



# 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	Connector	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, 0.1g <sup>2</sup> /Hz 200-500Hz, 0.03g <sup>2</sup> /Hz

### 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

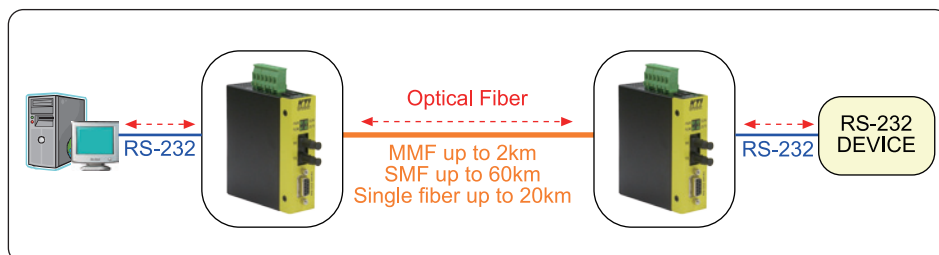
Environment Operating Temperature: -30°C ~ 70°C  
Storage Temperature: -30°C ~ 85°C  
Relative Humidity: 5% ~ 95% non-condensing

Approval FCC Class B, CE mark Class B, EN60950-1 safety

### Fiber Optical Specifications:

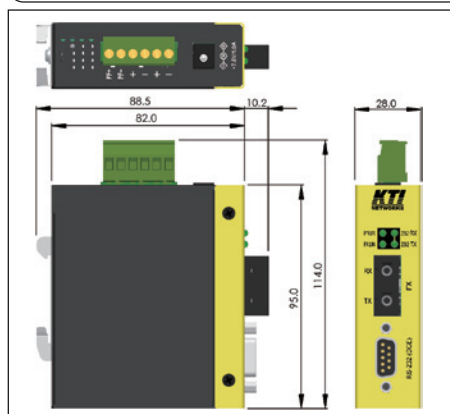
Model	Connector*1	Wavelength	Tx Power*2	Rx Sens.	Rx. Max
-T	Duplex ST	1310nm	-20 ~ -14dBm	-32dBm	-8dBm
-C	Duplex SC	1310nm	-20 ~ -14dBm	-31dBm	0dBm
-SL2	Duplex SC	1310nm	-15 ~ -7dBm	-32dBm	-3dBm
-SL4	Duplex SC	1310nm	-5 ~ 0dBm	-34dBm	0dBm
-SL6	Duplex SC	1310nm	-5 ~ 0dBm	-35dBm	0dBm
-W3520	Bi-Di SC	Tx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

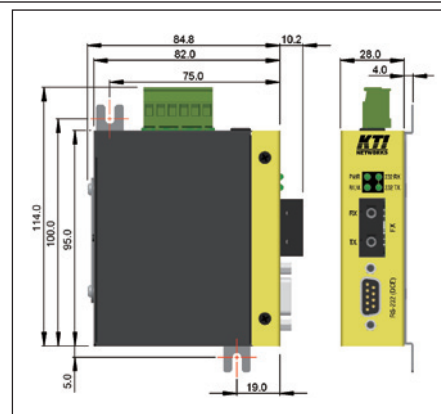


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DIN-Rail Dimension



Panel Dimension