INSTALLATION GUIDE

MAXIFLEX 1000 SERIES

Power Supply – 110/220 V ac input; 5V, 12V & 24V dc output Model No. M1151C

General Description

The M1151C power supply unit (PSU) is powered by 85 V ac to 265V ac. It provides the power for other Maxiflex modules via the Maxiflex base (+12 V dc, +5 V dc), as well as a 24 V dc field supply. It also supplies a +5 V dc pre-charge voltage on the base to allow insertion and removal of other modules without powering down the system. Figure 1 shows the layout of the Maxiflex M1151C module.

The M1151C can be used with any of the bases except the M1031 5 I/O Expander Base which does not require a power supply module.

All connections to the module are made via two-part screw terminals located behind the door on the front of the module. The terminals can be removed without disturbing the field wiring, but input power to the module must be switched off first. The M1151C generates a "PFAIL" signal which is supplied to the CPU like all other I/O data. The signal is low when the mains fall below approximately 72 V ac. Three LEDs on the front panel indicate the presence of correct voltages on the backplane, overload on the field supply and shutdown due to the PSU malfunction or interference in excess of the specified level. The LEDs are located behind the LED cover of the module and are only visible when illuminated. Table 1 explains their function.

If shutdown occurs, the input power must be disconnected for approximately 30 seconds to allows the PSU module to reset. Refer to Table 2 for field diagnosis using the LEDs.

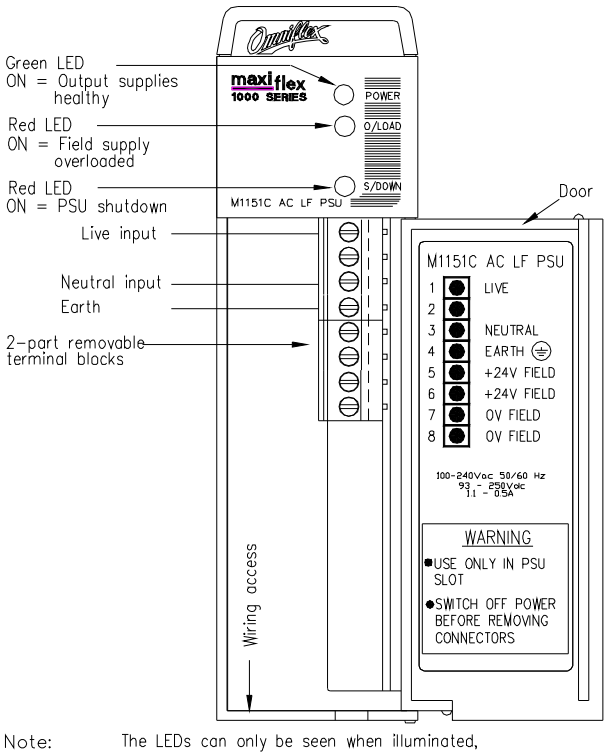
Module Positioning

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

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

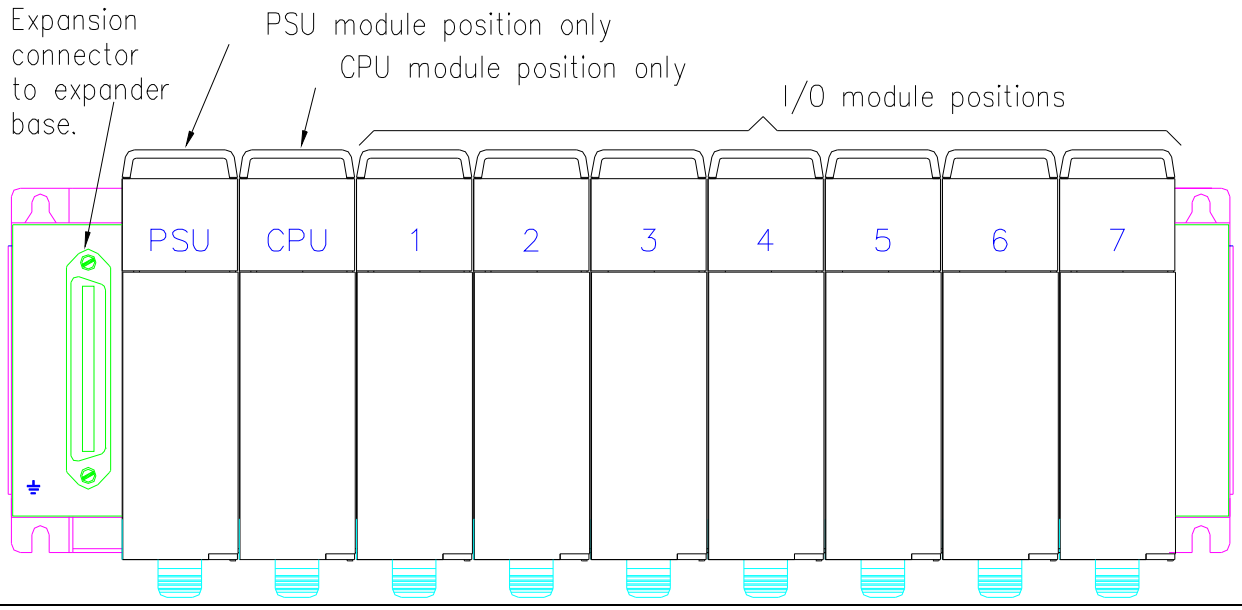
Refer to the Maxiflex Bases General Instruction (P/N 98-8952-930-00X) for more detail on base layout, module insertion and module removal.

