SerialComm
Data Conversion Experts
www.serialcomm.com

ETH-SER-EE9

10/100M Ethernet To Serial / Serial Device Server

Datasheet Revision 1.3

GENERAL FEATURES:

- High Performance 32 Bit ARM Processor
- 3-in-1 RS232/RS485/RS422 Serial Interface
- 10/100M Ethernet Transmission
- 300bps to 115.2K bps Serial Transmission
- TCP, UDP, ARP, ICMP, HTTP & DHCP Protocols
- Standard TCP/IP Socket
- Static or Dynamic IP
- Network or Serial Interface Configuration
- Virtual Serial Driver Mode
- Windows Serial Interface Driver Mode
- Low Consumption Design (< 1.4 Watts)
- Industrial-grade Temperature
- Interchangeable Serial Protocol Compatibility
- ETH-SER-EE9 User Manual
- VSP Software Management Software & User Manual
- AT Command Configuration Guide
- Built-in surge and static protection
- 5 year manufacturer's warranty
- RoHS, CE, and FCC certified

DESCRIPTION:

The SerialComm ETH-SER-EE9 is a rugged industrial-grade power efficient (less than 1.4 Watts) serial device server which will convert from RS-232, RS-485 or RS-422 serial to Ethernet or vice versa. The ETH-SER-EE9 serial device server will also make serial devices internet ready supporting TCP, UDP, ARP, ICMP, DHCP and Windows Native COM, LLF protocols. The ETH-SER-EE9 provides one serial port (RS-232: DB9, RS-485/RS-422: 5 position terminal block) and one 10/100M Ethernet port in order to convert from serial devices to IP-based Ethernet and vice versa.

The ETH-SER-EE9 can be configured with a VSP Management Software and an online browser-based configuration tool or through AT commands. The software user interface is robust in functionality enabling the experienced Engineer to do complex configuration tasks while simple enough for a novice to use. All configurations can be performed by the Ethernet network (supporting communication across gateways and routers) or by the serial port, making the ETH-SER-EE9 convenient and user-friendly.

The ETH-SER-EE9 is designed with ESD protection as well as voltage surge protection and is specifically designed to function reliably in hazardous environments. It can be used as a stand-alone unit, wall or panel mounted or DIN rail mounted with optional DIN rail mounts.

CERTIFICATIONS:

CE FC RoHS

CERTIFYING LABS: TEST

SPECIFICATIONS:

GENERAL	
MODEL NUMBER:	SER-ETH-EE9
STANDARDS:	IEEE 802.1 10Base-T(X), IEEE 802.3u 100Base-T(X), EIA/TIA RS-232C, 2 wire RS-485 and 4 wire RS-422
ETHERNET PROPERTIES	
SUPPORTED PROTOCOLS:	TCP, UDP, APR, ICMP and DHCP Protocols
WORKING MODES:	Server and Client Modes
ETHERNET DATA SPEED:	10 / 100 Mbps
ETHERNET TRANS. TYPE:	Full-duplex and Half-duplex
ETHERNET CONNECTOR TYPE:	RJ45
ETHERNET TRANS. DISTANCE:	Up to 330 ft (100 m)
ETHERNET CABLING:	CAT 3, 4, or 5
ETHERNET SIGNALING:	TX+, TX-, RX+, RX- (MDI or MDI-X)
SERIAL PROPERTIES	
SERIAL INTERFACES:	1 Port RS232 and 1 Port RS485/RS422
SERIAL DATA SPEED:	300 bps to 115,200 bps
SERIAL TRANS. TYPE:	RS-485: Half-duplex, RS-232/RS-422: Full-duplex
SERIAL CONNECTOR TYPE:	RS232: DB9 Male, RS485/RS422: Position Terminal Block
SERIAL TRANS. DISTANCE:	RS-232 50 ft (15m) RS485/R422: 4000 ft (1200 m)
RS232 SIGNALING:	TX, RX, RTS, CTS, DTR, DSR, GND
RS485 SIGNALING:	D+ (A), D- (B), GND
RS422 SIGNALING	TX+, TX-, RX+ RX-, GND
DATA BIT OPTIONS	5 Bit, 6 Bit, 7 Bit, 8 Bit
PARITY BIT OPTIONS:	None, Even, Odd, Space, Mark
FIOW CONTROL	None, RTS/CTS (Hardware) or XON/XOFF (Software)
MAX # OF CONNECTIONS:	RS485/RS422 32 Connection Nodes
DIRECTION CONTROL:	Auto Sensing / Auto Turnaround
ELECTRICAL	
POWER SOURCE:	9-48 VDC
DC/AC POWER ADAPTER:	Included 12VDC / (100 – 240VAC 50/60hz) US Type A Plug) 1 A
POWER CONSUMPTION	Approximately 1.4 Watts
LAN STATIC PROTECTION:	1.5KV Electric Static Discharge (ESD) Protection
SERIAL STATIC PROTECTION	15KV ESD Protection
SURGE PROTECTION:	600 W/ Surge Protection
MECHANICAL	
HOUSING:	Heavy Duty Steel Housing
DIN RAIL:	Optional DIN Rail Mounts
WEIGHT:	18.70 oz (530.0 grams)
DIMENSIONS:	3.94" X 2.70" X 0.87" (100 mm X 69 mm X 22 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

