Montgomery Technology Incorporated

Simple, Reliable and Cost Effective Technology

MTI Embedded Controller
Part Number 91795

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DESCRIPTION

The 91795 Embedded Controller builds on MTI's proven PLC2000 series controller platform. The Embedded Controller was designed with large, distributed systems in mind while maintaining MTI's cost effectiveness for systems of all sizes. All communications are performed over the Ethernet port which allows the 91795 to be located anywhere on the control network. This provides great flexibility in system design and implementation. The Embedded Controller supports up to sixty-four processors. Each processor can control up to sixty-four I/O points which means that the 91795 can support up to 4,096 I/O points. The 91795 is configured using MTI PLC Software or the web browser interface.

The controller can perform 100+ predefined functions as single line instructions. The controller allows for script language programming for special functions. The operating system is stored in flash memory for easy programming. The Embedded Controller communicates with the MTI 91620 data loop converter to provide control of all MTI data loop devices. The 91795 also communicates with the MTI 81750 Decoder Board which provides Ethernet communications directly from the 91795 to the I/O termination boards. All control communications have the option of full encryption through the use of Secure Socket Layer (SSL) protocol. This protocol provides a standards-based method of encryption with low overhead and latency. All networked components of the MTI control system can be configured to utilize this protocol for communications.
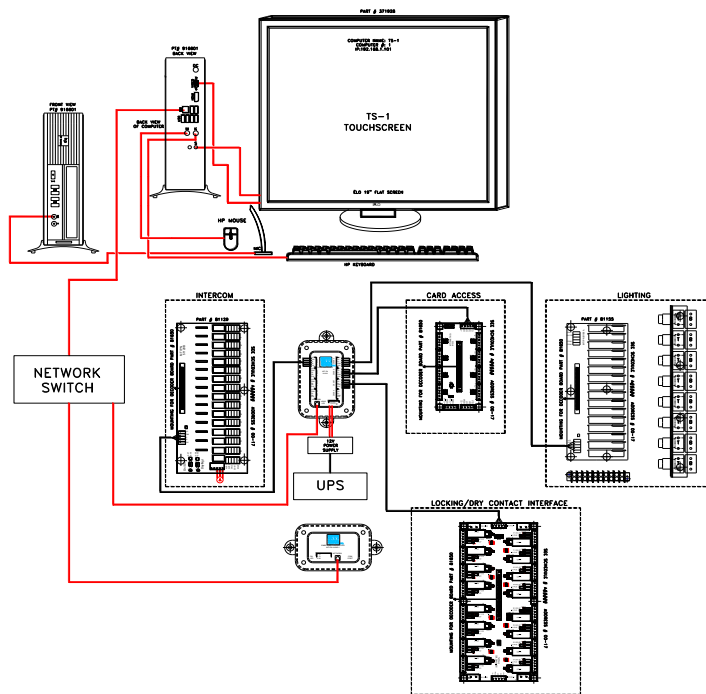
Figure 1: Sample MTI control system using a 91795 Embedded Controller. (system using 81750 decoder boards not shown)
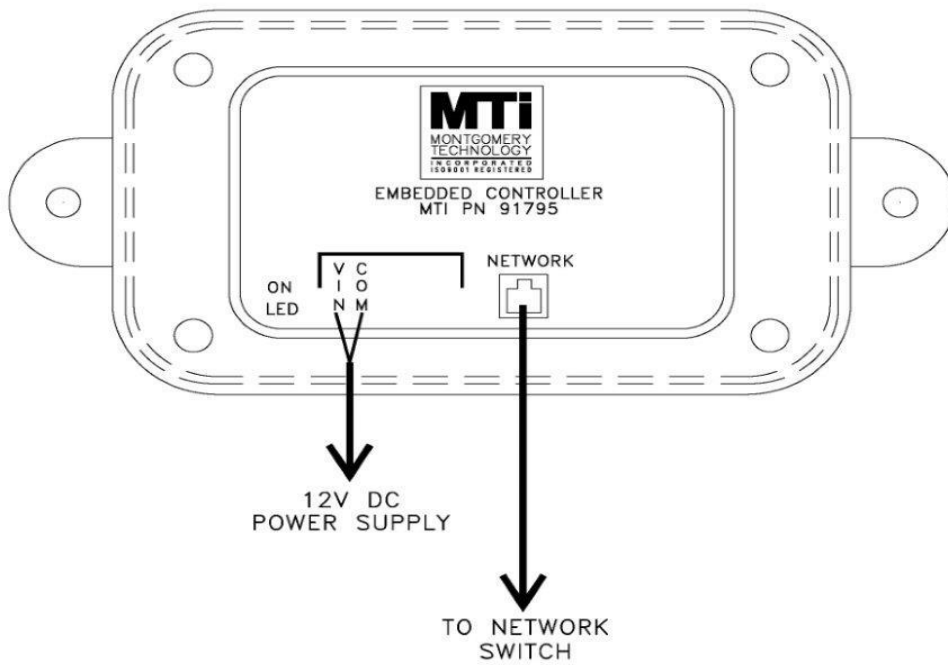
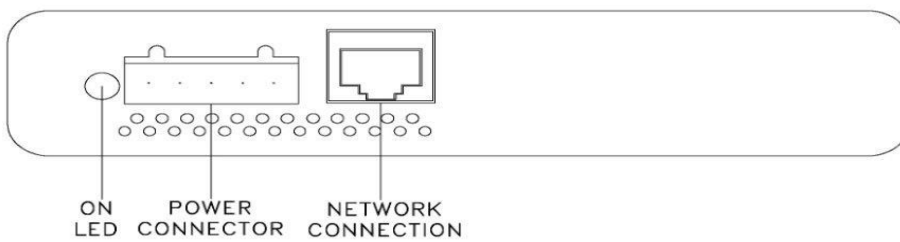Figure 2: 91795 Embedded Controller Connections - Top View

