auto-MDI/MDI-X
Fiber Port	SFP connector with pre-configured SFP fiber transceiver Far End Fault support
Network Cables	Copper port: Cat.5e recommended or higher up to 100m Fiber port: MMF 50/125μm, 62.5/125μm, SMF 9/125μm
LED Indication	Power status, SFP On status, Link status, Optical link status
Mounting	Desktop, Wall, DIN-Rail (optional)
Power Input	PoE via Cat.5 on RJ-45 from PSE switch or PoE mid-span injector DC jack via external AC power adapter
PoE	IEEE 802.3af PD compliant Input voltage: 36VDC ~ 57VDC via Cat.5 Power classification: Class 1 Power reception: via TP RJ-45 Pin 1,2,3,6 or Pin 4,5,7,8

DIN-Rail Mounting Bracket
KC-3DR

Ordering Information:

Model	Fiber			Distance
-	No SFP Transceiver			
-SX	LC	850	50/125 62.5/125	500m 200m
-LX	LC	1310	MMF SMF	550m 10km
-LX20	LC	1310	SMF	20km
-LX30	LC	1310	SMF	30km
-LX50	LC	1550	SMF	50km
-LX70	LC	1550	SMF	70km
-W3510	LC	Tx1310 Rx1550	Bi-Di SMF	10km
-W5310	LC	Tx1550 Rx1310	Bi-Di SMF	10km
-W3520	LC	Tx1310 Rx1550	Bi-Di SMF	20km
-W5320	LC	Tx1550 Rx1310	Bi-Di SMF	20km
-W3540	LC	Tx1310 Rx1550	Bi-Di SMF	40km
-W5340	LC	Tx1550 Rx1310	Bi-Di SMF	40km
-W3410	LC	Tx1310 Rx1490	Bi-Di SMF	10km
-W4310	LC	Tx1490 Rx1310	Bi-Di SMF	10km
-W3410S	SC	Tx1310 Rx1490	Bi-Di SMF	10km
-W4310S	SC	Tx1490 Rx1310	Bi-Di SMF	10km

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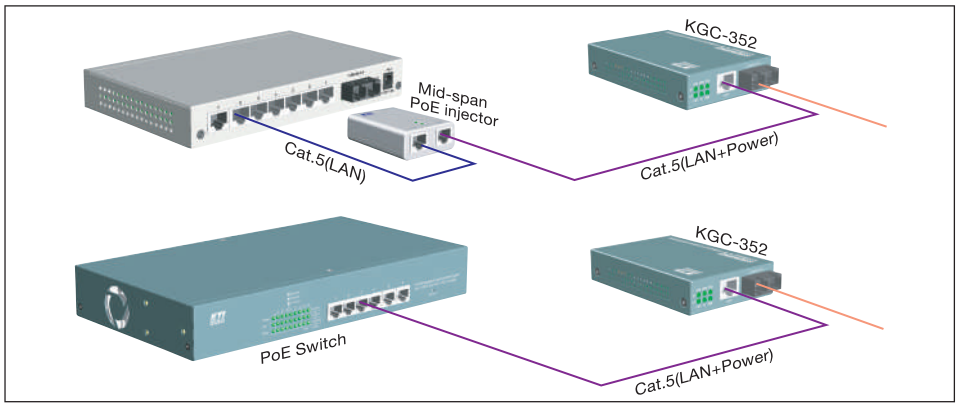
Environment	Operation Temperature: -5°C ~ 55°C Storage Temperature: -45°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Dimension	108 x 72.5 x 23 mm (WxDxH)
Operating Voltage	+7VDC ~ +57VDC input, consumption: 2W max.
Approval	FCC Class A, CE mark Class A, IEC60950-1 safety



Fiber Ordering Information:

Model	Fiber*1	Wavelength	Tx Power*2	Rx Sens.	Rx Max.
-SX	LC MMF	850nm	-9.5 ~ -4dBm	-18dBm	0dBm
-LX	LC SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm
-LX20	LC SMF	1310nm	-8 ~ -2dBm	-23dBm	-1dBm
-LX30	LC SMF	1310nm	-4 ~ +1dBm	-24dBm	-3dBm
-LX50	LC SMF	1550nm	-4 ~ +1dBm	-24dBm	-3dBm
-LX70	LC SMF	1550nm	0 ~ +5dBm	-24dBm	-3dBm
-W3510	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-9 ~ -3dBm	-21dBm	-1dBm
-W5310	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm
-W3520	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-8 ~ -3dBm	-23dBm	-1dBm
-W5320	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-8 ~ -3dBm	-23dBm	-1dBm
-W3540	Bi-Di LC SMF	Tx 1310nm Rx 1550nm	-3 ~ +2dBm	-23dBm	-1dBm
-W5340	Bi-Di LC SMF	Tx 1550nm Rx 1310nm	-3 ~ +2dBm	-23dBm	-1dBm
-W3410	Bi-Di LC SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm
-W4310	Bi-Di LC SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm
-W3410S	Bi-Di SC SMF	Tx 1310nm Rx 1490nm	-9 ~ -3dBm	-21dBm	-1dBm
-W4310S	Bi-Di SC SMF	Tx 1490nm Rx 1310nm	-9 ~ -3dBm	-21dBm	-1dBm

*1 MMF: Multimode fiber - 62.5/125 µm, 50/125 µm
SMF: Single Mode fiber - 9 /125 µm

*2 Data for 62.5/125µm MMF, 9 /125µm SMF

KC-350, KC-351

PoE-PD-enabled 10/100Base-TX to 100Base-FX Media Converters

Product Highlights:

- Full wire speed performance
- Comprehensive configuration options
- Best conversion latency
- Remote Loop back test
- Remote TP link monitoring
- Optional Din-Rail mounting
- Powered by PoE, AC adapter
- Options for Bi-Di communication
- Options for CWDM

PoE PSE switch
KS-1080

PoE PSE mid-span injector
KPOE-100

The 350 series are designed to convert 10Base-T or 100Base-T signals to/from 100Base-FX fiber signals. They are used to extend the connection distance between two Ethernet devices via fiber cable transparently with no performance degradation. The variety of fiber options supported includes not only multimode, short reach up to long reach single mode fibers, but also Bi-Di WDM and CWDM fiber network applications. Because of 802.3af compliance, the converters can draw the power via Cat.5 cable connected to a PoE PSE switch or mis-span injector. This feature makes the converter ideal for remote areas of a network without AC power outlets.

Important media converter functions:

- Smart forwarding which can auto adapt the conversion to get the minimum latency according to the connection speed
- Link fault pass through between two different media cables
- Transparent conversion for 802.1Q tagged packets
- Far end fault function on the fiber cnnection
- Manual (forced) configuration for the twisted-pair port to support non-auto devices

Advanced media converter functions:

- Support fiber remote loopback test for advanced installation
- Provide remote twisted-pair connection monitoring
- Support DIN-Rail mounting in DIN-Rail closet
- Support being powered by PoE via Cat.5 in addition to typical AC power adapter

Specifications:

TP Port	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3af PD Shielded RJ-45 jack with auto MDI/MDI-X detection Auto-negotiation for speed and duplex auto detection Forced mode with speed and duplex settings Speed for 10Mbps or 100Mbps, Full-duplex or half-duplex support
FX Port	IEEE 802.3u 100Base-FX compliant Forced 100Mbps, Full duplex (factory default) Far end fault Function
Cable	Cat.5, 5e or higher UTP cable, MMF -62.5/125μm, 50/125μm, SMF -9/125μm
LEDs	KC-350/351: Power status, TP Port: Link/Act, Speed, Duplex status, FX Ports: Link/Act status, Fiber signal detected KC-351: Remote TP Ports: Link, Speed, Duplex status
Configuration Switches	Accessible Settings: KC-350/351: TP mode, TP duplex, TP speed, Link fault pass through KC-351: Auto status report
Packet Size	Up to 1522 bytes for store-and-forward mode No packet size limit for smart-forward mode (100-to-100)
Power Input	PoE via Cat.5 on RJ-45 from PSE switch or PoE mid-span injector DC jack via external AC power adapter

DIN-Rail Mounting Bracket
KC-3DR

Ordering Information:

KC-350-X KC-351-X	Fiber Mode	Connector	Ref. Distance
-T	MM	Dual ST	2km
-C	MM	Dual SC	2km
-SL2	SM	Dual SC	20km
-SL3	SM	Dual SC	30km
-SL4	SM	Dual SC	40km
-SL6	SM	Dual SC	60km
-SL8	SM	Dual SC	80km
-SL10	SM	Dual SC	100km
-SL12	SM	Dual SC	120km
-W3520	SM	Bi-Di SC	20km
-W5320	SM	Bi-Di SC	20km
-W3540	SM	Bi-Di SC	40km
-W5340	SM	Bi-Di SC	40km
-CxxW40	SM	CWDM SC	40km

MM: Multimode Fiber
SM: Single Mode Fiber
Ref. Distance: Reference connection distance

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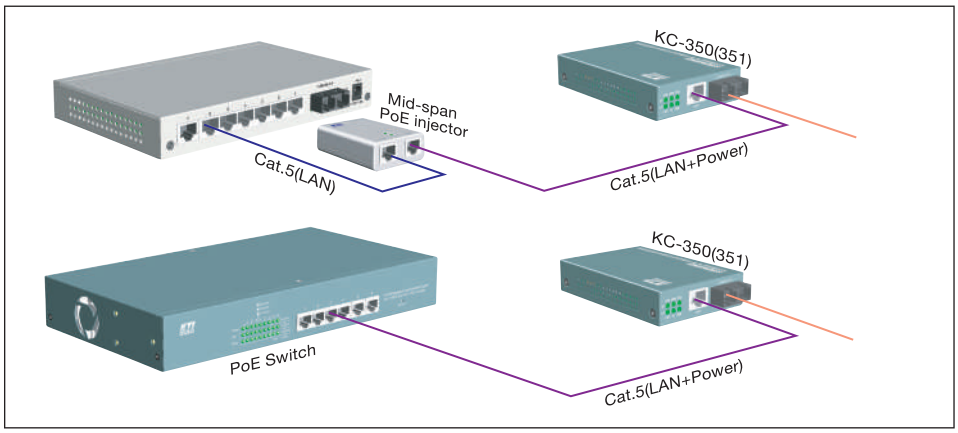
PoE	IEEE 802.3af PD compliant Input voltage: 36 ~ 57VDC via Cat.5 Power classification: Class 1 Power reception: via TP RJ-45 Pin 1,2,3,6 or Pin 4,5,7,8
Environment	Operating Temperature: -5°C ~ 50°C Storage Temperature: -20°C ~ 80°C Relative Humidity: 5% ~ 95% non-condensing
Weight	KC-350: 210g, KC-351: 213g
Dimension	108 x 72.5 x 23 mm (WxDxH)
Operating Voltage	+7V ~ +57VDC input, consumption: 2W max.
Approval	FCC Class B, CE mark Class B, IEC60950-1 safety