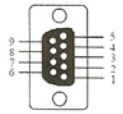
ETHERNET RJ45 PIN ASSIGNMENT:

PIN NUMBER	MDI SIGNAL	MDI-X SIGNAL
1	TX+	RX+
2	TX-	RX-
3	RX+	TX+
6	RX-	TX-
4	Not Connected	Not Connected
5	Not Connected	Not Connected
7	Not Connected	Not Connected
8	Not Connected	Not Connected

RS232 SIDE – DB9 MALE PIN ASSIGNMENT

MALE DB9

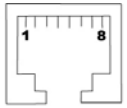
SIGNAL	NC	RxD	TxD	DTR	GND	DSR	RTS	CTS
PIN #	1,9	2	3	4	5	6	7	8



FEM. RJ45

RS485/RS422 TERMINAL PIN ASSIGNMENT

RS-485	D+	D-	GND		
RS-422	TX+	TX-	GND	RX+	RX-
PIN #	1	2	3	4	5



INDICATOR LED TABLE:

LED	STATE	INDICATION
POWER	OFF	Power Off
	SOLID	Power On
Link/ACT	OFF	No Network Connectivity
	SOLID	Network Connectivity
Rx/Tx	OFF	No Serial Transmission
	BLINKING	Serial Transmission

TROUBLESHOOTING INSTRUCTIONS:

Step-by-step troubleshooting procedures are detailed in the ETH-SER-EE9 User Manual.

APPLICATIONS:

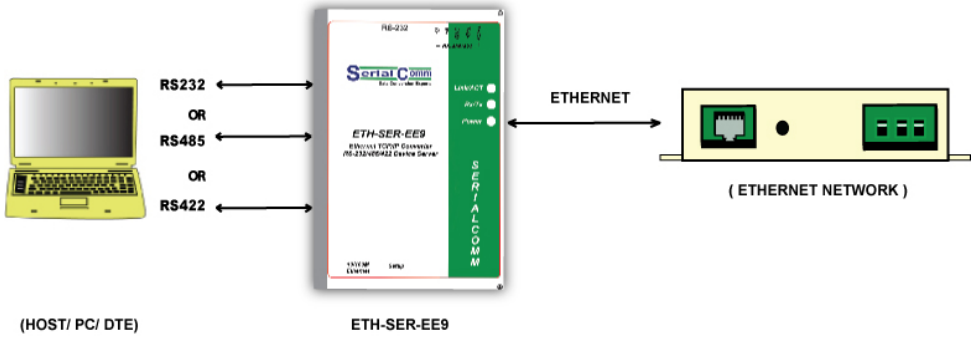


FIGURE 1– SERIAL TO ETHERNET – POINT TO POINT CONFIGURATION

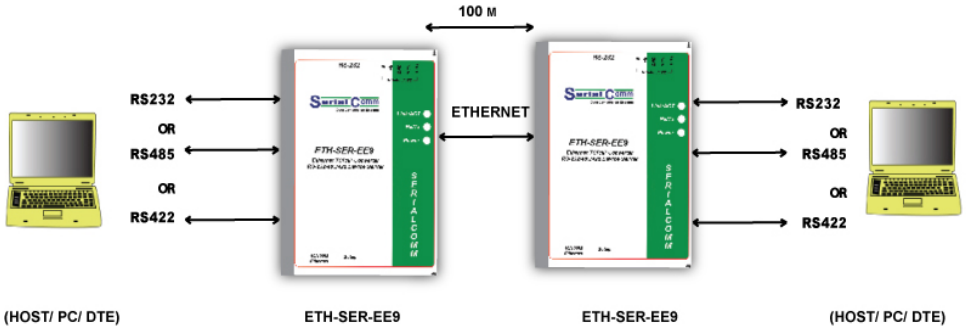


FIGURE 2 – SERIAL TO SERIAL VIA ETHERNET - POINT TO POINT CONFIGURATION

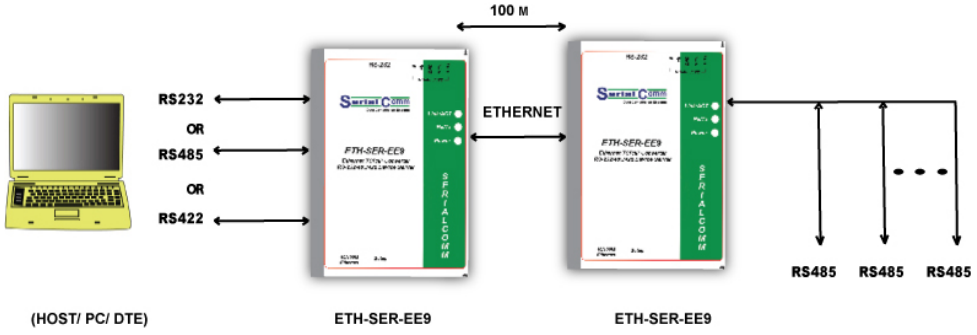


FIGURE 3 – SERIAL TO RS485 VIA ETHERNET - MASTER / SLAVE CONFIGURATION

