EMU Mini Module Installation Sheet

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Thames Valley Controls

EMU Mini Module TVL 367
ISSUE 4

Precautions

The module must be mounted in the panel or suitable protective box. Observe normal precautions for handling electronic devices, avoid static electricity, dampness and extreme temperatures. Please read this instruction sheet fully before use.

EMU Mini Module

The EMU Mini Module is designed to be mounted within the controller panel. It is used to monitor and report controller signals to the CMS monitoring system. The unit has a built in 3-axis accelerometer, temperature and humidity sensor for environmental monitoring, so must be mounted securely to avoid false triggering of the accelerometer. I/O includes:- 1 x volt free relay output, 1 x 24V d.c. feature inputs. 4 x 24V to 240V a.c./d.c. inputs for signal monitoring. These can be configured via the CMS system. Please consult main drawings for contract specific wiring and setup.

Specification

Supply Voltage	12V d.c.
Board Operating Current	240mA
Max Input Voltage (FI1, BAT)	12V d.c. (triggers at 8V)
Max Input Voltage MI1-MI4	240V a.c./d.c.
Min Input Voltage MI1-MI4	24V a.c./d.c.
Max Output Current Feature Outputs	500mA @ 24V d.c. (FO1)
Output Short Circuit Protection	Yes
Serial Connections	Ethernet
	USB (device) For programming, used for TVC factory setup only (J4)
Dimensions (in DIN carrier)	105 x 90 x 60mm
Standards	EN81-20/50 (EN81-1/2)
Operating Temperature	0 ºC to +40 ºC
Humidity Operating Range	0 - 90% relative humidity (non-condensing)
IP Rating	IP2X

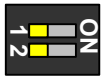
DIP Settings

SW1 Upper Board

DIP	Name
1	Reserved
2	Spare
3	Spare
4	Test

DIP 1 to 4 must be OFF for normal operation.

SW1 Lower Board



DIP	Name
1	CAN Term
2	CAN Term

DIPs 1 and 2 on for CAN termination
These should only be set on the last node in the network.

Jumper / Reset Switch

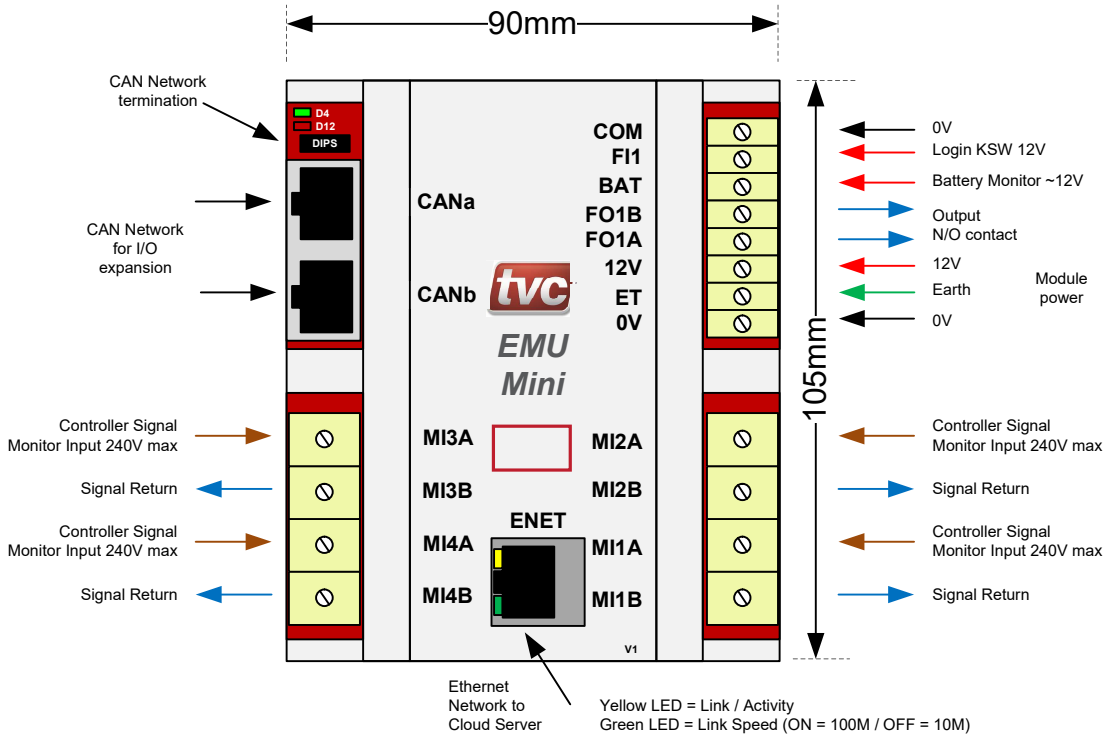
SW2	Reset Switch press to reset	board.
SW3	Place Jumper in the 1-2	position for normal operation, 2-3 for programming.
SW4	Place Jumper in the 1-2	position for debugging, 2-3 for SD card access.

Loop and Fault LED's

The Green (D4 lower board) and Yellow (D1 upper board) LEDs will flash every 1 second to signify power to node and that the node is running.
The Red LED (D12 lower board) will light continuously for 4 seconds when the node is first powered up. After this point the red LED signifies various fault codes. The LED will do a quick flash every 4 seconds if the node has a fault.

1 flash every 4 secs = Node not communicating with expansion module.
2 flashes every 4secs = Node is experiencing CAN / RS232 data bus faults.
3 flashes every 4 secs = Node has stopped transmitting due to CAN / RS232 bus faults.
4 flashes every 4 secs = Node has stopped transmitting or receiving from the CAN / RS232 data bus.
5 flashes every 4 secs = Node has stopped transmitting or receiving from the ethernet network.

Typical Wiring and Dimensions of EMU Mini Module



Input Voltage Selection Links

The 4 signal monitoring inputs can be configured to monitor different voltages. Make sure the links are in the correct positions before applying voltages to the inputs or they may be damaged.

The links can be accessed by removing the bottom plastic cover and easing out the base board. Make sure the ribbon connection the top board is not un-plugged or damaged.

Using the table to the right select the voltage and populate the correct links to suit the input voltage.

Red / Black = link fitted.

Note with all links fitted max input voltage = 50V

With all links removed max voltage = 240V.