



INSTALLATION GUIDE

MAXIFLEX 1000 SERIES

Power Supply – 24Vdc I/P + Logic

Model No: M1102B

General Description

The Maxiflex M1102B Power Supply module provides maximum output power for other Maxiflex modules via the Maxiflex base (+12V dc at 2A and +5V logic at 5A). A +5V dc pre-charge supply is also provided on the base to allow insertion and removal of other modules while the system is live.

The M1102B can be used with any Maxiflex base except the M1031A 5 I/O Expander Base which does not require a power supply.

The M1102B is a 50W power supply with an input of 20V to 36V dc. The output power is split between the +12V (on the base) and the +5V (on the base), and will cater for a fully populated Maxiflex base under worst case conditions.

All connections to the module are made via the screw terminals located behind the door on the front of the module. These terminals are removable for maintenance purposes, without disturbing the field wiring.

The M1102B generates “PFail” status signal (active low) which indicates to the CPU that the input voltage has fallen below a preset level (18,5V).

When the input supply rises above 19,5V dc (as compared to 18,5 for failure), all signals will return automatically to their normal state prior to DC supply failure.

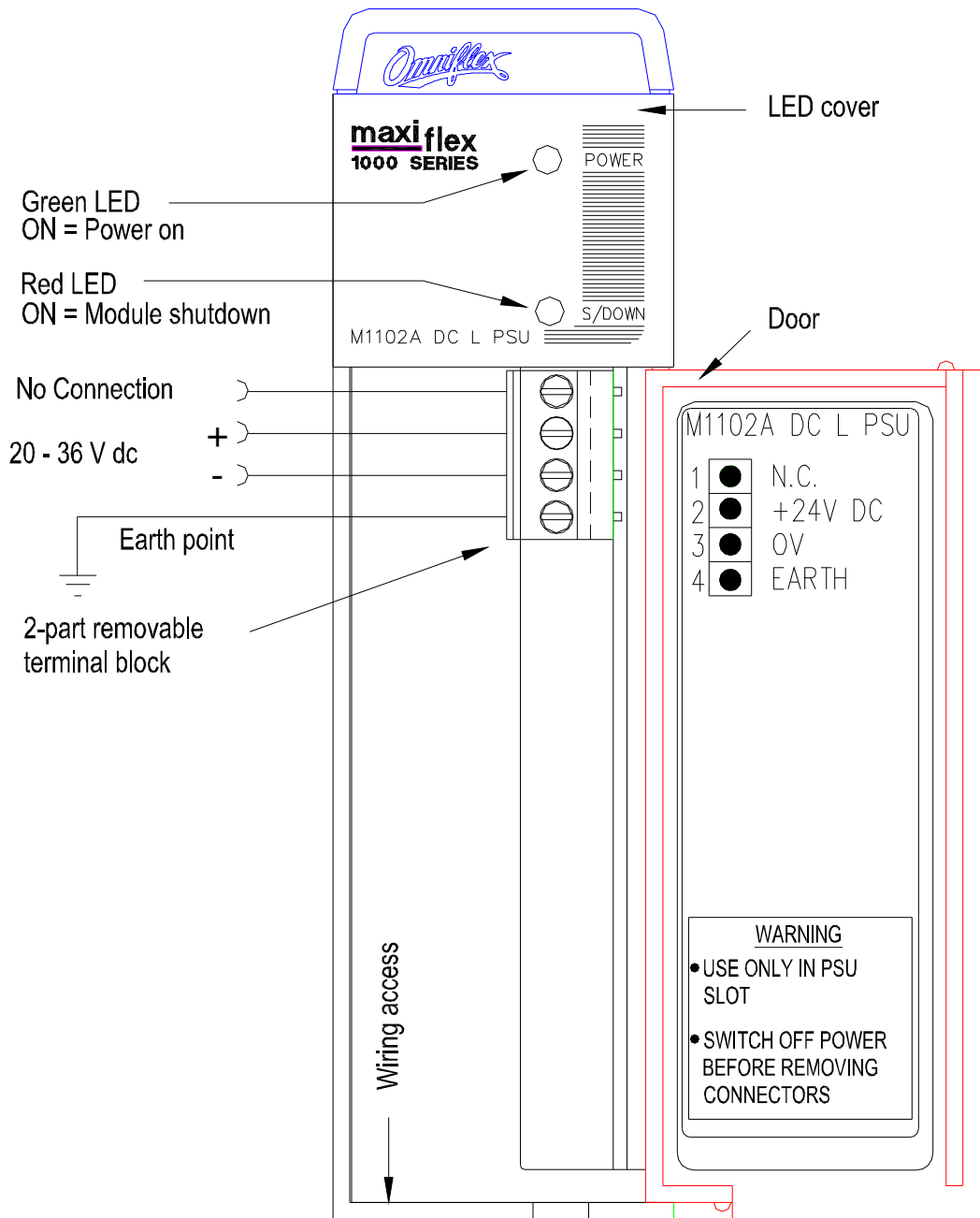
This information, like all other I/O data, is available on the network to the supervisory system.

