SerialComm
Data Conversion Experts
www.serialcomm.com

REP-232-7P

RS-232 Isolated 7-Wire Repeater Pair

Datasheet Revision 2.3

GENERAL FEATURES:

- Plug-and-Play (hot-pluggable)
- 2500V optical isolation
- Data direction auto-turnaround - no flow control necessary
- Port powered - no external power needed
- Built-in surge and static protection
- 5 year manufacturer's warranty
- RoHS, CE, and FCC certified

DESCRIPTION:

The SerialComm REP-232-7P is a pair of industrial grade bi-directional port powered 2500V opto-isolated RS-232 port extenders. The converter pair can extend the data distance of two standard full duplex RS-232C ports up to 4000 ft(1.2km). The converter pair extends the distance of not only the data lines but also the RTS, CTS, DTR and DSR handshake lines. A built-in data direction auto-turnaround feature automatically enables the wire driver when data is present from the RS-232 port, eliminating the need for software drivers, and making the device fully plug-and-play. The REP-232-7P has a db-9 female connector on the RS-232 serial port, and db-9 male connector on the wire port. A separate terminal block is included with each converter for maximum flexibility. The terminal block plugs into the wire port, providing screw-lug wire terminations for the port. The unit is enclosed in a rugged ABS housing, and is powered from the RS-232 data lines; no external power is required.

CERTIFICATIONS:

CE FC RoHS

CERTIFYING LABS: TÜV TEST

APPLICATIONS:

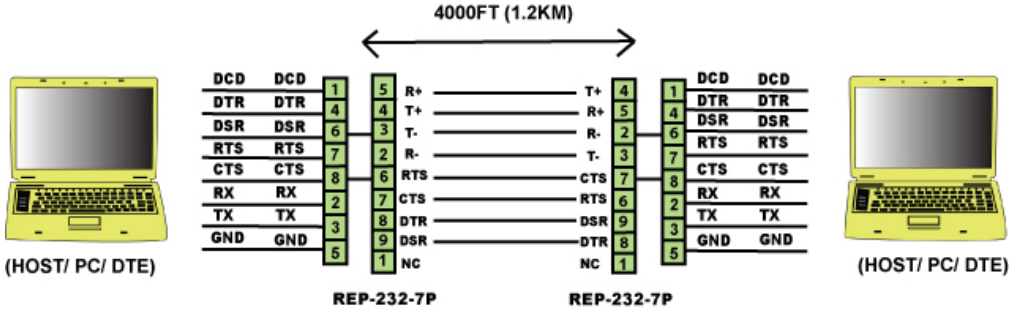


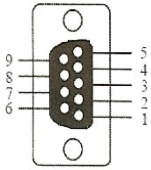
FIGURE 1: EXTENDING RS-232 DATA AND HANDSHAKE DISTANCE

PINOUT CONFIGURATION:

RS-232 SIDE – DB9 FEMALE

SIGNAL	DCD	DTR	DSR	RTS	CTS	TX	RX	GND
PIN #	1	4	6	7	8	2	3	5
FUNCTION	DCD	DTR	DSR	RTS	CTS	TX	RX	GND

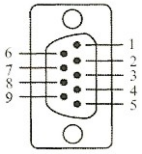
FEM.



WIRE SIDE – DB9 MALE OR TERMINAL BLOCK

SIGNAL	NC	R-	T-	T+	R+	RS	CS	DTR	DSR
PIN #	1	2	3	4	5	6	7	8	9
FUNCT.	NC	R-	T-	T+	R+	RTS	CTS	DTR	DSR

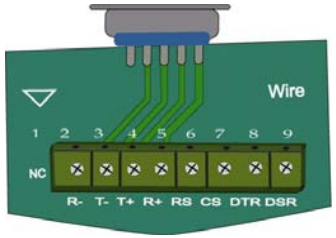
MALE



SPECIFICATIONS:

COMMUNICATION	
STANDARDS:	EIA/TIA RS-232C Standard
BAUD RATES:	From 300 bps to 115,200 bps
CONNECTOR TYPES:	RS-232 Side: DB9 Female and Wire Side: either DB9 Male or 8-way Terminal Block
DISTANCE:	RS-232 Side: 16 ft (5m) and Wire Side: up to 4000 ft (1.2km)
ELECTRICAL	
POWER SOURCE:	Port Powered From RS-232 Data Lines
OPTICAL ISOLATION:	2500V (2500Vrms 1 min, AC)
CURRENT CONSUMPTION:	Less Than 10 mA
STATIC PROTECTION:	15KV Electric Static Discharge (ESD) Protection
SURGE PROTECTION:	600W/Sec Surge Protection
MECHANICAL	
HOUSING:	Rugged ABS
WEIGHT:	**With Terminal Block**: 1.4oz (39.7 grams) **Without Terminal Block**: 0.8oz (24 grams)
DIMENSIONS:	**With Terminal Block:** 3.93" X 2.12" X 0.82" (99.8 mm X 53.7 mm X 20.7 mm) **Without Terminal Block**: 2.47" X 1.33" X 0.70" (62.8 mm X 33.8 mm X 17.8 mm)
ENVIRONMENTAL	
OPERATING TEMP.:	-40° F to 185° F (-40°C to 85° C)
STORAGE TEMP:	-40° F to 185° F (-40°C to 85° C)
OPERATING HUMIDITY:	5% To 95% - No Condensation
QUALITY	
PRODUCT SAFETY:	CE, FCC and RoHS Conformance Certified
QUALITY MANAGEMENT	Manufactured and Distributed to ISO 9001:2008
RELIABILITY:	Low Failure Rate – 99+% Reliability Since Inception
WARRANTY:	5 Year Replacement Warranty

TERMINAL BLOCK:



TROUBLESHOOTING INSTRUCTIONS:

Using one REP-232-7P unit:

1. Check that all connections comply with the connection diagrams.
2. Perform a loop back test on one unit:
    a) Connect the T+ to R+, T- to R-, CS to RS and DTR to DSR on the wire port.
    b) Connect the RS-232 port to the PC RS-232 port.
    c) Running a hyper terminal program on the PC, send ASCII characters to the REP-232-7P converter from one PC port, and check that the characters are received at the same PC port. This tests that the transmit and receive functions of the REP-232-37 unit is working properly.

Using two REP-232-7P units:

1. Check that all connections comply with the connection diagrams.
2. Perform a loop back test on two units:
    a) Connect the two wire ports per application diagram.
    b) Connect the two RS-232 ports to two PC RS-232 ports.
    c) Running hyper terminal programs on both PCs, send ASCII characters to the REP-232-7P converter from one PC port, and check that the characters are received at the 2nd PC port. Repeat the test in the opposite direction. This tests that the transmit and receive functions of both REP-232-7P units are working properly.