INSTALLATION GUIDE

Maxiflex T2 CPU
M1241B

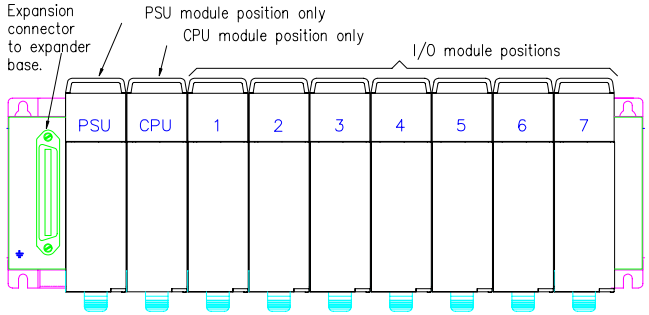
Introduction

This Installation Guide is intended to aid the fitment of the M1241B in the field. For operating details of this product, refer to the Users' Manual. Please read this Installation Guide ***first*** *before installing this unit.*

The M1241B CPU is a programmable CPU which controls the Maxiflex System. It is always fitted to second slot of a Maxiflex master base, next to the PSU module. See figure 1. It has one port which is a configurable serial port. This port has a DIP switch for address and parameter settings. See figure 2.

The CPU will be running either a user developed programme using the EziForth programming language or is preloaded with an application from Omniflex. (RAM is battery backed so that application program variables are not lost on power down, the battery will be connected if you have an Omniflex application loaded already. If you are starting with a fresh CPU from stock the battery will need to be connected – see Installation procedure following.)

Figure 1 : Module Positions



Note: The exact position of the I/O module will depend on the system configuration.

Hardware Installation Procedure

1. Connect up internal battery (see Figure 3 Link 1).
2. If the CPU is going to be programmed use Programming port cable M1831 which is available as an accessory (Model No. M1831).
3. Plug the CPU into the required slot (as per Figure 1).

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Figure 2: Front Panel Layout of M1241B

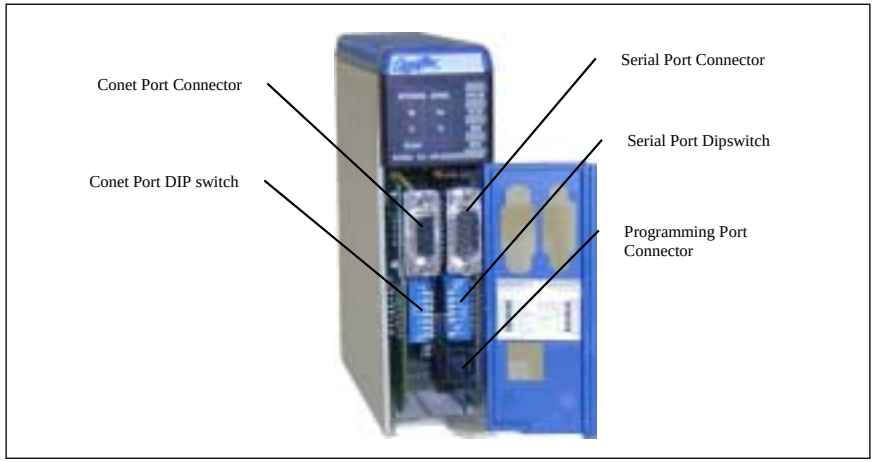

Table 1: T2 C CPU Front Panel Diagnostics

LED Legend	LED Colour	Description
CPU OK	Green	ON - CPU is healthy OFF or Flashing – No power applied or CPU Faulty
I/O OK	Green	ON - I/O Module status healthy and I/O Manifest is configured. FLASHING – I/O Manifest is configured but disagrees with installed hardware. OFF – I/O Manifest is not configured.
RUN	Green	ON – user application software is running OFF – No user application software is running Flashing – Terminal interaction with CPU
BATT	RED	ON – Internal battery is LOW or not connected. OFF – Internal battery is good.
SERIAL Rx	YELLOW	ON – data is being received on serial port OFF – serial port receiver is idle
SERIAL Tx	RED	ON – serial data is being transmitted on serial port OFF – serial port transmitter is idle
NETWORK Rx	YELLOW	ON – network data is being received OFF – network receiver is idle
NETWORK Tx	RED	ON – network data is being transmitted OFF – network transmitter is idle
NETWORK TOKEN	GREEN	ON – network not connected or setup incorrectly OFF – network not connected or setup incorrectly FLASHING EVENLY – network is connected

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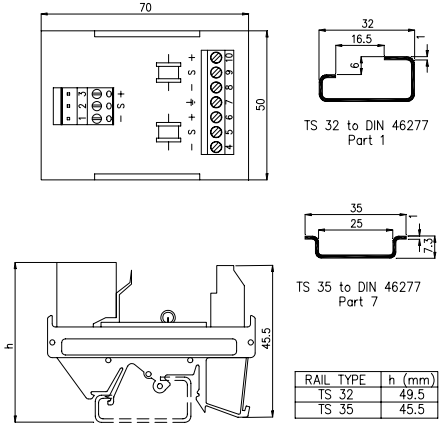
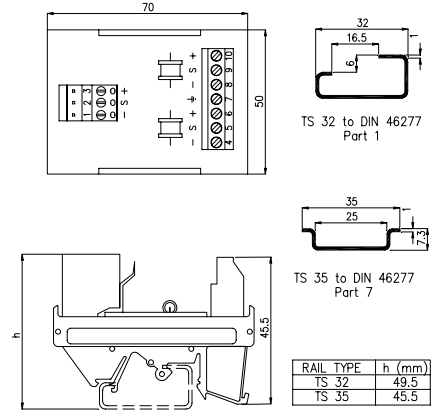
Figure 4: Conet Termination Board Model C6169



RAIL TYPE	h (mm)
TS 32	49.5
TS 35	45.5

Figure 5: Conet Connections



RAIL TYPE	h (mm)
TS 32	49.5
TS 35	45.5

Figure 3: Battery Backup Link

Before installing the CPU, the battery jumper must be inserted to connect the internal battery supply in the CPU. The CPU is usually shipped from the factory without the jumper connected. Use long nose pliers or tweezers to correctly place the jumper over the posts. The battery jumper can be found at the base of the Maxiflex Bus connector at the rear of the CPU.