Table 1 : LED indications

LED	Colour	Description
Power	Green	5V and 12V supplies OK
Shutdown	Red	Overvoltage on the 5V dc or the 12V dc

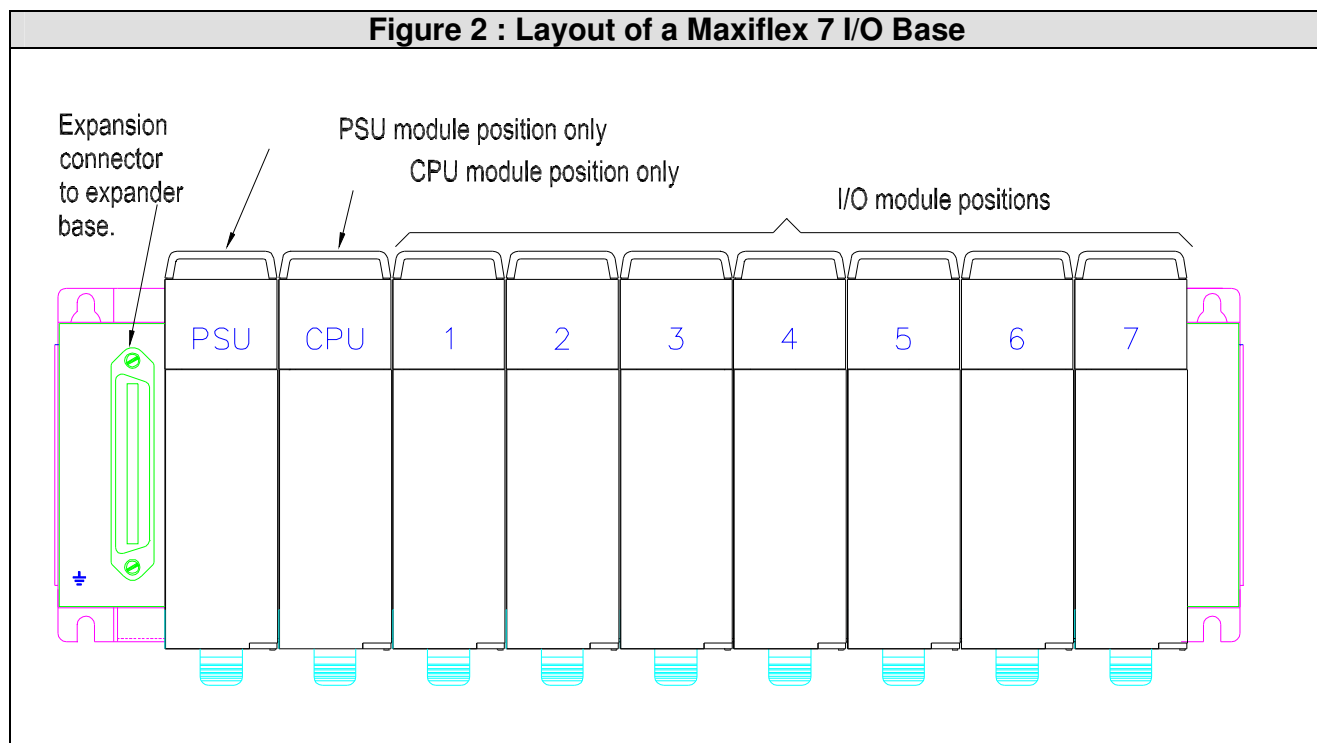
Two LEDs located behind the LED cover of the module are only visible when they are on. Refer to section on Field Test Procedure for field diagnosis using the LEDs.

