

## ▶▶▶ Modbus Gateways Server

Create a seamless communications bridge to legacy Modbus RS-232, RS-422 or RS-485 networks with the ESERV-M12T Modbus Gateways server from N-TRON. The serial ports can be accessed over a LAN or WAN using Direct IP Mode connections. Supporting up to 16 masters and 32 slaves, these products feature autodetecting 10/100 copper and fiber optic options. Easy-to-use software, designed for Windows 2000, 2003 Server, XP and Vista, provides Modbus messaging priority control and allows management through multiple TCP/IP client sessions. Support for serial data rates up to 230 kbps ensures maximum network flexibility. Built for industrial environments, these tough gateways are housed in a slim IP30 DIN rail mountable case. They operate with a range of DC power supply voltages and have pluggable terminal block connectors. An external power supply (sold separately) is required.

### PRODUCT FEATURES

- Ethernet Enabled Modbus RS-232/422/485
- Modbus TCP, ASCII, and RTU
- Modbus Flexibility- Serial & Ethernet, Masters & Slaves
- Modbus Messaging Priority Control
- View Messaging Status in Real Time
- Ethernet Fiber Options
- Easy Configuration Software

### Specifications

#### Serial Technology

|                   |                                      |
|-------------------|--------------------------------------|
| RS-232            | TD, RD, RTS, CTS, DTR, RSR, DTD, GND |
| RS-485 2-Wire     | Data A(-), Data B(+), GND            |
| RS-422/485 4-Wire | TDA(-), TDB(+), RDA(-), RDB(+), GND  |
| Serial Connector  | Removable Terminal Blocks            |
| Data Rate         | up to 230.4 kbps                     |

#### Network

|                   |   |
|-------------------|---|
| Serial Memory     | 8KB per port  |
| Network Memory    | 4KB   |
| IP Port Address   | 5300 - Heartbeat and configuration<br>Setting in TCP mode (paired mode)<br>8888 - ESERV-M12T Update |
| Mac Address Table | 2k  |

#### Network Communications

|     |                            |
|-----|----------------------------|
| LAN | 10/100 Mbps Auto-Detecting |
|-----|----------------------------|

#### Network Physical Layer Standards

|          |   |
|----------|---|
| Ethernet | IEEE 802.3 auto detecting & auto<br>MDI/MDX 10BaseT and 100BaseTX |
|----------|---|

#### Protocols

|  |                |
|--|----------------|
| TCP, IPv4, ARP, TELNET, HTTP 1.0,<br>ICMP/PING, DHCP/BOOTP |                |
| IP MODE  | Static, DHCP   |
| TCP  | User Definable |

#### Configuration Software

|                  |                                      |
|------------------|--------------------------------------|
| OS Compatibility | Windows 2000, 2003 Server, XP, Vista |
|------------------|--------------------------------------|



### Fiber Optic Technology

|                     |                     |
|---------------------|---------------------|
| Type/Wavelength     | Multi-mode / 1310nm |
| Output Power        | -19 to -14dBm       |
| Receive Sensitivity | ~ -32dBm            |
| Cable               | 62.5 / 125um        |
| Connector           | ST                  |
| Range               | 1.2 Miles (2km)     |

### Other

|                  |  |
|------------------|--|
| Connection Mode  | Modbus RTU Master/Slave<br>Modbus ASCII Master/Slave         |
| Search           | Serial direct COM and Ethernet<br>Auto Search or specific IP |
| Diagnostics      | Display PC IP, ping<br>save test config (text readable)      |
| Firmware Upgrade | Web GUI through Ethernet                                     |

### Power

|                    |                          |
|--------------------|--------------------------|
| Source             | External                 |
| Input Voltage      | 10 to 58 VDC             |
| Power Consumption  | 4.0 W                    |
| Power Connector    | Removable Terminal Block |
| Wire Size Accepted | 12 to 28 AWG             |