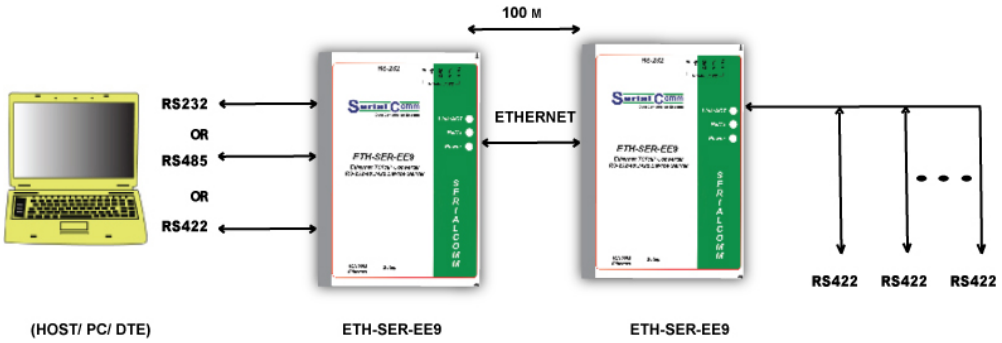


FIGURE 4 – SERIAL TO RS422 VIA ETHERNET - MASTER / SLAVE CONFIGURATION

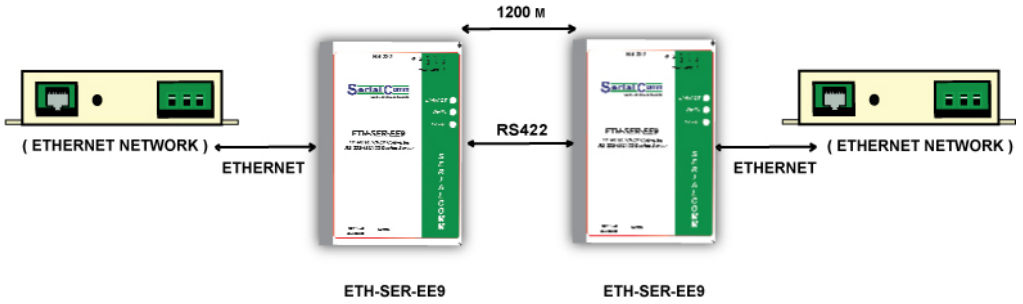


FIGURE 7 – ETHERNET TO ETHERNET VIA RS422 – POINT TO POINT CONFIGURATION

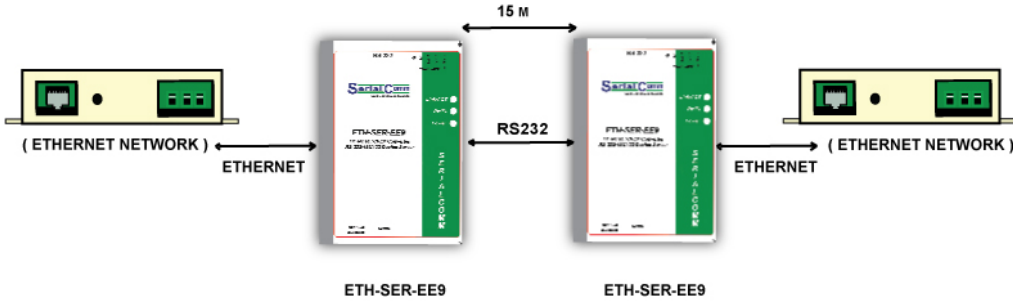


FIGURE 5 – ETHERNET TO ETHERNET VIA RS232 – POINT TO POINT CONFIGURATION