Figure 1 : Layout of M1102B Module



Note: The LEDs can only be seen when illuminated as they are behind the LED cover.

Figure 2 : Layout of a Maxiflex 7 I/O Base



Mechanical Installation

DAMAGE WILL RESULT TO THE EQUIPMENT IF THE PSU MODULE IS PLUGGED INTO ANY POSITION OTHER THAN THE PSU POSITION ON THE BASE.

REMOVE THE POWER TO THE PSU MODULE BEFORE INSERTING THE PSU MODULE INTO, OR REMOVING IT FROM THE BASE.

Refer to Figure 2 for the layout of the Maxiflex base.

Electrical Installation

The following electrical connections are required to the unit:

1. DC Power
2. Earth

Refer to Figure 1 for the external connections required.

Field Test Procedure

The only test that is possible is observation of the two LEDs. Refer to the Fault/Symptom Chart for diagnosis using the two LEDs.

Table 2 : Fault/Symptom Chart

LED	Action	Possible Cause	Solution
Power	Off	5V and 12V supplies faulty	Thoroughly check the PSU.
Shutdown	On	Overvoltage on either the 5V dc and/or the 12V dc	Repair the PSU.
		Noise-triggered shutdown	Reset the supply by temporarily switching the 24V off.
Both	Off	Blown fuse	Replace blown fuse.
		No primary supply	Check whether 24V is present.
		Outputs short-circuited	Remove PSU from Maxiflex base and re-check with terminal block connected
		PSU faulty	Thoroughly check the PSU.

Specifications

DC Supply Input

Input	: 20V to 36V
Protection	: 5A fuse, slow-blow
Efficiency	: >80% at full load

Logic Supply Output (Base)

12V Supply (base)	: 12V \pm 15%/2A
Logic Supply	: 5,1V \pm 2%/0,5A
Pre-charge Voltage	: 5,1V via 10 Ω 0,5 W resistor

Electrical Connections

Wire gauge	: 2,0 mm ² (maximum)*
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*For manageable cabling to the modules, a conductor size of up to 0,5 mm² with a maximum overall outside diameter of 2mm, is recommended.

Diagnostics

Power fail (PFAIL)	: (LOW at input voltage U < 18,5V) (HIGH at input voltage U > 19,5 V)
Front Panel Indicators	: POWER (5V and 12V ok) SHUTDOWN
Shutdown Protection	: 5V output – 5,9 V < U < 6,7 V 12V output – 15,0V < U < 18V

Isolation

Input/output	: * 2,5 kVrms for 60 s
Input/earth	: * 0,5 kVrms for 60 s
Output/earth	: 0,5 kVrms for 60 s

Electromagnetic Compatibility

Impulse withstand test	
Between positive and negative input Terminals	: 4 kV 1,2 μ s/50 μ s test pulses
Between either input and earth	: 1 kV 1,2 μ s/50 μ s test pulses
Noise withstand test	: 4 k V noise bursts between inputs (In accordance with IEC 801-4, class IV)

Environmental

Operating Temperature	: -25°C to +60°C (-13°F to +140°F)
Storage Temperature	: -40°C to +70°C (-40°F to +158°F)

Mass

Including packaging	: 544g (16 oz)
Excluding packaging	: 454g (19 oz)

Ordering Information

Order Code	: M1102B
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* These are production test voltages only. In a fully assemble module, input/output isolation is limited by EMI filtering components connected to earth.