Fiber Optical Specifications:

Model	Connector	Fiber Cable*1	Wavelength	Tx Power*2	Rx Sens.	Rx Max.
-T	ST	Duplex MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	SC	Duplex MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-SL2	SC	Duplex SMF	1310nm	-15 ~ -7dBm	-32dBm	-3dBm
-SL3	SC	Duplex SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-SL4	SC	Duplex SMF	1310nm	-5 ~ 0dBm	-34dBm	-3dBm
-SL6	SC	Duplex SMF	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-SL8	SC	Duplex SMF	1310nm	0 ~ +5dBm	-36dBm	0dBm
-SL10	SC	Duplex SMF	1550nm	0 ~ -5dBm	-35dBm	0dBm
-SL12	SC	Duplex SMF	1550nm	0 ~ +5dBm	-35dBm	0dBm
-W3520	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-31dBm	0dBm
-W3540	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-8 ~ 0dBm	-34dBm	0dBm
-W5340	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-8 ~ 0dBm	-34dBm	0dBm
-CxxW40	CWDM SC	SMF	Tx 1xx0nm RX 1100-1650nm	-5 ~ 0dBm	-35dBm	0dBm

*1 MMF: Multimode fiber - 62.5/125 μm,50/125 μm
SMF: Single Mode fiber - 9 /125 μm
*2 Data for 62.5/125μm MMF, 9 /125μm SMF

KPOE-800HP

Industrial 8-Port Mid-span Power over Ethernet Injector

The KTI Injector is a mid-span power injector designed and tested for use with all IEEE802.3af and IEEE 802.3at compatible PoE Powered Devices (PD). The PoE injector sits between a switch port and the PoE powered device, providing inline power capability to an unpowered switch port. The injector can support eight PoE PDs and deliver up to 30W power to each PD over Cat.5..

The 8-port injector can enhance existing installed Ethernet switches with PoE functionality easily. The installation is plug & play and no need any software configuration. The installation cost is less than upgrading to new PoE switches.

The 8-port injector is interoperable with all Ethernet switches from different switch vendors, and end powered devices which comply with typical PoE 802.3af and high power 802.3at standard. It protects your existing network installation and future investment as well

Key Features:

- Supports 8 Ethernet ports
- IEEE 802.3at compliance
- Gigabit Ethernet support
- Transparent to switch functionality
- Redundant power support
- Standard user safety protection
- 19" rack mounting support

Specifications:

Network Ports	8 connections to switched ports (DATA IN)
PD Connections	8 connections to powered devices (PoE OUT)
Compatible Ethernet	Ethernet, Fast Ethernet & Gigabit Ethernet
PoE Standard	IEEE 802.3at compliance
Data IN Jacks	Shielded RJ-45 IEEE 802.3, 10Base-T, 100Base-TX, 1000Base-T std. Hot-plug support
PoE OUT Jacks	Shielded RJ-45 IEEE 802.3, 10Base-T, 100Base-TX, 1000Base-T std. Hot-plug support
PoE OUT Cable	4-pair Cat. 5, 5e, or 6 Distance mid-span up to 100 meters
PoE OUT Voltage	DC IN voltage range (+44 ~ +57V) RJ-45 pin 4/5 (positive) and pin 7/8 (negative)
PoE OUT Power	600mA max. per port (34W@+57V, 30W@+50V)

Ordering Information:

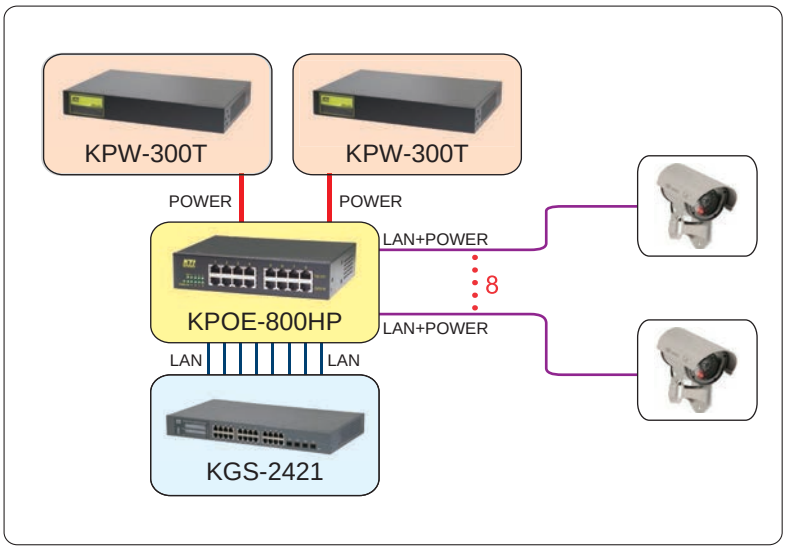
KPOE-800HP-BRACKET1
19" rack mounting bracket kit for 1 unit mounting

KPOE-800HP-BRACKET2
19" rack mounting bracket kit for 2 units mounting

KPW-300T
1U Rack Mountable 300W Switching Power Supply for PoE/PoE+ applications (300W @50°C, 225W @60°C, 150W @64°C)

PoE Protection	Power shut down protection for events: Incompliant PD detection, Disconnection, Overload, Over-current Short-circuit
DC IN A, DC IN B	Input A & Input B redundant support Connectors: Industrial terminal blocks (3P x 2, A & B) Working voltage range: +44 ~ +57V
Power Consumption	276W max. @57VDC
Power Dissipation	2W max.
LED Indicators	Power status, Power fault status x 2 (A & B) Port PoE Status x 8
Dimension	190 x 140 x 43 mm (WxDxH)
Housing	Enclosed metal with no fan
Mounting Support	19" rack mountable
Temperature	Operating Temperature: -40°C ~ 70°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class A, CE mark Class A

Applications:



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KPOE-800

Modular 8-Port Midspan Power over Ethernet Injector

Product Highlights:

- 8 connections support
- Full power per port
- Gigabit Ethernet support
- Modular power upgradeable
- 19" rack mountable

KPOE-800-1P

KPOE-800-2P

1 unit in a rack

2 units in a rack

The KTI Injector is a midspan power injector designed and tested for use with all IEEE802.3af compatible PoE PDs. The PoE injector sits between a switch port and the PoE powered device, providing inline power capability to an unpowered switch port.

The injector provides modular power design. For high power applications, the injector can be installed with 2 power modules to support full PoE power up to 120W for eight powered devices. For low power applications, the injector can work with only one power module and support PoE power up to 60W for eight connections. This flexible modular design provides cost-offective solutions for different requirements.

KTI's PoE injector offers the following significant benefits:

- **Low purchase cost** - Installing a KTI's injector costs less than upgrading to new PoE switches, since PoE injectors can easily connect with existing Ethernet switches.
- **Low installation cost** - The injector is a plug & play product making the installation much easier than a PoE switch. There is no need any software configuration.
- **Protecting existing and future investment** - KTI's injectors are interoperable with all Ethernet switches and most terminals. PoE injectors can be used in conjunction with different switch vendors, and end-terminals which comply with the PoE 802.3af standard. It protects your existing network installation and future investment as well.

Key Features:

- Supports 8 Ethernet ports
- Full IEEE 802.3af compliance
- Gigabit Ethernet support
- Transparent to switch functionality
- Standard user safety protection
- Modular PoE power upgradability
- 19" rack mounting support

Specifications:

Network Ports	8 connections to switched ports (DATA IN)
PD Connections	8 connections to powered devices (PoE OUT)
Compatible Ethernet	Ethernet, Fast Ethernet & Gigabit Ethernet
PoE Standard	IEEE 802.3af compliance
Data IN Jack	Shielded RJ-45 IEEE 802.3, 10Base-T, 100Base-TX, 1000Base-T std. Hot-plug support
PoE OUT Jack	Shielded RJ-45 IEEE 802.3, 10Base-T, 100Base-TX, 1000Base-T std. Hot-plug support
PoE OUT Cable	4-pair Cat. 5, 5e, or 6, Distance midspan up to 100 meters

Ordering Information:

KPOE-800-1P
KPOE-800 PoE injector with one pre-installed 60W power module

KPOE-800-2P
KPOE-800 PoE injector with two pre-installed 60W power modules

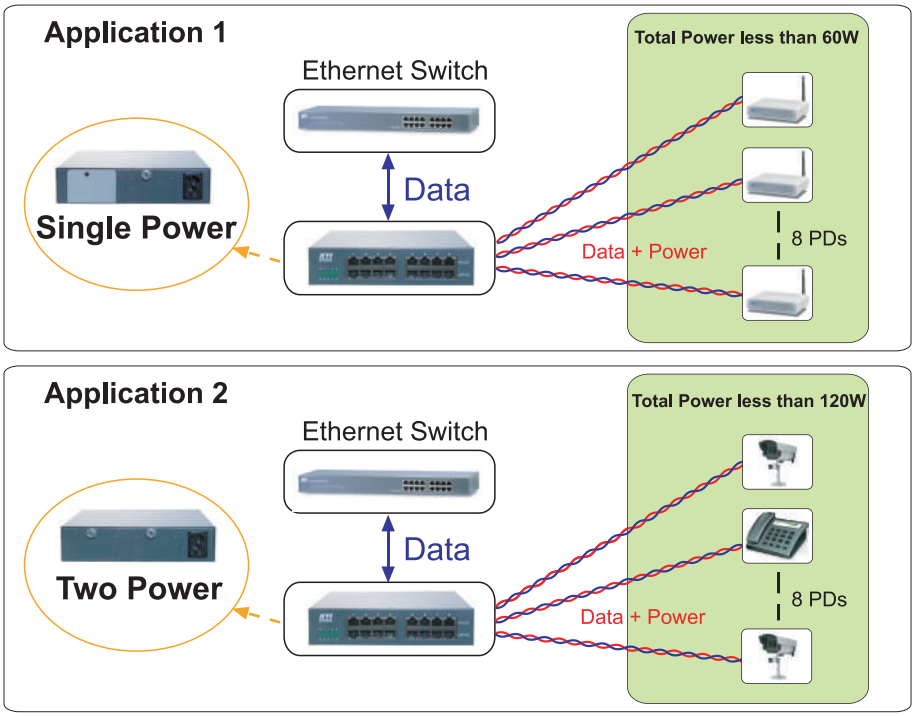
KPOE-800P60W
Optional PoE 60W power module