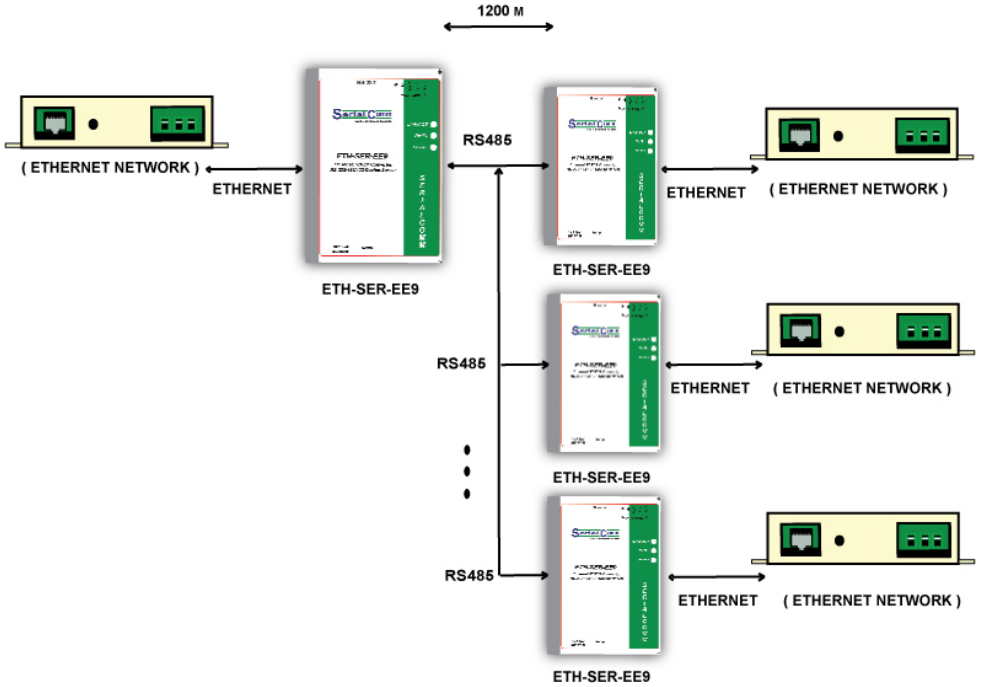


FIGURE 8 - ETHERNET TO ETHERNET VIA RS485 – MASTER / SLAVE CONFIGURATION

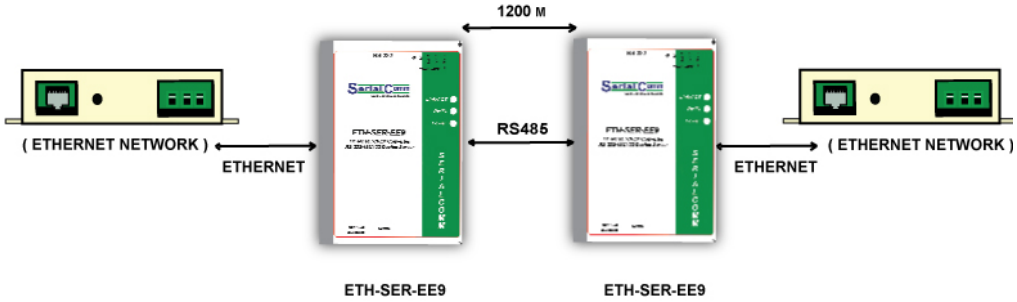


FIGURE 6 – ETHERNET TO ETHERNET VIA RS485 - POINT TO POINT CONFIGURATION

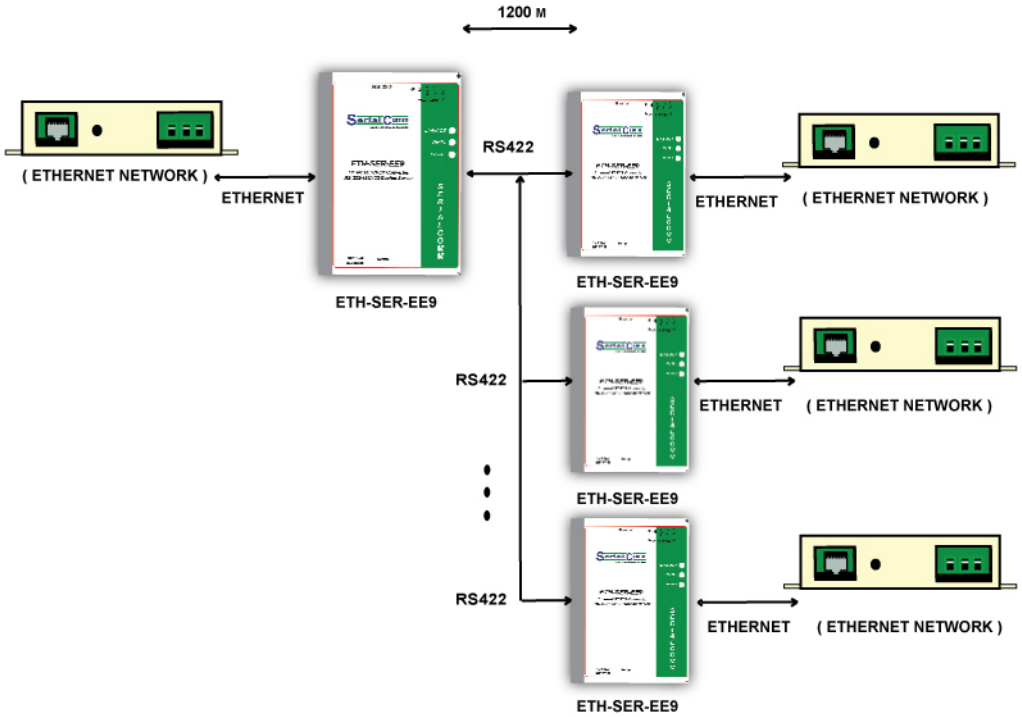


FIGURE 2.9 - ETHERNET TO ETHERNET VIA RS422 – MASTER / SLAVE CONFIGURATION