### Mechanical

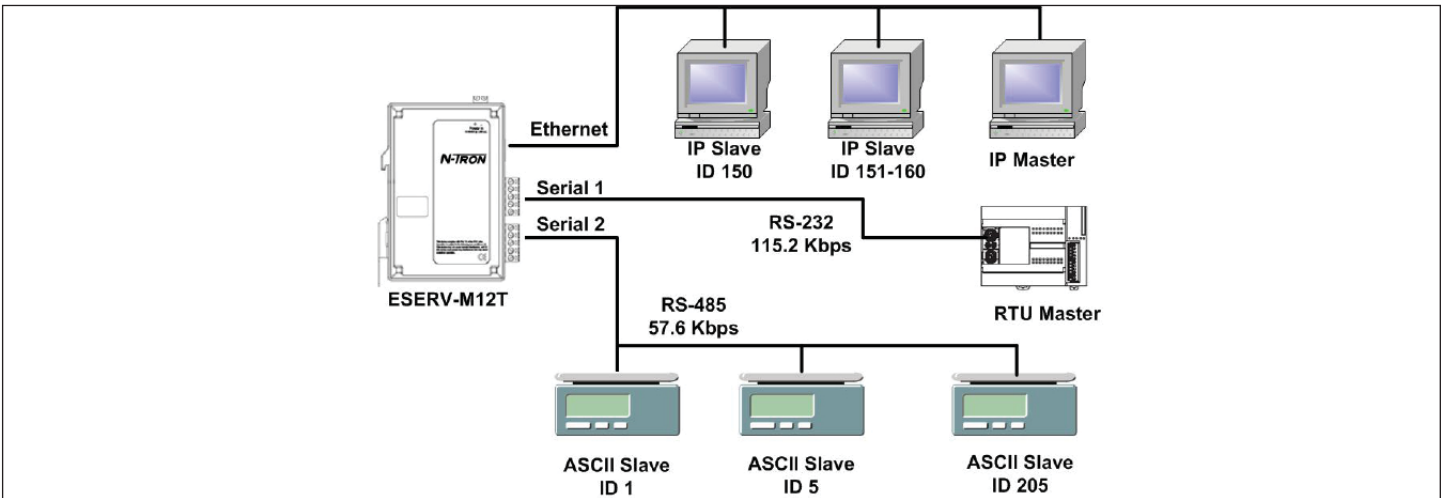
|                   |   |
|-------------------|---|
| LED Indicators    | Serial Port, Ethernet Link, Ready<br>Reset Button |
| Switches          |   |
| Dimensions        | 1.2 x 3.2 x 4.7 in (3.0 x 8.1 x 11.9 cm)          |
| Enclosure         | IP 30 Plastic, 35 mm DIN Mount                    |
| Weight            | 0.33 lbs (149.7 g)                                |
| MTBF              | 132309 hours                                      |
| MTBF Calc. Method | Parts Count Reliability Prediction                |

### Environmental

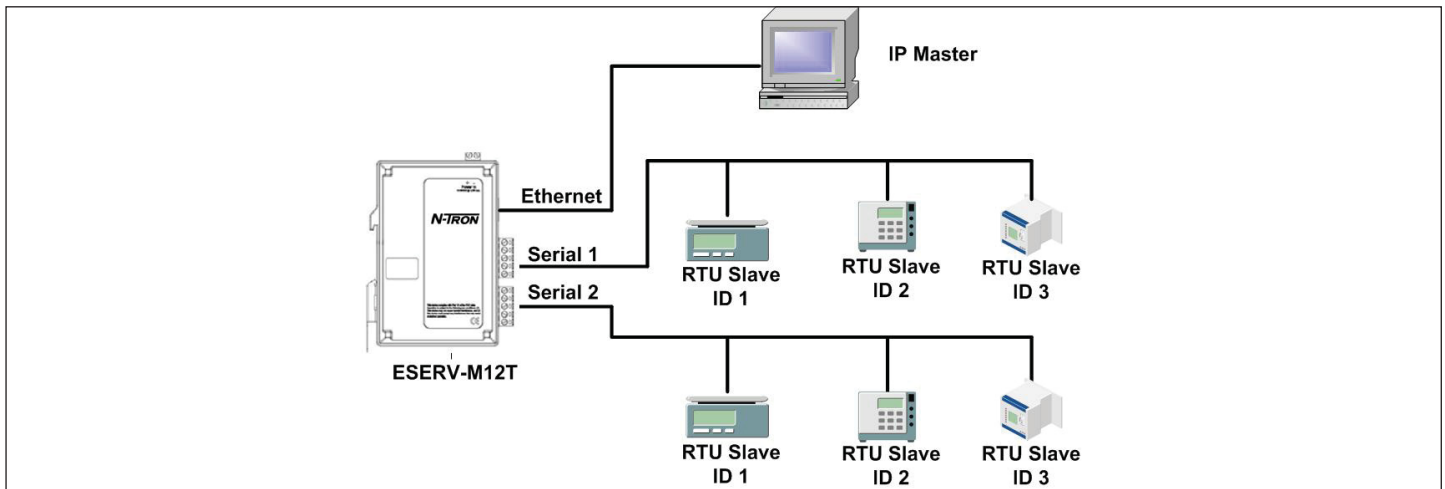
|                       |                             |
|-----------------------|-----------------------------|
| Operating Temperature | - 34 to 80°C (-29 to 176°F) |
| Storage Temp          | - 40 to 85°C (-40 to 185°F) |
| Operating Humidity    | 0 to 95% Non-condensing     |

