**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
- 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:**

[Certification logos]

---

**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
- **FLOW 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:

<table>
<thead>
<tr>
<th>PIN NUMBER</th>
<th>MDI SIGNAL</th>
<th>MDI-X SIGNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TX+</td>
<td>RX+</td>
</tr>
<tr>
<td>2</td>
<td>TX-</td>
<td>RX-</td>
</tr>
<tr>
<td>3</td>
<td>RX+</td>
<td>TX+</td>
</tr>
<tr>
<td>4</td>
<td>RX-</td>
<td>TX-</td>
</tr>
<tr>
<td>5</td>
<td>Not Connected</td>
<td>Not Connected</td>
</tr>
<tr>
<td>6</td>
<td>Not Connected</td>
<td>Not Connected</td>
</tr>
<tr>
<td>7</td>
<td>Not Connected</td>
<td>Not Connected</td>
</tr>
<tr>
<td>8</td>
<td>Not Connected</td>
<td>Not Connected</td>
</tr>
</tbody>
</table>

RS232 SIDE – DB9 MALE PIN ASSIGNMENT

<table>
<thead>
<tr>
<th>SIGNAL</th>
<th>NC</th>
<th>RxD</th>
<th>TxD</th>
<th>DTR</th>
<th>GND</th>
<th>DSR</th>
<th>RTS</th>
<th>CTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN #</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

RS485/RS422 TERMINAL PIN ASSIGNMENT

<table>
<thead>
<tr>
<th>RS-485</th>
<th>D+</th>
<th>D-</th>
<th>GND</th>
</tr>
</thead>
<tbody>
<tr>
<td>RS-422</td>
<td>TX+</td>
<td>TX-</td>
<td>RX+</td>
</tr>
</tbody>
</table>

| PIN # | 1 | 2 | 3 | 4 | 5 |

INDICATOR LED TABLE:

<table>
<thead>
<tr>
<th>LED</th>
<th>STATE</th>
<th>INDICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>OFF</td>
<td>Power Off</td>
</tr>
<tr>
<td>SOLID</td>
<td>Power On</td>
<td></td>
</tr>
<tr>
<td>Link/ACT</td>
<td>OFF</td>
<td>No Network Connectivity</td>
</tr>
<tr>
<td>SOLID</td>
<td>Network Connectivity</td>
<td></td>
</tr>
<tr>
<td>Rx/Tx</td>
<td>OFF</td>
<td>No Serial Transmission</td>
</tr>
<tr>
<td>BLINKING</td>
<td>Serial Transmission</td>
<td></td>
</tr>
</tbody>
</table>

TROUBLESHOOTING INSTRUCTIONS:


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

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

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

FIGURE 8 - ETHERNET TO ETHERNET VIA RS485 – MASTER / SLAVE CONFIGURATION
FIGURE 2.9 - ETHERNET TO ETHERNET VIA RS422 – MASTER / SLAVE CONFIGURATION