KPOE-800-BRACKET1
19" rack mounting bracket kit for 1 unit mounting

KPOE-800-BRACKET2
19" rack mounting bracket kit for 2 units mounting

PoE OUT Voltage	48VDC on jack pin 4/5 (positive) and jack pin 7/8 (negative)
PoE OUT Power	Total 60 Watts for 8 connections with one power module Total 120 Watts for 8 connections with two power modules
PoE OUT Protection	power shut down protection for events: Incompliant PD detection, Disconnection, Overload, Over-current Short-circuit, Under voltage
Power Module Slots	2
LED Indicators	Power module status x 2 , Port PoE status x 8
Power Input	Voltage: 100 ~ 240VAC, Frequency: 50/60Hz Power: KPOE-800-1P 68W max. (60W for remote PoE PDs) KPOE-800-2P 136W max. (120W for remote PoE PDs) Power dissipation: KPOE-800-1P 3W max. KPOE-800-2P 6W max.
Dimension	190 x 238 x 43 mm (WxDxH)
Housing	Enclosed metal with no fan
Mounting Support	19" rack mountable
Temperature	Operating Temperature: 0°C ~ 40°C Storage Temperature: -20°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Approval	FCC Class A, CE mark Class A, LVD, IEC60950-1 safety

Applications:



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KPOE-100P

IEEE 802.3at PSE High Power Mid-span Injector

KPOE-100P TOP view

AC power adapter

Power Over Ethernet

Power over Ethernet (PoE) provides a way for Ethernet network devices to be powered by UTP cables, including Cat.3, 5, 5e, and 6 rather than by separate power cords. The specification is compatible with standard Ethernet UTP hardware without requiring modification. The PoE standard covers power sourcing equipment (PSE) and powered devices (PDs). The PSE, sometimes called an injector or power source device, puts power onto the UTP cable and the PD draws the power off. The PDs usually found are IP telephone, wireless AP, IP camera and media converters.

KPOE-100P is an IEEE 802.3at-compliant PoE PSE injector that supports both 802.3at Type 2 high power PDs and earlier 802.3af Type 1 PDs. The injector supports both Fast Ethernet connection and Gigabit Ethernet connection and can deliver output power up to 30Watts and support up to 25Watts at remote Type 2 PD end. For no damage to the connected PD, it is enhanced with smart design to discover compliant PD. It shuts down the power immediately when incompliance is discovered. For safety, other protections for conditions such as disconnection, overload, over-current, and short circuit are also provided to secure your network installation.

So, KPOE-100P is an ideal and up-to-date power solution for industrial and open-office environments where power supplies are often inconveniently located.

Key Features:

- IEEE 802.3at standard compliant
- Supports both Fast Ethernet and Gigabit Ethernet
- Backward compatible with 802.3af-compliant PD
- Delivers power output up to 30W
- Type 1 and Type 2 compliant PD discovery & classification
- Power shutdown protection for incompliant PD
- Power shutdown protection for disconnection
- Power shutdown protection for overload, over-current, and short circuit
- Plug and play with no configuration required
- Supports screw mounting

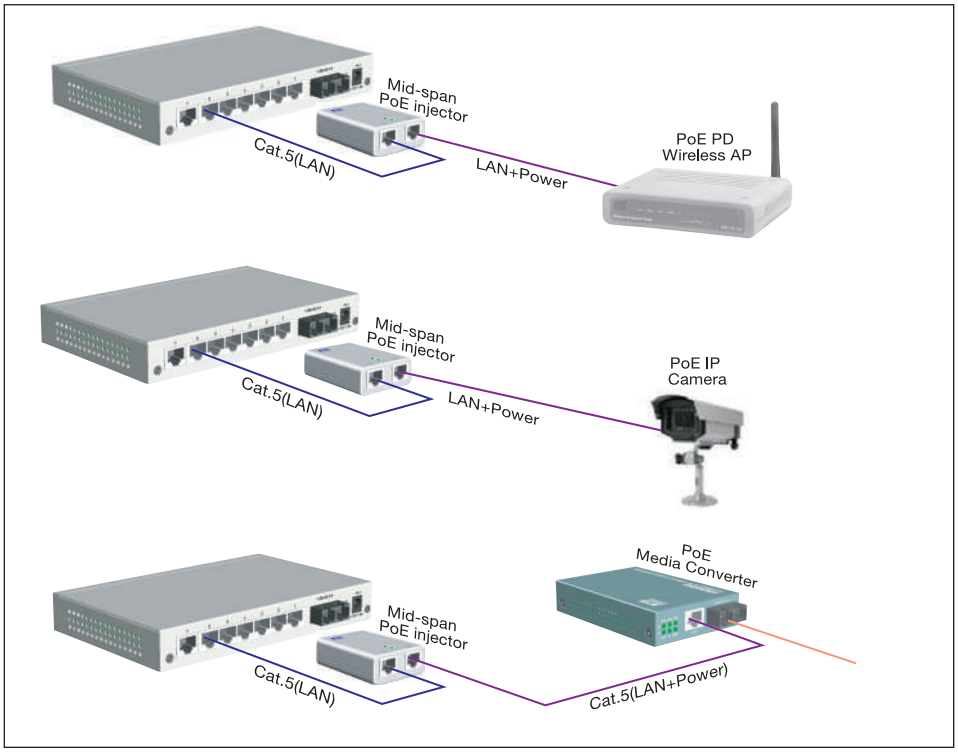
Specifications:

IN JACK	Shielded RJ-45 Ethernet, Fast Ethernet and GbE support Cat.5, 5e, 6 support
OUT JACK	Shielded RJ-45 PSE pins: 4,5,7,8 Ethernet, Fast Ethernet and GbE support 4-pair Cat.5, 5e, 6 support Distance mid-span up to 100meters
PoE PSE	IEEE 802.3at standard PSE pin 4/5 -Positive DC, Pin 7/8 -Negative DC Power delivery 30W max. at port output 2-Event classification support

KC-350 KC-351
PoE PD 10/100TX to 100FX
media converters

KGC-352
PoE PD Gigabit Ethernet
media converters

Protection	Incompliant PD detection, Disconnection Overload, Over-current Short-circuit, Under voltage
LED Indicators	Power status, PoE power status
Power Input	DC IN Jack for external power adapter Input working voltage: +51 ~ +57VDC for both Type 2 and Type 1 connection Input working voltage: +45 ~ +57VDC for Type 1 connection
Environment	Operating Temperature: -5°C ~ 50°C (Main device) Storage Temperature: -40°C ~ 85°C Relative Humidity: 5% ~ 95% non-condensing
Dimension	50 x 80 x 21mm (WxDxH)
Approval	FCC Class B, CE mark Class B
Power Supply	External type AC-DC power adapter Rated input voltage 100~240 VAC Rated input frequency 50/60Hz Output voltage 56VDC (+1%/-3%) Output current 0.5A max. IEC320 AC power cord (attachable)



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KPOE-100

IEEE 802.3af PSE Mid-span Injector

KPOE-100 TOP view

AC power adapter

KPOE-100 is an IEEE 802.3af compliant PoE PSE injector. Power over Ethernet (PoE) provides a way for network devices to be powered by their data cables rather than by separate power cords. The most popular PoE standard is the IEEE 802.3af specification, which uses 48 volts of DC power over any grade of UTP wire, including Category 3, 5, 5e, and 6. The specification is compatible with standard Ethernet UTP hardware without requiring modification. The IEEE 802.3af standard covers power sourcing equipment (PSE) and powered devices (PDs). The PSE, sometimes called an injector or power source device, puts power onto the UTP cable and the PD draws the power off. The PDs usually found are IP telephone, wireless AP, and media converters.

KPOE-100 supports both Fast Ethernet connection and Gigabit Ethernet connection and can deliver up to 15.4 Watts output power and support up to 12.9 Watts at remote PD end. For no damage to the connected PD, it is enhanced with smart design to discover compliant PD. It shuts down the power immediately when incompliance is discovered. For safety, other protections for conditions such as disconnection, overload, over-current, and short circuit are also provided to secure your network installation. So, KPOE-100 is an ideal power solution for industrial and open-office environments where power supplies are often inconveniently located.

Key Features:

- IEEE 802.3af standard compliant
- Supports both Fast Ethernet and Gigabit Ethernet
- Delivers power output up to 15.4W
- Compliant PD discovery & classification
- Power shutdown protection for incompliant PD
- Power shutdown protection for disconnection
- Power shutdown protection for overload, over-current, and short circuit
- Plug and play with no configuration required
- Supports screw mounting
- Compact design

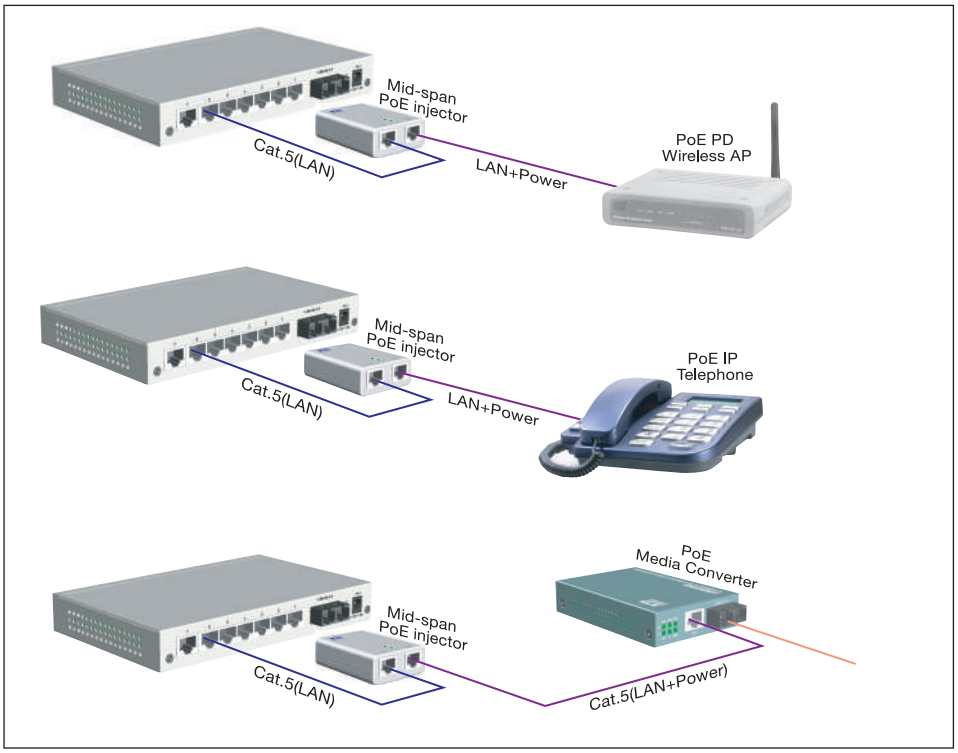
Specifications:

IN JACK	Shielded RJ-45 Ethernet, Fast Ethernet and GbE support Cat.5, 5e, 6 support
OUT JACK	Shielded RJ-45 PSE pins: 4,5,7,8 Ethernet, Fast Ethernet and GbE support 4-pair Cat.5, 5e, 6 support Distance mid-span up to 100meters
PoE PSE	IEEE 802.3af standard PSE pin 4/5 -Positive 48VDC, Pin 7/8 -Negative 48VDC Power delivery 48V 15.4W max. at port output for a Cat.5 distance of 100 meters

KC-350 KC-351
PoE PD 10/100TX to 100FX
media converters

KGC-352
PoE PD Gigabit Ethernet
media converters

Protection	Incompliant PD detection, Disconnection Overload, Over-current Short-circuit, Under voltage
LED Indicators	Power status, PoE power status
Power Input	DC IN Jack for external power adapter Input voltage 48VDC, 0.4A min.
Environment	Operating Temperature: -5°C ~ 50°C Storage Temperature: -20°C ~ 80°C Relative Humidity: 5% ~ 95% non-condensing
Dimension	50 x 80 x 21mm (WxDxH)
Approval	FCC Class B, CE mark Class B
Power Supply	External type AC to 48VDC adapter Rated input voltage 100~240 VAC Rated input frequency 50/60Hz Output voltage 48VDC (+/-5%) Output current 0.5A max. IEC320 AC power cord (attachable)



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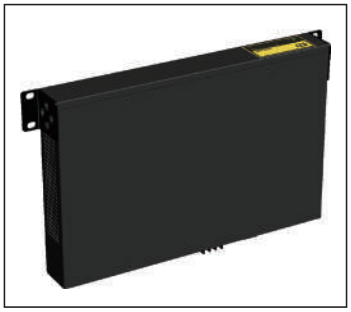
KPW-1000T

1U Rack Mountable 1000W Switching Power Supply for PoE/PoE+ applications

Product Highlights:

- Universal AC connector
- PoE+ voltage options
- 19" rack 1U slot mountable
- Industrial temperature rating

Panel mounting



Key Features:
- Full range of AC input with IEC320 AC socket for universal installation
- Built-in active PFC function, PF>0.95
- High efficiency up to 90%
- AC input active surge current limiting
- Protections against Short circuit / Overload / Over voltage / Over temperature
- Industrial terminal block connector for DC output
- Wide range of operating temperature -20°C ~ 60°C
- Support 19" rack mounting

Applications:
- External power supply for typical PoE & high power PoE switches or systems
- General power supply for critical temperature environments
- General power supply for 19" rack-mount systems

Specifications:

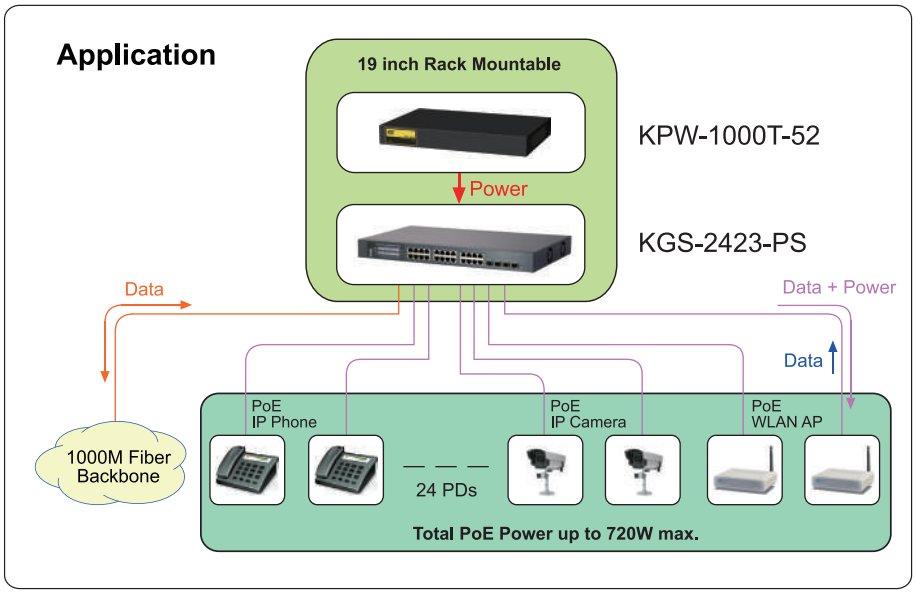
AC IN Voltage	100 ~ 240VAC, 50/60Hz
AC IN Current	100 ~ 120VAC, 12A max. (for US) 220 ~ 240VAC, 6A max. (for Europe)
DC Voltage Options	+48VDC, +52VDC, +54VDC (+/-1%)
AC IN Connector	IEC320 C14 socket
DC OUT Connector	Terminal block 3P: Vout+ / Vout- / FG
LED Power status	AC in, DC out OK
Protection	Short circuit Over load: 105% ~ 125% Over voltage: 57V ~ 66VDC Over temperature: 75°C (+/-5°C)
Environment	Operating Temperature: -20°C ~ 60°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 95% non-condensing
Power Derating	1000W @50°C, 600W @60°C
Air Flow	For US: Still air @-20°C ~ 30°C, Forced air 10CMM @30°C ~ 60°C For EU: Still air @-20°C ~ 60°C
Fan Cooling	Yes
Mounting Support	Desktop, 19" Rack, Enclosure
Dimensions	325 x 210 x 43 mm (Height: 1U)

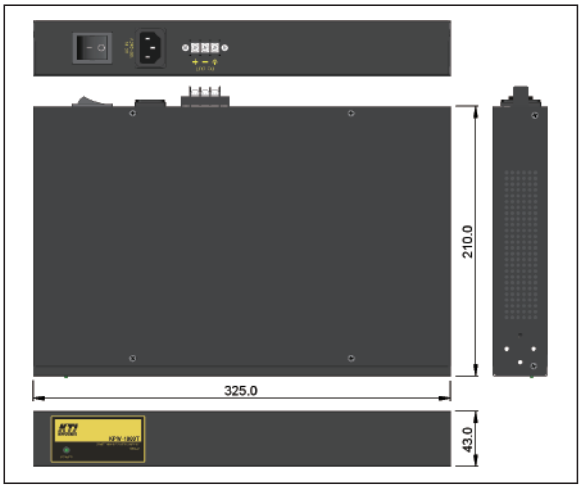
Ordering Information:

Model	DC Out
KPW-1000T-48	+48V/20.8A
KPW-1000T-52	+52V/19.2A
KPW-1000T-54	+54V/18.5A

19” Rack Mountable

Power Module	UL60950-1, TUV EN60950-1 Certified
MTBF	>116K Hours
Approval	FCC Class A, VCCI Class A, CISPR 22 Class A, CE mark, LVD, TUV IEC 60950-1 certified, EN 55022 emission, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2 immunity for industrial environment





Dimensions

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KPW-300T

1U Rack Mountable 300W Switching Power Supply for PoE/PoE+ applications

Product Highlights:

- Universal AC connector
- PoE+ voltage options
- 19" rack 1U slot mountable
- Industrial temperature rating

Key Features:
- Full range of AC input with IEC320 AC socket for universal installation
- Built-in active PFC function, PF>0.95
- High efficiency up to 89%
- Withstand 300VAC surge input for 5 seconds
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in constant current limiting circuit
- Industrial terminal block connector for DC output
- Wide range of operating temperature -40 ~ 64°C
- Support 19" rack mounting

Applications:
- External power supply for typical PoE & high power PoE switches or systems
- General power supply for critical temperature environments
- General power supply for 19" rack-mount systems

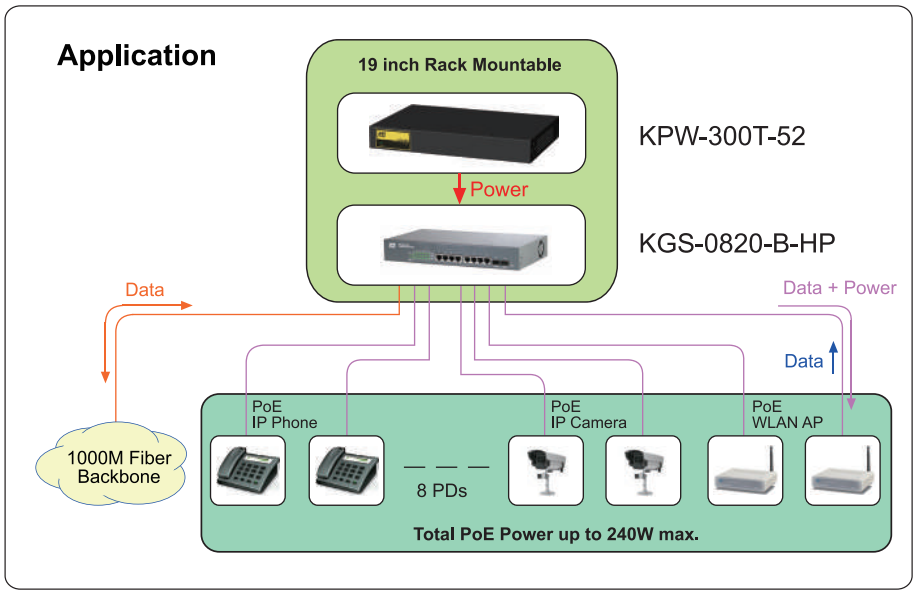
Specifications:

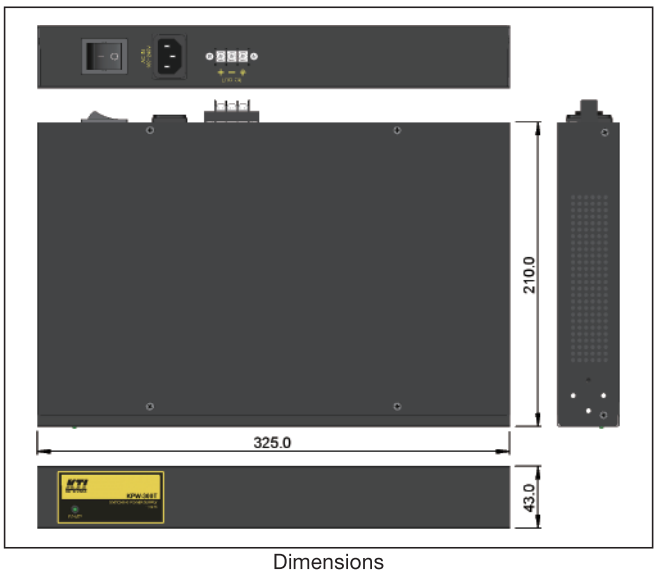
AC IN Voltage	100 ~ 240VAC, 50/60Hz
DC Voltage Options	+48VDC, +52VDC, +54VDC (+/-1%)
AC IN Connector	IEC320 C14 socket
DC OUT Connector	Terminal block 3P: Vout+ / Vout- / FG
LED Power status	AC in, DC out OK
Protection	Short circuit Over load: 105% ~ 135% Over voltage: 58V ~ 67VDC Over temperature: 95°C (+/-5°C)
Environment	Operating Temperature: -40°C ~ 64°C Storage Temperature: -40°C ~ 85°C Relative Humidity: 10% ~ 95% non-condensing
Power Derating	300W @50°C, 225W @60°C, 150W @64°C
Air Flow	Still air @ -40°C ~ 64°C
Fan Cooling	Yes
Mounting Support	Desktop, 19" Rack, Enclosure
Dimensions	325 x 210 x 43 mm (WxDxH)
Power Module	UL60950-1, TUV EN60950-1 Certified
MTBF	>176K Hours

Ordering Information:

Model	DC Out
KPW-300T-48	+48V/6.25A
KPW-300T-52	+52V/5.77A
KPW-300T-54	+54V/5.56A

Approval FCC Class B, VCCI Class B, CISPR 22 Class B, CE mark, LVD, TUV IEC 60950-1 certified, EN 55022 emission, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2 immunity for industrial environment





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KGS-124-B

24-Port 10/100/1000Base-T L2 Gigabit Ethernet Switch

Key Features:

- Provides 24 10/100/1000Mbps Gigabit Ethernet ports
- All ports support auto-negotiation and auto-MDI/MDI-X detection
- Supports full/half-duplex transfer mode for 10/100Mbps
- Supports full-duplex transfer mode for 1000Mbps
- Supports IEEE 802.3x flow control
- Wire-speed packet filtering and forwarding rate
- Store-and-Forward switching method
- MAC addresses table up to 8K entries
- Support Jumbo frame up to 9K bytes
- Supports IEEE802.3az energy efficient ethernet function

Specifications:

Standards	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T, IEEE 802.3x flow control, IEEE 802.3az EEE		
Number of Ports	24 x 10/100/1000Mbps auto-negotiation & auto-MDI/MDI-X ports		
Network Ports	10Base-T: 100Base-TX: 1000Base-T:	Cat.3, 4, 5 or higher (100 meters max.) Cat.5, 5e or higher (100 meters max.) Cat.5, 5e or higher (100 meters max.)	
Network Data Transfer Rate	Ethernet: Fast Ethernet: Gigabit Ethernet:	10Mbps (Half-duplex) 100Mbps (Half-duplex)	20Mbps (Full-duplex) 200Mbps (Full-duplex) 2000Mbps (Full-duplex)
MAC Address Table	8K entries		
Jumbo Frame	9K bytes		
LEDs	Per Unit: Power Per Port: Link/ACT		
Environment	Operating Temperature: Storage Temperature: Relative Humidity:	0°C ~ 40°C -40°C ~ 70°C 10% ~ 90% non-condensing	
Dimension	267 x 161.5 x 42 mm (19" rack mountable)		
Power	100-240VAC, 50-60Hz		
Power Consumption	15W max.		
Approval	FCC Class A, CE mark Class A, LVD		

Solution Products

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KGS-SOHO-8-B

8-Port 10/100/1000Base-T Gigabit Ethernet Switch

Key Features:

- Provides 8 10/100/1000Mbps Gigabit Ethernet ports
- All 10/100/1000M ports support auto-negotiation and auto-MDI/MDI-X detection
- Supports full/half-duplex transfer mode for 10/100Mbps
- Supports full-duplex transfer mode for 1000Mbps
- Store-and-Forward switching method
- Wire-speed packet filtering and forwarding rate
- Supports IEEE 802.3x flow control
- Supports jumbo frame up to 9K bytes
- Supports 802.1p QoS classification

Specifications:

Standards	IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3x
Network Ports	8 10/100/1000Mbps Gigabit copper ports Shielded RJ-45, auto-negotiation, auto-MDI/MDI-X support
Network Cables	10Base-T: Cat.3, 4, 5 or higher (100 meters max.) 100Base-TX: Cat.5, 5e or higher (100 meters max.) 1000Base-T: Cat.5e or higher (100 meters max.)
Network Data Rate	Ethernet: 10Mbps (Half-duplex) 20Mbps (Full-duplex) Fast Ethernet: 100Mbps (Half-duplex) 200Mbps (Full-duplex) Gigabit Ethernet: 2000Mbps (Full-duplex)
MAC Address Table	4K entries
Buffer Memory	1.5M bits
LED Indication	Per unit: Power Per port: link/activity status
Environment	Operating Temperature: 0°C ~ 40°C Storage Temperature: -20°C ~ 70°C Relative Humidity: 10% ~ 90% non-condensing
Dimension	155 x 85 x 26 mm (WxDxH)
Power Input	+5V via external power adapter
Power Consumption	3.5W max. @+5V (DC IN)
Approval	FCC Class B, CE mark Class B

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KS-116 Ver.E

16-Port 10/100 Workgroup L2 Fast Ethernet Switch

Key Features:

- Provide 16-Port 10/100Mbps Fast Ethernet ports
- All ports support auto-negotiation and auto-MDI/MDI-X detection
- Support full/half-duplex transfer mode for 10/100Mbps
- Wire speed reception and transmission
- Store-and-Forward switching method
- Self learning for active MAC addresses up to 8K entries
- Supports IEEE 802.3x flow control for full-duplex mode and backpressure flow control for half-duplex mode

Specifications:

Standards	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX
Number of Ports	16 x 10/100Mbps auto-negotiation & auto-MDI/MDI-X ports
Network Ports	10Base-T: Cat.3, 4, 5 or higher (100 meters max.) 100Base-TX: Cat.5, 5e or higher (100 meters max.)
Network Data Transfer Rate	Ethernet: 10Mbps (Half-duplex) 20Mbps (Full-duplex) Fast Ethernet: 100Mbps (Half-duplex) 200Mbps (Full-duplex)
MAC Address Table	8K entries
LEDs	Per Unit: Power Per Port: Link/ACT, and speed
Environment	Operating temperature: 0°C ~ 40°C Storage temperature: -20°C ~ 70°C Humidity: 10% ~ 90%RH non-condensing
Dimension	283 x 178 x 45 mm (19" rack mountable)
Power	100-240VAC, 50-60Hz
Power Consumption	10 watts. (max.)
Approval	FCC Class A, CE mark Class A

Solution Products

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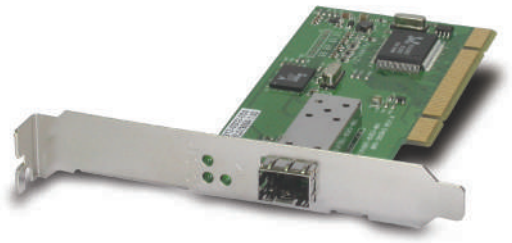
KG-500F Ver.B



1000Base-X Gigabit Ethernet PCI Adapters with SFP Support

Ordering Information:

Model KG-500F Ver.B	Fiber Mode	Connector	Ref. Distance
-SX	62.5/125 50/125	LC	200m 500m
-LX	MM SM	LC	550m 10km

MM: Multimode Fiber
SM: Single Mode Fiber
Ref. Distance: Reference connection distance

Key Features:

- Supports 32-bit 33/66MHz PCI of Rev.2.1/2.2/2.3 specification
- IEEE 802.3z 1000Base-SX/LX compliant
- Provides Tx 8K / Rx 64KB RAM buffer
- Supports full duplex operation up to 2000Mbps data rate over fiber
- Supports full duplex flow control
- Plug-and-Play installation
- Provides LED indicators for easy diagnostic
- Provides SFP to support variety of fiber transceivers
- Complete driver support for most operating systems
- Supports 802.1Q VLAN tagging
- Supports Jumbo Frame up to 7k bytes

Specifications:

Standards	IEEE 802.3z 1000Base-SX/LX
Network Port	SFP for 1000Mbps mini-GBIC fiber transceiver
Host Interface	32-bit 33/66Mhz PCI Rev.2.1/2.2/2.3
LEDs	SFP status, Link status, Optical status
Network Cables	50/125 µm multimode fiber up to 500m 62.5/125 µm multimode fiber up to 220m 9/125 µm single mode fiber
Transfer Rate	Gigabit Ethernet: 2000Mbps (Full-duplex)
Driver Support	Windows XP, 2000, 2003, Vista, Windows 7, Windows 8, Linux, Netware server
Power Consumption	3.3V/400mA max.
Dimension	130 x 65 mm
Environment	Operation Temperature: 0°C ~ 50°C Storage Temperature: -20°C ~ 85°C Relative Humidity: 5% ~ 95%non-condensing
Laser eye safe	IEC60825-1 Class 1/CDRH Class I
Approval	FCC Class B,CE mark Class B

Fiber Optical Specifications:

Model	Connector	Fiber	Wavelength	Tx Power	Rx Sens.	Rx Max.	Distance
-SX	LC	62.5/125µm MMF 50/125µm MMF	850nm	-9.5 ~ -4dBm	-18dBm	-1dBm	200m 500m
-LX	LC	MMF SMF	1310nm	-9.5 ~ -3dBm	-20dBm	-3dBm	550m 10km