|                             |                 |
|-----------------------------|-----------------|
| <b>Regulatory Approvals</b> | FCC, CE, UL 508 |
|-----------------------------|-----------------|

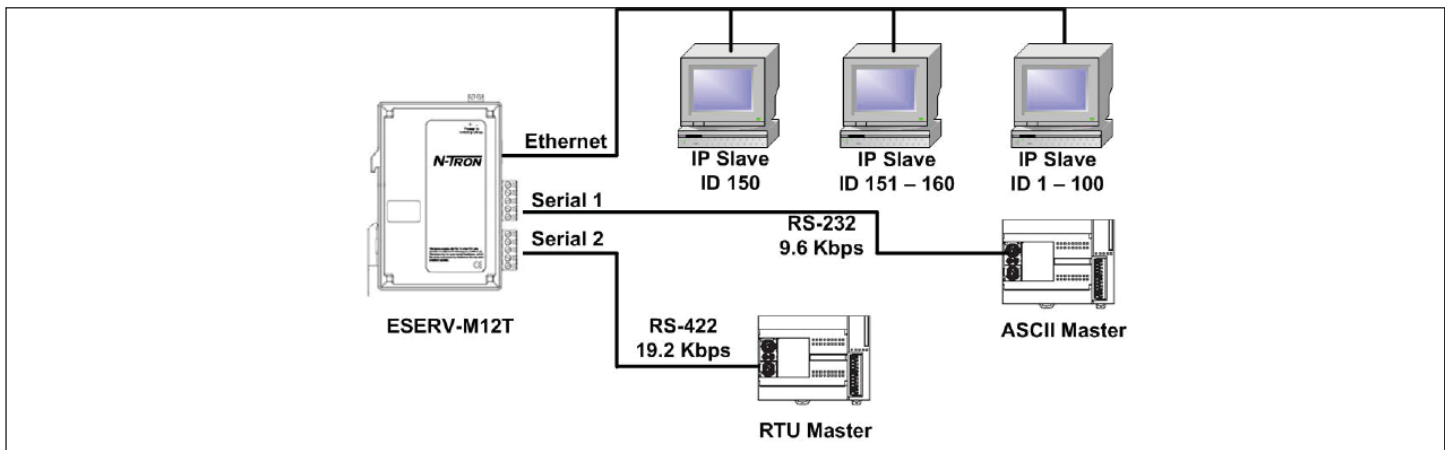
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Serial Ethernet Masters - Serial Ethernet Slaves