Figure 3: 91795 Embedded Controller – Front View

CONNECTING TO THE NETWORK

The 91795 Embedded Controller supports a 100 Mbps network connection.

1. Connect a Cat5e (or better) unshielded twisted pair (UTP) cable and connector to the RJ-45 connector on the 91795.
2. Connect the other end of the UTP cable to an available port on a 10/100 (minimum) compatible network switch.

CONNECTING POWER

The 91795 Embedded Controller requires a connection to a 12V DC power supply which is capable of supplying 2 A of current. The 91795 should be connected to the 12V DC power supply using a minimum of 14 gauge copper conductors. MTI recommends that the 12V DC power supply be connected to an uninterruptible power supply (UPS).

To connect power:

1. Connect two power conductors to pin 1 and 2 of the power connector.
2. Connect the other end of the two power conductors to the appropriate power source.

You will also need the following:

- MTI-approved Firefly technician
- Power Source (12V DC). For UL294 listed applications, the power supply must be located immediately adjacent to the panel enclosure.
- Hand tools and two screws to mount the 91795 in the cabinet/rack
- Access to a 10/100 (minimum) network

PARTS LIST

Qty	Description
1	MTI 91795 Embedded Controller
1	91795 Installation Manual (MTI DOC 91795-A1)
1	Product Serial Number Label (attached to the back of the unit)

PRODUCT SERIAL NUMBER LABEL PLACEMENT

The product serial number label helps identify your 91795 Embedded Controller in the event that your 91795 requires service. The serial number label is located on the back of the 91795.

The 91795 Embedded Controller can be mounted to any back plate in a cabinet or rack. In certain job specific cases, MTI will ship the 91795 already mounted to the back plate. This is job specific and must be specified at the time the order is placed with MTI.

To install the 91795 to a back plate:

1. Position the 91795 on the back plate at the desired location. Make sure that the 91795 is positioned so that the lettering on the unit are legible and the tabs are to the left and right.
2. Mark the holes in the mounting tabs using a permanent marker.
3. Pre-drill the holes with an appropriately sized drill bit.
4. Mount the 91795 to the back plate using two screws.

The 91795 should be installed in accordance with the National Electric Code, ANSI/NFPA 70 and the local authority having jurisdiction.

STARTUP

To start the 91795 Embedded Controller:

1. Make all required connections as discussed in the Product Overview section.
2. Turn on the 12V DC power supply which is supplying power to the 91795.
3. Check the indicators:
    a. The red "Run" LED on the front of the 91795 should blink on and off once a second.
    b. The LEDs on the network jack should indicate network connection status and activity.
4. If this is a new installation, refer to the MTI PLC Software.NET Operator Manual for instructions on how to configure the 91795.

SYSTEM

Processor Speed	1 GHz
RAM	128 MB
Flash	128 MB

NETWORK

Interface	10/100 Ethernet RJ-45 port (100Base-T)

LED INDICATIONS

Run Mode	Red (blinks on and off once a second)
Network Activity	Green
Network Status	Amber

POWER

Power Input	12V DC (+/- 5%)
Power Supply	External
Power Consumption	2A @ 12VDC (maximum)
Cable Type	14 gauge copper pair (minimum)

ENVIRONMENTAL

Operating Temperature	32° to 120°F
Storage Temperature	-40° to 149°F
Operating Humidity	20% to 85%, noncondensing
Maximum Humidity Gradient	10% per hour
Operating Altitude	-50 to 10,000 ft (not verified by UL)

PHYSICAL

Construction	UL94V-O Flame Retardant ABS
Finish	Black
Dimensions	5.625"Lx3.25"Wx1.375"D
Mounting	Back Plate (2 screws)
Unit Weight	0.5 lb

MTI DOC 91795-A1