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ISO-485-PI9

Opto-Isolated RS-232 To RS-485 Converter
Datasheet Revision 1.3

INTRODUCTION:

The SerialComm ISO-485-PI9 is an industrial grade bi-directional port powered 2500V optically isolated RS-232 to RS-485 converter in a 9 pin format. It can convert any standard full duplex RS-232C port to any two-wire balanced half duplex RS-485 port. In simple terms, it will convert any RS-232 signal to a RS-485 signal and vice versa. The unit is powered from the RS-232 data lines. The ISO-485-PI9 effectively protects your RS-232 and RS-485 devices from transient voltage spikes, lightning strikes, ground loops, and noise problems It also supports data direction auto-turnaround. Therefore, no external power or flow control is required. The data direction auto-turnaround automatically enables the RS-485 driver when data is present on the RS-232 side making the device plug-and-play, requiring no software drivers. The ISO-485-PI9 has a DB9 female connector on the RS-232 side and either a DB9 male connector or 3-way terminal block on the RS-485 side. Separate terminal block is included in package.

CERTIFICATIONS:

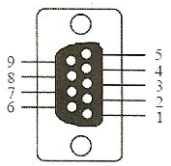
GENERAL FEATURES:

- 2500V isolation protects RS-232/RS-485 devices from electrical surges and lightning strikes
- 2500V optical isolation also eliminates ground loop and noise problems
- Port Powered: no external power is necessary
- Data Direction, auto-turnaround, no flow control is necessary
- Plug-and-Play (Device is hot-pluggable)
- 5 Year Manufacturer's Warranty
- RoHS, CE, FCC and ISO 9001 Compliance Certified
- Built-in surge protection, static protection and circuit protection
- Surface Mount RoHS Compliant Technology manufactured to ISO 9001 Standards

PINOUT CONFIGURATION:

RS-232 SIDE – DB9 FEMALE

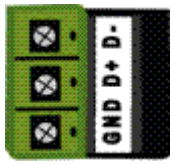
FEM. DB9

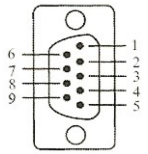


SIGNAL	DCD	DTR	DSR	RTS	CTS	TX	RX	GND
PIN #	1	4	6	7	8	2	3	5
FUNCTION	TIED			TIED		TX	RX	GND

RS-485 SIDE – DB9 MALE OR TERMINAL BLOCK

MALE DB9





SIGNAL	D-	D+	GND
PIN #	1	2	5
FUNCTION	D-	D+	GND

SPECIFICATIONS:

PART NUMBER:	ISO-485-PI9
STANDARDS:	EIA/TIA RS-232C Standard and RS-485 Standard
BAUD RATES:	From 300 Baud To 57,600 Baud
POWER SOURCE:	Port Powered From RS-232 Data Lines
CURRENT CONSUMPTION:	Less Than 10 mA
CONNECTOR TYPES:	RS-232 Side: DB9 Female and RS-485 Side: either DB9 Male or 3 Way Terminal Block
DISTANCE:	RS-232 Side: 16 ft (5m) and RS-485 Side: up to 4000 ft (1.2km)
MAX NUMBER OF DROPS:	128 Drops
OPTICAL ISOLATION:	2500V Optical Isolation
STATIC PROTECTION:	1500W Static Protection
SURGE PROTECTION:	600W Surge Protection
WEIGHT:	**With Terminal Block**: 1.2oz (36 grams) **Without Terminal Block**: 0.8oz (24 grams)
DIMENSIONS:	**With Terminal Block:** 3.15" X 1.33" X 0.70" (80.0 mm X 33.8 mm X 17.8 mm) **Without Terminal Block**: 2.47" X 1.33" X 0.70" (62.8 mm X 33.8 mm X 17.8 mm)
OPERATING TEMP.:	-40° F to 176° F (-40°C to 80° C)
OPERATING HUMIDITY:	5% To 95% - No Condensation

TROUBLESHOOTING INSTRUCTIONS:

Perform a loop back test on two ISO-485-PI9 converters. Attach the two ISO-485-PI9s to two serial ports on a PC and using two instances of a HyperTerminal program send a character from one and see if it echoes to the other. This will test both transmit and receive functions.

APPLICATIONS:

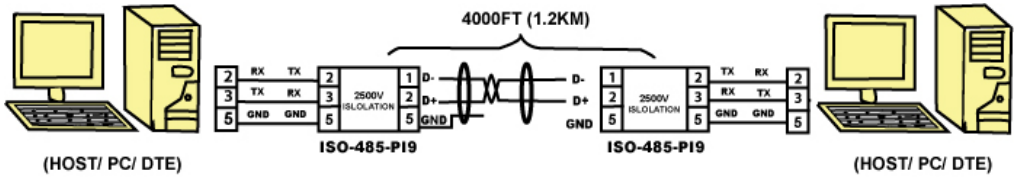


FIGURE 1: EXTENDING RS-232 DATA DISTANCE WITH 2500V ISOLATION

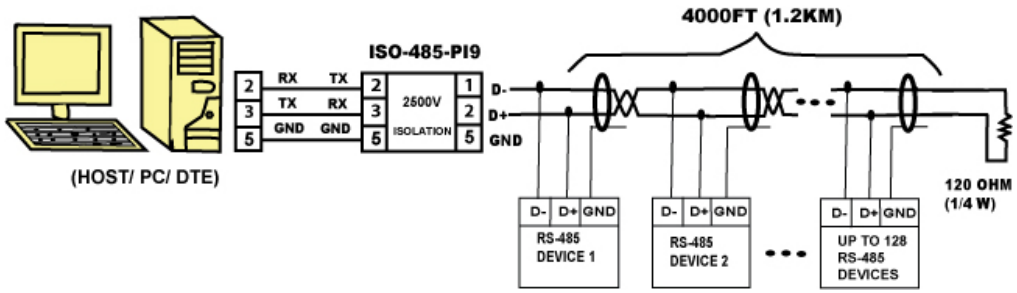


FIGURE 2: MASTER/SLAVE MULTIPLE DROP CONFIG. WITH 2500V ISOLATION