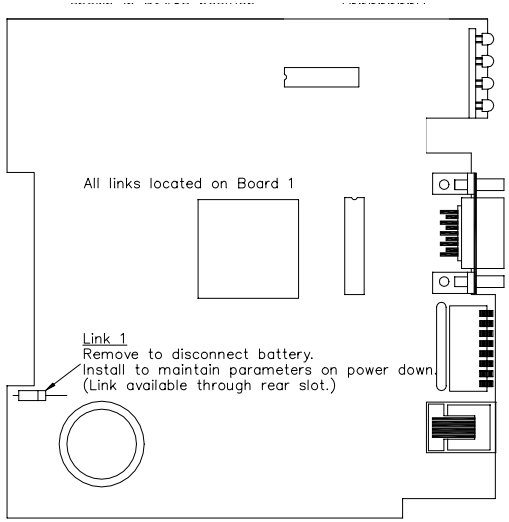


Table 2: Programming Port Pinout

Signal Name	DB-9	FCC-68 Pin No.
Rx Data from T2	2	4
Tx Data to T2	3	1
Ground Reference	5	2
All other pins are reserved and must not be connected.		

NOTE: This information is only necessary if you are making up your own programming cable. If you are using a M1831 Programming port cable, simply connect the programming cable between the CPU and PC as per the connectors of the programming cable.

Table 3: Switch 1 Set-up (Serial Port)

Communications Protocol	Serial Port Dipswitch setting
Modbus Protocol (Slave device): Transmission Mode: ASCII Baud rate: 9600 Data bits: 7 Parity: none Stop bits: 1 Address: see dipswitch	Switches 1-5: Modbus Slave ID Switches 6-8: Protocol Switch 8 ON = Modbus default 
Conet/s Protocol Transmission Mode: RTU Baud rate: 19200 Data bits: 8 Parity: none Stop bits: 1 Address: see dipswitch	Switches 1-5: Conet/s ID Switches 6-8: Protocol Switch 7 ON = Conet/s default 

The default operation is to use the serial port for standard communications allowing the user to get the CPU up and running quickly and easily both on the test bench and in the field. In this case the Serial Port Dipswitch beneath the male, sub-miniature DB-9 connector has the above default configurations. The serial port is also software configurable using the DITView utility or application program, but when switch 7or 8 of the dipswitch is turned ON, then the dipswitch setting overrides the software configuration. *To restore the settings to the software configuration, simply set switch 7 or 8 of the dipswitch OFF.*

Table 4: Serial Port Pinout

The M1241B T2 C CPU allows jumperless conversion between RS232 and RS485 communications. By simply following the appropriate pinout of the serial port connector below it is possible to connect the CPU in either mode without making any hardware or software changes to the CPU.

Pin number	Communication Standard	
	RS232	**RS485**
1	Do not connect	Rx Data + (In)
2	Rx Data (In)	Rx Data – (In)
3	Tx Data (Out)	Do not connect
4	Do not connect	Tx Data+ (Out)
5	Ground	Ground
6	Do not connect	Vcc
7	RTS (Out)	Do not connect
8	CTS (In)	Do not connect
9	Do not connect	Tx Data – (Out)

Conet Pin Connections to DB9 on CPU Front

Pin Number	Description
1,3,4,6,7 and 9	**No Connection**
2	Signal +
5	Screen
8	Signal -

Switch 2 Set-up Conet node ID - SW2-1 to SW2-7

Each device on the same Conet network is given a unique identity number known as the node ID. The node ID starts from 1 for the first device (node) and increments by one for each node on the Conet network up to a maximum of 127. The node ID is set in binary with SW2-7 the MSB (Most Significant Bit).e.g. Node 5 =1010000. Table below shows node address of 2. (0100000)

Communications Protocol	Dipswitch setting
Conet (Normal mode): Baud rate: 62 500	Switches 1-7: Conet ID Switch 8: Baud Rate Switch 8 OFF = 62.6 kbaud 
Conet (Slow mode): Baud rate: 7800	Switches 1-7: Conet ID Switch 8: Baud Rate Switch 8 ON = 7.8 kbaud 

Conet Baud Rate – SW2-8

This switch is used to set the Conet Baud Rate. Two options are available :- Normal Mode N = 62,5kbaud and Slow Mode S = 7,8kbaud.

Conet node connection C6169 Conet Terminators

To connect the M1241B to the Conet data highway the CONET termination board is used to tee off from the network to the CPU. Figure 5 shows the connection for the termination board. If the line is to be terminated, a resistance equivalent to the characteristic line impedance is fitted between terminals 8 and 10 or 4 and 6 depending on which terminals the transmission line is connected to. The network must only be terminated the ends: at the first node and at the last node. The Conet connection to the CPU is made to terminals 1 and 3 on the termination board.