MMF: Multimode fiber -62.5/125 µm,50/125 µm
SMF: Single Mode fiber -9 /125 µm

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KF-221FX Ver.C

100Base-FX Fast Ethernet PCI Adapters

Key Features:

- PCI revision 2.1 and 2.2 compliance
- 32-bit PCI half-card supports standard PCI
- Supports 100Base-FX fiber connection
- Complies with IEEE 802.3u 100Base-FX standard
- Supports diversified fiber connectors
- Far End Fault support on the 100Base-FX port
- Wake-On-LAN (WOL) function for ACPI-compliant systems
- Supports plug-and-play installation for Windows XP/2000/ME/2003 1718 systems
- Supports network drivers for most popular operating systems
- Optional PXE/RPL Boot ROM for network operating systems

Ordering Information:

Model	Fiber Mode	Connector	Ref. Distance
KF-221FX-T	MM	Dual ST	2km
KF-221FX-C	MM	Dual SC	2km
KF-221FX-JM	MM	MT-RJ	2km
KF-221FX-VM	MM	VF-45	2km
KF-221FX-SA2	SM	Dual SC	20km
KF-221FX-SL2	SM	Dual SC	20km
KF-221FX-SL3	SM	Dual SC	30km
KF-221FX-SL4	SM	Dual SC	40km
KF-221FX-SL6	SM	Dual SC	60km
KF-221FX-SL8	SM	Dual SC	80km
KF-221FX-SL10	SM	Dual SC	100km
KF-221FX-SL12	SM	Dual SC	120km
KF-221FX-W3520	SM	Bi-Di SC	20km
KF-221FX-W5320	SM	Bi-Di SC	20km
KF-221FX-W3540	SM	Bi-Di SC	40km
KF-221FX-W5340	SM	Bi-Di SC	40km

MM: Multimode Fiber
SM: Single Mode Fiber
Ref. Distance: Reference connection distance

Specifications:

Fiber Connectors	MM: ST, SC, MT-RJ, VF-45, LC & SM: SC
LEDs	100M Link, Act, Duplex
ACPI std.	Rev.1.1
PCI Power Management	Rev.1.1
DMI	Ver.2.0
PXE/RPL	PXE Ver.2.1
Environment	Operation Temperature: 0°C ~ 40°C Relative Humidity: 10% ~ 90% non-condensing
Dimension	130 x 65 mm

Fiber Optical Specifications:

Model	Connector	Fiber*1	Wavelength	Tx Power*2	Rx Sens.	Rx Max.
-T	ST Duplex	MMF	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	SC Duplex	MMF	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-JM	MT-RJ	MMF	1310nm	-19 ~ -14dBm	-31dBm	-14dBm
-VM	VF-45	MMF	1310nm	-20 ~ -14dBm	-31dBm	-14dBm
-SA2	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-31dBm	-7dBm
-SL2	SC Duplex	SMF	1310nm	-15 ~ -7dBm	-32dBm	-3dBm
-SL3	SC Duplex	SMF	1310nm	-15 ~ -8dBm	-34dBm	0dBm
-SL4	SC Duplex	SMF	1310nm	-5 ~ 0dBm	-34dBm	-3dBm
-SL6	SC Duplex	SMF	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-SL8	SC Duplex	SMF	1310nm	0 ~ +5dBm	-36dBm	0dBm
-SL10	SC Duplex	SMF	1550nm	0 ~ -5dBm	-35dBm	0dBm
-SL12	SC Duplex	SMF	1550nm	0 ~ +5dBm	-35dBm	0dBm
-W3520	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-14 ~ -8dBm	-31dBm	0dBm
-W5320	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-14 ~ -8dBm	-31dBm	0dBm
-W3540	Bi-Di SC	SMF	TX 1310nm RX 1550nm	-8 ~ 0dBm	-34dBm	0dBm
-W5340	Bi-Di SC	SMF	TX 1550nm RX 1310nm	-8~ 0dBm	-34dBm	0dBm

*1 MMF: Multimode fiber - 62.5/125 µm, 50/125 µm, SMF: Single Mode fiber - 9 /125 µm
*2 Data for 62.5/125µm MMF, 9 /125µm SMF

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KG-502T Ver.C

10/100/1000Base-T Gigabit Ethernet PCI Adapter

Key Features:

- Supports 32-bit PCI Local Bus Master high-speed operation of Rev.2.2 specification
- Complies with 10/100/1000 Mbps full/half-duplex triple-speed operation
- Fully complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- Plng-and Play installation-simply insert the card into a PC and it will antomatically be configured by the PC BIOS
- Optional PXE/RPL Boot ROM for network operating systems
- Supports Plug-and-Play installation for Windows XP/2000/2003/7/8 systems

Solution Products

Specifications :

Standards	IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3ab 1000Base-T,		
Ports	1 x 10/100/1000Mbps, RJ45 Supports Auto negotiation		
Host Interface	32-bit PCI Rev.2.2		
Cables	10Base-T : Cat.3, 4, 5 or higher (100 meters max.) 100Base-TX : Cat.5, 5e or higher (100 meters max.) 1000Base-T : Cat.5e or higher (100 meters max.)		
Network Data Transfer Rate	Ethernet : Fast Ethernet : Gigabit Ethernet :	10Mbps (Half-duplex) 100Mbps (Half-duplex)	20Mbps (Full-duplex) 200Mbps (Full-duplex) 2000Mbps (Full-duplex)
LEDs	10M, 100/1000M		
Boot ROM	Optional PXE/RPL		
Environment	Operation Temperature : Relative Humidity :	0°C ~ 40°C 10% ~ 85% non-condensing	
Dimension	120 x 52 mm		
Approval	FCC Class B, CE Mark Class B		

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KT-10B, KT-10F, KT-10T

10Base2/-T/-FL Ethernet Transceivers

The KTI Ethernet transceiver family is a IEEE 802.3 compliant Ethernet transceiver series that provides a complete interface of the AUI port to a thin Ethernet cable, a UTP cable and a Fiber Optic cable connections.

A complete set of LEDs indicates the diagnostic status between your Ethernet devices and cabling systems. The compact design makes it flexible to use in a variety of networking devices. KT-10F supports full/half duplex mode that can be operated between switches, routers, and servers in full-duplex transmission.

Key Features:
- Comply with IEEE 802.3 standard
- Support network traffic at a rate of 10Mbit/sec
- Support Ethernet configuration using CSMA/CD access method based on IEEE 802.3 standard
- Compact design

KT-10F supports full/half duplex transmission via its duplex type selector.

Product Highlights:

KT-10B
10Base2 Ethernet Transceiver
KT-10T
10Base-T Ethernet Transceiver
KT-10F
10Base-FL Ethernet Transceiver
(Complies with EMI Class B)

Specifications:

Model	KT-10B	KT-10T	KT-10F
Standard	IEEE 802.3 10Base2, IEEE 802.3 10Base5	IEEE 802.3 10Base-T, IEEE 802.3 10Base5	IEEE 802.3 10Base-FL, IEEE 802.3 10Base5
Connector	BNC female connector, AUI DB-15 male connector	Shielded RJ-45, AUI DB-15 male connector	Multimode ST connector, AUI DB-15 male connector
LEDs	Power	Power, transmit, receive, collision, polarity reverse	Transmit, receive, link and collision and link
Special Features	Selectable terminator, selectable SQE test	Selectable link test, selectable SQE test	Full/Half duplex switch, selectable SQE test
Duplex type	Half	Half	Full/Half selectable
Environment	Operation Temperature: Relative Humidity:	0°C ~ 40°C 10% ~ 90% non-condensing	
Dimensions	42 x 65 x 20 mm		
Power	+12VDC, 250mA max.		

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KCR-4MC

4-Slot Media Converter
1U Chassis for 19" Rack Installation

The chassis is a 19" rack mountable 1U chassis for KTI's media converter devices. It provides four slots for installation of four standalone media converters. A variety of optional media converters is available for selection.

The standard chassis comes with one external power adapter that is able to deliver sufficient power to support four media converters. It saves space and power better than using 4 external power adapters. Optional chassis without a bundled power adapter is also available for ordering.

Ordering Informations:

KCR-4MC
Standard chassis kit with one 12V/24W power adapter

KCR-4MC-H
Chassis kit with no power adapter included

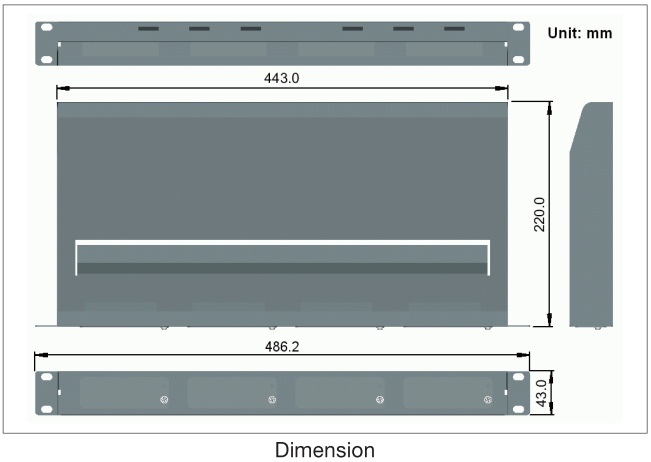
The Bundled Power Adapter
L02-0001-057

Specifications:

The Bundled Power Adapter	AC Power Input Rating:	100 ~ 240 VAC
	DC Power Output Rating:	12V, 2A, 24W
	DC Connectors:	4 DC plugs
Dimensions	443 x 43 x 220 mm (WxDxH)	
Power Adapter Approval	CE Class B, FCC Class B, UL, TUV, PSE, Energy Star Level V	

Optional Standalone Media Converters:

KC-300D	10/100BASE-TX to 100BASE-FX Media Converters
KC-300DM	10/100BASE-TX to 100BASE-FX Media Converters
KGC-300	1000Base-T to 1000Base-X Gigabit Media Converters
KGC-310M	Web Smart 10/100/1000Base-T to 1000Base-X Gigabit Media Converter
KGC-311	Multimode to Single Mode Optical Fiber Media Converters



Dimension

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Optional Installation Brackets