Figure 1 : Layout of the M1151C



Note: The LEDs can only be seen when illuminated,

Figure 2 : Layout of the 7 I/O Master Base



Electrical Installation

The following electrical connections are required to the unit:

1. AC power
2. Earth
3. Field accessories (if applicable). Refer to Figure 1 for external connections.

Fault Symptom Chart

The only checks possible in the field are the observation of the status LEDs, a check of the mains supply voltage and the measurement of the field supply. Voltages should comply with the specifications. Table 2 shows the LED indications. Refer to the fault symptom chart in Table 2 for diagnosis using the LEDs.

Table 1 : LED Indications			
LED	**Colour**	**State**	**Indication**
POWER	Green	ON	+5V, + 12V and +24V supplies healthy
O/LOAD	Red	ON	+24V field supply overloaded
S/DOWN	Red	ON	PSU shutdown

Table 2 : Fault Symptom Chart			
LED	**State**	**Possible Cause**	**Solution**
POWER	Off	Output short-circuited	Disconnect & examine the PSU module
		PSU module faulty	Repair the PSU module
O/LOAD	On	Field supply overloaded	Reduce field supply load
S/DOWN	On	Over-voltage on one of the outputs	Examine and/or repair the PSU module
		Noise-triggered shutdown	Switch off input power for 30s, to re-set supply

Specifications	
AC Input	
Voltage	: 100 - 240 V ac nom.
Frequency	: 50 Hz or 60 Hz
Protection	: 2 A fuse, slow-blow
Efficiency	: >80% at full load
DC Outputs	
Logic supply (base)	
5V	: 5,1 V ± 2% 3A to 4.4A
12V	: 12 V ± 15% 1A to 0.4A
Pre-charge	: 5,1 V via 10 Ω PTC Note: Max. load = CPU + 12 I/O modules from this power supply
Field Outputs	
24V	: 24 V ± 15% 1A
Electrical Connections	
Wire Gauge	: 2,0mm² (maximum) #
# For manageable cabling to the modules, a conductor size of up to 0,5mm², with maximum overall outside diameter of 2mm, is recommended	

Specifications	
Diagnostics	
Power fail Front panel indicators Shutdown protection 5 V output 12 V output	: PFAIL signal on the base: : ON (LOW) for U <72,5 V ac : OFF (HIGH) for U >82,5 V ac : 5,5 V < U < 6,7 V : 15 V < U < 18 V
Isolation	
Inputs to logic outputs Inputs to field Base to field	: 1500 Vrms (100% tested) : 1500 Vrms (100% tested) : 1500 Vrms (100% tested)
Electromagnetic Compatibility	
EN 55011 IEC 61000-4-2/ EN50082-2 IEC 61000-4-3/ EN50082-2 IEC 61000-4-4/ EN50082-2	: Group 1 Class A : 4 kV : 10V/m : 2 kV power lines
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	: 610g (21.5 oz)
Excluding packaging	: 520g (18.3 oz)
Ordering Information	
Order Code	: M1151C