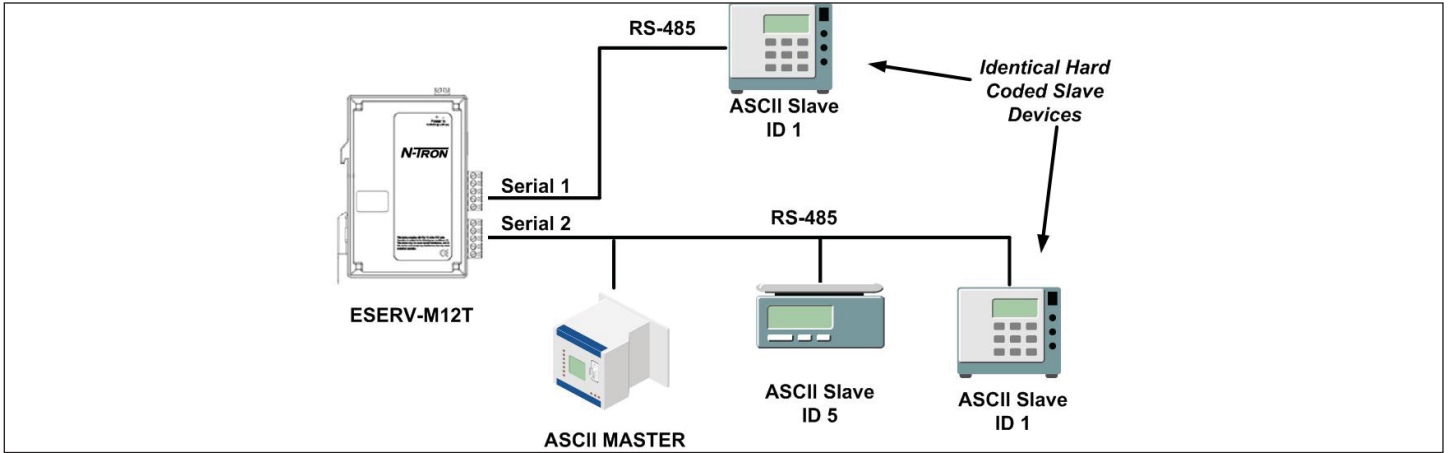


Identical Production Lines

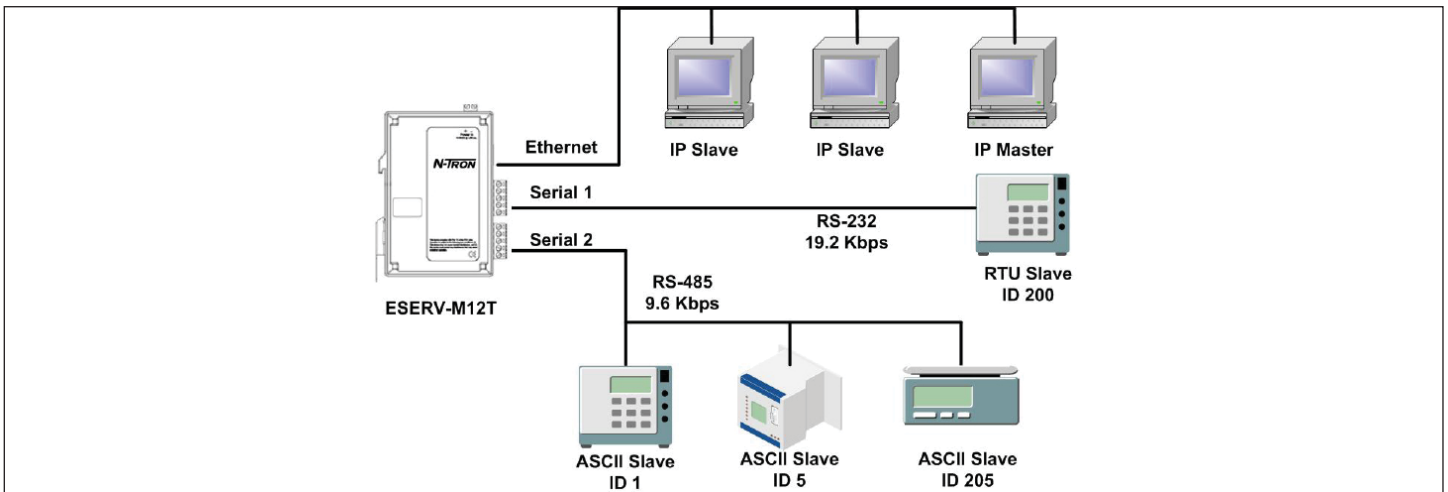


Serial Master - IP Slaves

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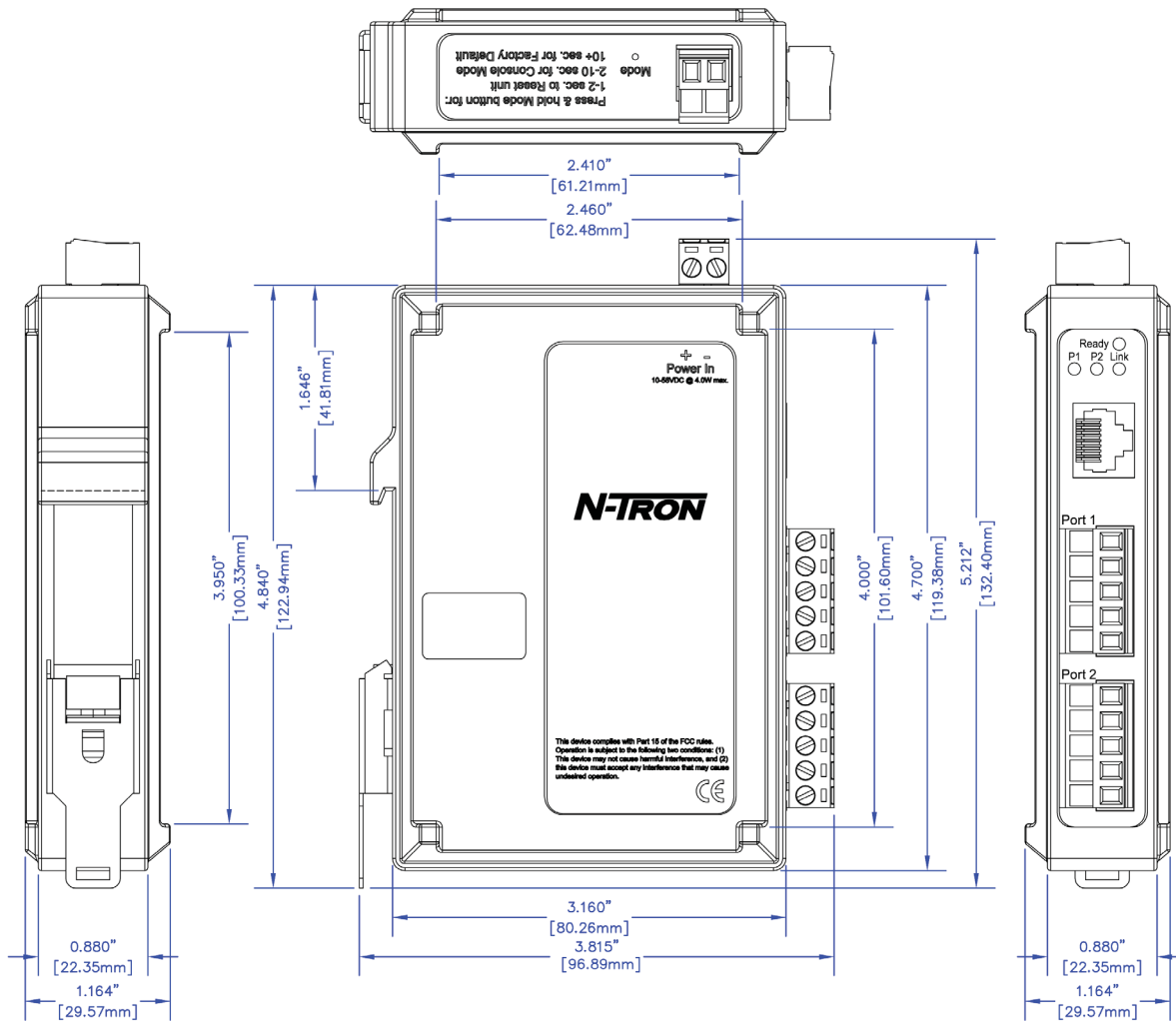


Identical Hard Coded Slaves



Ethernet Master with Serial Slaves

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## Ordering Information

|               |   |
|---------------|---|
| ESERV-M12T    | Modbus Ethernet to Serial Gateway with (2) Serial ports (TB connectors); (1) Ethernet port (RJ-45)                              |
| ESERV-M12T-ST | Modbus Ethernet to Serial Gateway with (2) Serial ports (TB connectors); (1) Ethernet Multimode Fiber port (ST style connector) |
| NTPS-24-1.3   | N-Tron Power Supply 1.2 Amp @ 24VDC   |



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