KC-3DR

DIN-Rail mounting for:
KC-300D, KC-300DM, KC-350, KC-351, KGC-300, KGC-310M, KGC-310M-B, KGC-310M-C,KGC-311, KGC-352

KC-4DR

DIN-Rail mounting for:
KGS-1064, KGS-1060, KGD-802, KGD-802-B, KGS-0865,KGS-0840, KSD-800, KSD-800M, KFS-1640, KFS-0840, KFS-0540, KGS-810F, KGS-810F-B, KGS-612F, KCD-303P-x, KSD-103-x, KGC-460, KGC-260, KGC-240, KCD-400, KFC-241, KFC-200, KGC-320-HP, KSC-200, KSC-240, KPW-T2P25, KPW-DCT48-D, KPW-2024-D, KPW-1012-D, KPW-2012-D-E, KPW-RDP-7A/18A

KCD-3PB

Panel mounting for:
KCD-300, KCD-302

KSD-6PB

Panel mounting for:
KGD-600, KSD-541-HP, KGC-320-HP

KSD-8PB

Panel mounting for:
KGS-1064, KGS-1060, KGD-802, KGD-802-B, KGS-0865, KGS-0840, KSD-800, KSD-800M, KFS-1640, KGC-460, KPW-DCT48-D

PMB-241

Panel mounting for:
KFC-241

PMB-400

Panel mounting for:
KCD-400, KSC-200, KSC-240, KSD-103-A, KSD-103-B

PMB-303

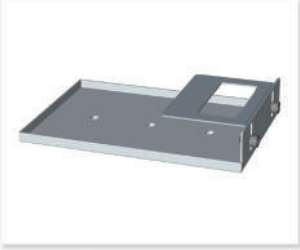
Panel mounting for:
KCD-303P-A, KCD-303P-B, KFC-200, KPW-T2P25

PMB-810

Panel mounting for:
KGS-810F, KGS-810F-B, KGS-612F

PMB-0540

Panel mounting for:
KFS-0840, KFS-0540, KGC-260, KGC-240, KPW-2012-D-E



WMK5

Wall mounting for:
KGD-600, KSD-541-HP, KGS-510F, KGS-510F-B, KGS-510F-C, KGS-0600, KS-105F, KS-105F-B, KS-115FM, KS-117FM, KS-115FM-V, KS-117FM-V

WMB-0820

Wall mounting for:
KFS-2621, KS-1080, KGS-0820, KPOE-800

Solution Products

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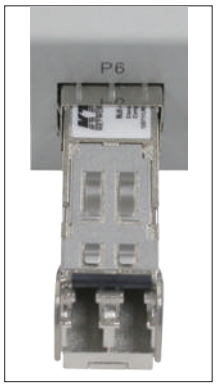
SFP Fiber Transceivers

Solution Products

Plug in SFP Port



∗GbE: Gigabit Ethernet
∗FE: Fast Ethernet
∗DDM: Digital Diagnostics Monitoring function
∗1: Corning fiber 2km tested

SFP Fiber Transceivers

KTI provides a variety of optional Small Form-Factor Pluggable (SFP), which is also known as Mini-GBIC, fiber transceivers for the switches equipped with SFP connectors.The following information describes the specification of each SFP part, and it also indicates their applications in different KTI networking products.

Ordering Information:

10G SFP+ Fiber Transceivers:

Part No.	10G/GbE/FE	Connectors	Ref. Fiber Distance	Operating Temperature	DDM
SFP-10G-SR-A	10G	LC	MMF 300m (OM3 Fiber)	-10°C ~ 70°C	✔
SFP-10G-LR-A	10G	LC	SMF 10km	-10°C ~ 70°C	✔
SFP-10G-LR40-A	10G	LC	SMF 40km	-10°C ~ 70°C	✔
SFP-10G-ZR-A	10G	LC	SMF 80km	-5°C ~ 70°C	✔

Gigabit SFP Fiber Transceivers:

Part No.	10G/GbE/FE	Connectors	Ref. Fiber Distance	Operating Temperature	DDM
SFP-GLM-A	GbE	LC	MMF 550m	0°C ~ 70°C	
SFP-GLM-A -1310	GbE	LC	1km ~ 2km*1 (MMF 62.5/125 µm)	0°C ~ 70°C	
SFP-GLS-10-A	GbE	LC	SMF 10km	0°C ~ 70°C	
SFP-GLSD-10-A	GbE	LC	SMF 10km	0°C ~ 70°C	✔
SFP-GLS-20-A	GbE	LC	SMF 20km	0°C ~ 70°C	
SFP-GLSD-20-A	GbE	LC	SMF 20km	0°C ~ 70°C	✔
SFP-GLS-30-A	GbE	LC	SMF 30km	0°C ~ 70°C	
SFP-GLSD-30-A	GbE	LC	SMF 30km	0°C ~ 70°C	✔
SFP-GLS-50-A	GbE	LC	SMF 50km	0°C ~ 70°C	
SFP-GLSD-50-A	GbE	LC	SMF 50km	0°C ~ 70°C	✔
SFP-GLS-70-A	GbE	LC	SMF 70km	0°C ~ 70°C	
SFP-GLSD-70-A	GbE	LC	SMF 70km	0°C ~ 70°C	✔
SFP-GLS-90-A	GbE	LC	SMF 90km	0°C ~ 70°C	
SFP-GLS-110-A	GbE	LC	SMF 110km	0°C ~ 70°C	
SFP-GLM-A-A	GbE	LC	MMF 550m	-20°C ~ 85°C	
SFP-GLMD-A-A	GbE	LC	MMF 550m	-20°C ~ 85°C	✔
SFP-GLM-A-A -1310	GbE	LC	1km ~ 2km*1 (MMF 62.5/125 µm)	-40°C ~ 85°C	
SFP-GLMD-A-A -1310	GbE	LC	1km ~ 2km*1 (MMF 62.5/125 µm)	-40°C ~ 85°C	✔
SFP-GLS-10A-A	GbE	LC	SMF 10km	-40°C ~ 85°C	
SFP-GLSD-10A-A	GbE	LC	SMF 10km	-40°C ~ 85°C	✔
SFP-GLS-20A-A	GbE	LC	SMF 20km	-40°C ~ 85°C	
SFP-GLSD-20A-A	GbE	LC	SMF 20km	-40°C ~ 85°C	✔
SFP-GLS-30A-A	GbE	LC	SMF 30km	-40°C ~ 85°C	
SFP-GLSD-30A-A	GbE	LC	SMF 30km	-40°C ~ 85°C	✔
SFP-GLS-50A-A	GbE	LC	SMF 50km	-40°C ~ 85°C	
SFP-GLSD-50A-A	GbE	LC	SMF 50km	-40°C ~ 85°C	✔

SFP-GLSD-70A-A	GbE	LC	SMF 70km	-40°C ~ 85°C	✔
SFP-GLS-110A-A	GbE	LC	SMF 110km	-40°C ~ 85°C	
SFP-GLSD-110A-A	GbE	LC	SMF 110km	-40°C ~ 85°C	✔

WDM

SFP-GLS-W3510-A	GbE	LC	Bi-Di SMF 10km	0°C ~ 70°C	
SFP-GLS-W5310-A	GbE	LC	Bi-Di SMF 10km	0°C ~ 70°C	
SFP-GLSD-W3510-A	GbE	LC	Bi-Di SMF 10km	0°C ~ 70°C	✔
SFP-GLSD-W5310-A	GbE	LC	Bi-Di SMF 10km	0°C ~ 70°C	✔
SFP-GLS-W3520-A	GbE	LC	Bi-Di SMF 20km	0°C ~ 70°C	
SFP-GLS-W5320-A	GbE	LC	Bi-Di SMF 20km	0°C ~ 70°C	
SFP-GLS-W3540-A	GbE	LC	Bi-Di SMF 40km	0°C ~ 70°C	
SFP-GLS-W5340-A	GbE	LC	Bi-Di SMF 40km	0°C ~ 70°C	
SFP-GLS-W3560-A	GbE	LC	Bi-Di SMF 60km	0°C ~ 70°C	
SFP-GLS-W5360-A	GbE	LC	Bi-Di SMF 60km	0°C ~ 70°C	
SFP-GLS-W3520A-A	GbE	LC	Bi-Di SMF 20km	-40°C ~ 85°C	
SFP-GLS-W5320A-A	GbE	LC	Bi-Di SMF 20km	-40°C ~ 85°C	
SFP-GLS-W3540A-A	GbE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	
SFP-GLS-W5340A-A	GbE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	
SFP-GLSD-W3540A-A	GbE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	✔
SFP-GLSD-W5340A-A	GbE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	✔

CWDM

SFP-GLS-CxxW50-A	GbE	LC	CWDM SMF 50km	0°C ~ 70°C	
SFP-GLS-CxxW80-A	GbE	LC	CWDM SMF 80km	0°C ~ 70°C	

BX10

SFP-GLS-BX10D-A	GbE	LC	Bi-Di SMF 10km	0°C ~ 70°C	
SFP-GLS-BX10U-A	GbE	LC	Bi-Di SMF 10km	0°C ~ 70°C	
SFP-GSS-BX10D-A	GbE	SC	Bi-Di SMF 10km	0°C ~ 70°C	
SFP-GSS-BX10U-A	GbE	SC	Bi-Di SMF 10km	0°C ~ 70°C	

Fast Ethernet SFP Fiber Transceivers:

Part No.	10G/GbE/FE	Connectors	Ref. Fiber Distance	Operating Temperature	DDM
SFP-FC-M-A	FE	LC	MMF 2km	-10°C ~ 70°C	
SFP-FC-M5-A	FE	LC	MMF 5km	0°C ~ 70°C	
SFP-FC-S30-A	FE	LC	SMF 30km	0°C ~ 70°C	
SFP-FCD-S30-A	FE	LC	SMF 30km	0°C ~ 70°C	✔
SFP-FCD-S30-A2	FE	LC	SMF 30km	0°C ~ 70°C	✔
SFP-FC-S60-A	FE	LC	SMF 60km	0°C ~ 70°C	
SFP-FC-S100-A	FE	LC	SMF 100km	0°C ~ 70°C	
SFP-FCD-S100-A	FE	LC	SMF 100km	0°C ~ 70°C	✔
SFP-FC-M-A-A	FE	LC	MMF 2km	-40°C ~ 85°C	
SFP-FC-S10A-AV	FE	LC	SMF 10km	-10°C ~ 85°C	
SFP-FC-S30A-A	FE	LC	SMF 30km	-40°C ~ 85°C	

