**Introduction**

This Installation Guide is intended to aid the fitment of the M1261E CPU 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 Maxiflex P3 CPU is designed specifically for applications requiring PLC programming, offering industry standard IEC61131 programming capabilities combined with powerful industrial network communications features.

It is always fitted into the CPU 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.

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.

Figure 1 : Module Positions
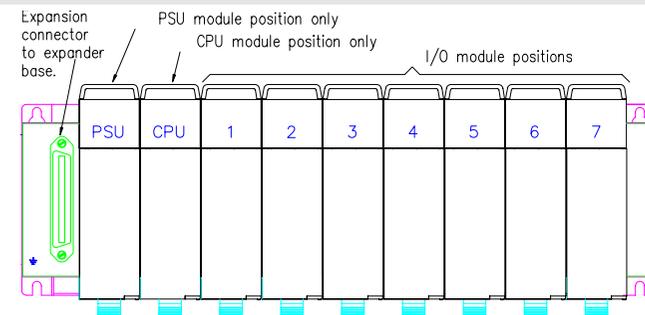
Note: The exact position of the I/O module will depend on the system configuration.

Hardware Installation Procedure

1. If the BATTERY is required then connect jumper located in the front of the module, just above the DB-9 serial port connector. Remove paper strip which says PULL TO CONNECT BATTERY. The Real time clock must then be set.
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 CPU slot (as per Figure 1).

Software Requirements

Omniset is the PC utility that is used to configure the unit.

Cofiguring the Realtime Clock(RTC)
1. Assemble the Maxiflex base as shown in Figure 1 with the M1261E fitted into the CPU slot and a suitable Maxiflex PSU in the PSU slot
2. Connect power to your system.
3. Connect the M1831 programming cable between the COM port of your PC/laptop and the programming port of the Maxiflex CPU.
4. Open Omniset and click on File->Connect->Maxiflex CPU TAB.

Select the GROUP Configuration->Ports->Realtime Data->Date/Time which is found in the left hand pane. Change the RTC settings by pointing the mouse to the ITEM you wish to change and clicking on the right mouse button and selecting the New Value option that pops up. Enter you new setting when prompted. Refer to screen grab below.
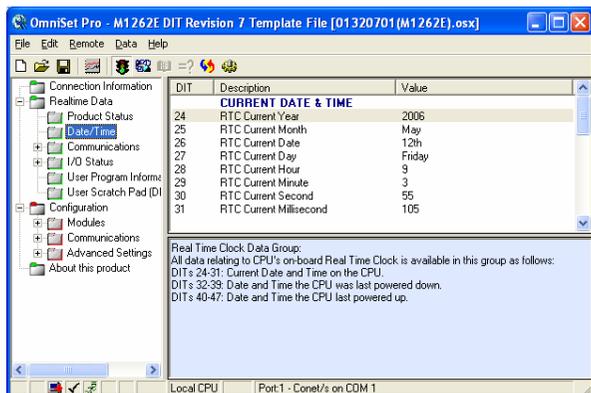

Table 1: P3 CPU Front Panel Diagnostics

| 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

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 M1261E to the Conet data highway the CONET termination board is used to tee off from the network to the CPU. Figure 4 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.

Figure 4: Conet Termination Board Model C6169
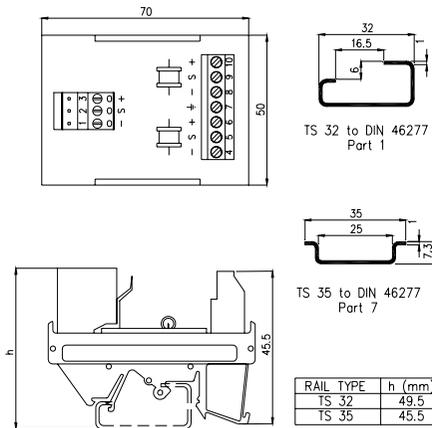
NETWORK Tx	RED	ON – network data is being transmitted
		OFF – network transmitter is idle
NETWORK TOKEN	GREEN	ON – network not connected or setup incorrectly
		OFF – network not connected or setup incorrectly
		FLASHING EVENLY – network is connected

Table 2: Programming Port Pinout

Signal Name	DB-9	FCC-68 Pin No.
Rx Data from P3	2	4
Tx Data to P3	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

Modbus Protocol (Slave device):
Transmission Mode: ASCII
Baud rate: 9600
Data bits: 7
Parity: none
Stop bits: 1
Address: see dipswitch

Conet/s Protocol
Transmission Mode: RTU
Baud rate: 19200
Data bits: 8
Parity: none
Stop bits: 1
Address: see dipswitch

Serial Port Dipswitch setting

Switches 1-5: Modbus ID
Switches 6-8: Protocol
Switch 8 ON = Modbus default
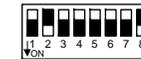
Switches 1-5: Conet ID
Switches 6-8: Protocol
Switch 7 ON = Conet/s default

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 Omniset 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 M1261E P3c 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)

Serial Port Default Settings
1. The default Protocol is Conet/s.
2. The default Baud Rate is 19200.
3. The default Data Bits is 8.
4. The default Parity is None.
5. The default Stop bits is 1 Stop Bit.
6. The default DTR/CTS Handshaking is Off.
7. The default DTR/CTS Timeout (ms) is 0.

Changing Serial Port Settings
1. Assemble the Maxiflex base as shown in Figure 1 with the M1261E fitted into the CPU slot and a suitable Maxiflex PSU in the PSU slot
2. Connect power to your system.
3. Connect the M1831 programming cable between the COM port of your PC/laptop and the programming port of the Maxiflex CPU.
4. Open Omniset and click on File->Connect->Maxiflex CPU TAB.
Select the GROUP Configuration->Ports->Serial Port which is found in the left hand pane.
Change your Serial Port settings by pointing the mouse to the ITEM you wish to change and clicking on the right mouse button and selecting the New Value option that pops up. Enter you new setting when prompted. Refer to screen grab below.
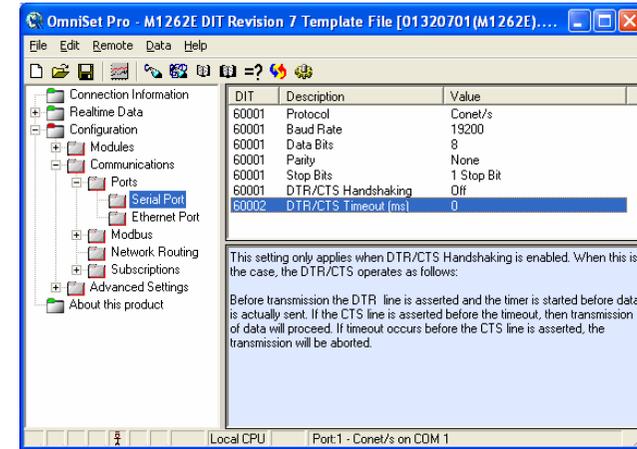
Conet Pin Connections to DB9 on CPU Front

Pin Number	Description
1,3,4,6,7 and 9	**No Connection**
2	Signal +
5	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)
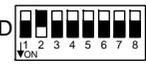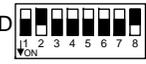
Communications Protocol	Dipswitch setting
Conet (Normal mode): Baud rate: 62 500	Switches 1-7: Conet ID Switch 8: Baud Rate Switch 8 OFF = 62.6 kbaud
Conet (Slow mode): Baud rate: 7800	Switches 1-7: Conet ID Switch 8: Baud Rate Switch 8 ON = 7.8 kbaud