WDM

SFP-FC-W3520-A	FE	LC	Bi-Di SMF 20km	0°C ~ 70°C	
SFP-FC-W5320-A	FE	LC	Bi-Di SMF 20km	0°C ~ 70°C	
SFP-FC-W3540A-A	FE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	
SFP-FC-W5340A-A	FE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	
SFP-FCD-W3540A-A	FE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	✔
SFP-FCD-W5340A-A	FE	LC	Bi-Di SMF 40km	-40°C ~ 85°C	✔

BX10

SFP-FSC-BX10D-A	FE	SC	Bi-Di SMF 10km	0°C ~ 70°C
SFP-FSC-BX10U-A	FE	SC	Bi-Di SMF 10km	0°C ~ 70°C

Optical Specifications:

10G SFP+ Fiber Transceivers:

Part No.	Wavelength	Tx Power	Rx Sens.	Rx Max.
SFP-10G-SR-A	850nm	-7.1 ~ -1	-9.9	-1
SFP-10G-LR-A	1310nm	-6 ~ 0.5	-14.4	0.5
SFP-10G-LR40-A	1310nm	1 ~ 5	-15	2
SFP-10G-ZR-A	1550nm	0 ~ 4	-23	-7

Gigabit SFP Fiber Transceivers:

Part No.	Wavelength	Tx Power	Rx Sens.	Rx Max.
SFP-GLM-A	850nm	-9.5 ~ -4	-18	0
SFP-GLM-A-1310	1310nm	-9 ~ -1	-19	-1
SFP-GLS-10-A	1310nm	-9.5 ~ -3	-20	-3
SFP-GLSD-10-A	1310nm	-9 ~ -3	-21	-3
SFP-GLS-20-A	1310nm	-8 ~ -2	-23	-1
SFP-GLSD-20-A	1310nm	-8 ~ -3	-23	-3
SFP-GLS-30-A	1310nm	-4 ~ 1	-24	-3
SFP-GLSD-30-A	1310nm	-4 ~ 3	-24	-1
SFP-GLS-50-A	1550nm	-4 ~ 1	-24	-3
SFP-GLSD-50-A	1550nm	-4 ~ 1	-24	-1
SFP-GLS-70-A	1550nm	0 ~ 5	-24	-3
SFP-GLSD-70-A	1550nm	0 ~ 5	-24	-1
SFP-GLS-90-A	1550nm	0 ~ 5	-27	-1
SFP-GLS-110-A	1550nm	0 ~ 5	-30	-8
SFP-GLM-A-A	850nm	-9.5 ~ -4	-18	0
SFP-GLMD-A-A	850nm	-9.5 ~ -4	-18	0
SFP-GLM-A-A-1310	1310nm	-9 ~ -1	-19	-1
SFP-GLMD-A-A-1310	1310nm	-9 ~ -1	-19	-1
SFP-GLS-10A-A	1310nm	-9.5 ~ -3	-20	-3

SFP-GLSD-10A-A	1310nm	-9 ~ -3	-21	-3
SFP-GLS-20A-A	1310nm	-8 ~ -2	-23	-1
SFP-GLSD-20A-A	1310nm	-8 ~ -3	-23	-3
SFP-GLS-30A-A	1310nm	-4 ~ 1	-24	-3
SFP-GLSD-30A-A	1310nm	-4 ~ 3	-24	-1
SFP-GLS-50A-A	1550nm	-4 ~ 1	-24	-3
SFP-GLSD-50A-A	1550nm	-4 ~ 1	-24	-1
SFP-GLSD-70A-A	1550nm	0 ~ 5	-24	-1
SFP-GLS-110A-A	1550nm	0 ~ 5	-30	-9
SFP-GLSD-110A-A	1550nm	0 ~ 5	-30	-8

WDM

SFP-GLS-W3510-A	Tx: 1310nm Rx: 1550nm	-9 ~ -3	-21	-1
SFP-GLS-W5310-A	Tx: 1550nm Rx: 1310nm	-9 ~ -3	-21	-1
SFP-GLSD-W3510-A	Tx: 1310nm Rx: 1550nm	-9 ~ -3	-21	-1
SFP-GLSD-W5310-A	Tx: 1550nm Rx: 1310nm	-9 ~ -3	-21	-1
SFP-GLS-W3520-A	Tx: 1310nm Rx: 1550nm	-8 ~ -2	-23	-1
SFP-GLS-W5320-A	Tx: 1550nm Rx: 1310nm	-8 ~ -2	-23	-1
SFP-GLS-W3540-A	Tx: 1310nm Rx: 1550nm	-3 ~ 2	-23	-1
SFP-GLS-W5340-A	Tx: 1550nm Rx: 1310nm	-3 ~ 2	-23	-1
SFP-GLS-W3560-A	Tx: 1310nm Rx: 1550nm	0 ~ 5	-24	-1
SFP-GLS-W5360-A	Tx: 1550nm Rx: 1310nm	-2 ~ 4	-25	-1
SFP-GLS-W3520A-A	Tx: 1310nm Rx: 1550nm	-8 ~ -2	-23	-1
SFP-GLS-W5320A-A	Tx: 1550nm Rx: 1310nm	-8 ~ -2	-23	-1
SFP-GLS-W3540A-A	Tx: 1310nm Rx: 1550nm	-3 ~ 2	-23	-1
SFP-GLS-W5340A-A	Tx: 1550nm Rx: 1310nm	-3 ~ 2	-23	-1
SFP-GLSD-W3540A-A	Tx: 1310nm Rx: 1550nm	-3 ~ 2	-23	-1
SFP-GLSD-W5340A-A	Tx: 1550nm Rx: 1310nm	-3 ~ 2	-23	-1

CWDM

SFP-GLS-CxxW50-A	Tx: 1xx0nm (1470~1610nm)	0 ~ 5	-24	-1

Applications:

Model	Product	SFP Ports
KGS-2422-B	GbE Switch	GbE, FE
KGS-2423	GbE Switch	GbE (DDM)
KGS-810F-B	GbE Switch	GbE (DDM)
KGS-510F-C	GbE Switch	GbE
KGC-0500	GbE Switch	GbE, FE
KGD-802-B	GbE Switch	GbE (Industrial, DDM)
KGD-600-B	GbE Switch	GbE (Industrial)
KFS-2621	FE Switch	GbE
KGS-0820-B	FE Switch	GbE, FE (DDM)
KSD-541-B	FE Switch	FE (Industrial)
KGC-300	GbE MC	GbE
KGC-310M-B	GbE MC	GbE
KGC-310M-C	GbE MC	GbE, FE
KGC-320-HP	GbE MC	GbE, FE
KGC-352	GbE MC	GbE
KCD-400	GbE MC	GbE (Industrial)
KGC-460	GbE MC	GbE, FE (Industrial, DDM)
KGC-260	GbE MC	GbE, FE (Industrial, DDM)
KGC-240	GbE MC	GbE, FE (Industrial, DDM)
KGC-311	MC	GbE, FE
KG-500F-B	GbE NIC	GbE

MC: media Converter
NIC: Network interface card

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SFP-GLS-CxxW80-A	Tx: 1xx0nm (1470~1610nm)	0 ~ 5	-30	-8

BX10

SFP-GLS-BX10D-A	Tx: 1490nm Rx: 1310nm	-9 ~ -3	-21	-1
SFP-GLS-BX10U-A	Tx: 1310nm Rx: 1490nm	-9 ~ -3	-21	-1
SFP-GSS-BX10D-A	Tx: 1490nm Rx: 1310nm	-9 ~ -3	-21	-1
SFP-GSS-BX10U-A	Tx: 1310nm Rx: 1490nm	-9 ~ -3	-21	-1

Fast Ethernet SFP Fiber Transceivers:

Part No.	Wavelength	Tx Power	Rx Sens.	Rx Max.
SFP-FC-M-A	1310nm	-20 ~ -14	-31	-8
SFP-FC-M5-A	1310nm	-9 ~ 0	-30	0
SFP-FC-S30-A	1310nm	-15 ~ -8	-34	0
SFP-FCD-S30-A	1310nm	-15 ~ -8	-32	0
SFP-FCD-S30-A2	1310nm	-15 ~ -8	-34	0
SFP-FC-S60-A	1310nm	-5 ~ 0	-35	0
SFP-FC-S100-A	1550nm	-5 ~ 0	-35	0
SFP-FCD-S100-A	1550nm	-5 ~ 0	-35	0
SFP-FC-M-A-A	1310nm	-20 ~ -14	-31	-8
SFP-FC-S10A-AV	1310nm	-15 ~ -8	-23	-8
SFP-FC-S30A-A	1310nm	-15 ~ -8	-34	0

WDM

SFP-FC-W3520-A	Tx: 1310nm Rx: 1550nm	-14 ~ -8	-32	0
SFP-FC-W5320-A	Tx: 1550nm Rx: 1310nm	-14 ~ -8	-32	0
SFP-FC-W3540A-A	Tx: 1310nm Rx: 1550nm	-8 ~ 0	-34	0
SFP-FC-W5340A-A	Tx: 1550nm Rx: 1310nm	-8 ~ 0	-34	0
SFP-FCD-W3540A-A	Tx: 1310nm Rx: 1550nm	-8 ~ 0	-34	0
SFP-FCD-W5340A-A	Tx: 1550nm Rx: 1310nm	-8 ~ 0	-34	0

BX10

SFP-FSC-BX10D-A	Tx: 1550nm Rx: 1310nm	-14 ~ -8	-32	0
SFP-FSC-BX10U-A	Tx: 1310nm Rx: 1550nm	-14 ~ -8	-32	0

About KTI...

Katron Technologies Inc. (KTI) was established in 1983, and dedicated itself into development, manufacturing, and marketing network products since 1988.

Katron Technologies Inc. has been marketing networking products in its own brand worldwide, including Europe, Asia, Oceania, Africa, Middle East, North America, and South America, etc. Additionally, KTI also provides customized design and production services for special applications and projects upon requests.

For decades, Katron Technologies Inc. operates its business based on the business policy set by the time of establishment:

"Continuous development of new technology, quality products, and services is the key to achieve and maintain the success."

By following the company policy firmly, KTI has become one of the leaders in the industry, producing wide range of network products, including Fiber Ethernet networking devices, Ethernet network switch products, and many other office-networking solutions. All these products are aimed to meet customers' practical needs closely.

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