INSTALLATION GUIDE

MAXIFLEX 1000 SERIES

Master & Expander Bases

Model Nos: M1001, M1021/2/3, M1031/2

General Description

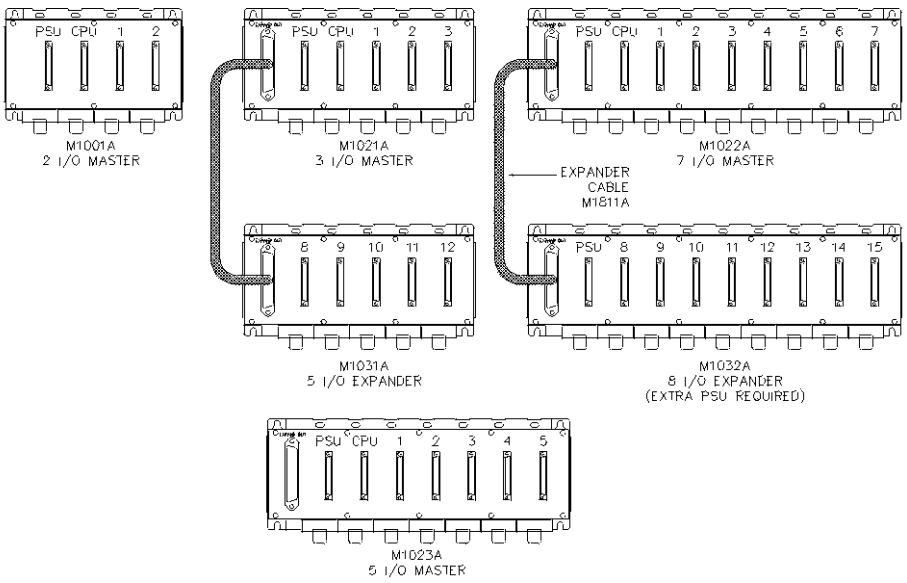
The Maxiflex 1000 Series RTU comprises the bases as shown in the table.

Table 1 : Available Maxiflex Bases

Model No.	Short Name	Module Description
M1001A	2 I/O M BASE	2 I/O Master Base (2 I/O slots, Not expandable)
M1021B	3 I/O M BASE	3 I/O Master Base (3I/O slots, with expansion socket to expander base)
M1022B	7 I/O M BASE	7 I/O Master Base (7 I/O slots, with expansion socket to expander base
M1023B	5 I/O M BASE	5 I/O Master Base (5 I/O slots, with expansion socket to expander base
M1031B	5 I/O E BASE	5 I/O Expander Base (5 I/O slots, [no PSU] with expansion socket to master base
M1032B	8 I/O E BASE	8 I/O Expander Base (8 I/O slots, plus PSU slot) with expansion socket to master base

Typical base combinations are shown in Figure 1. However, any Master base except for M1001A can be used with any Expander base.

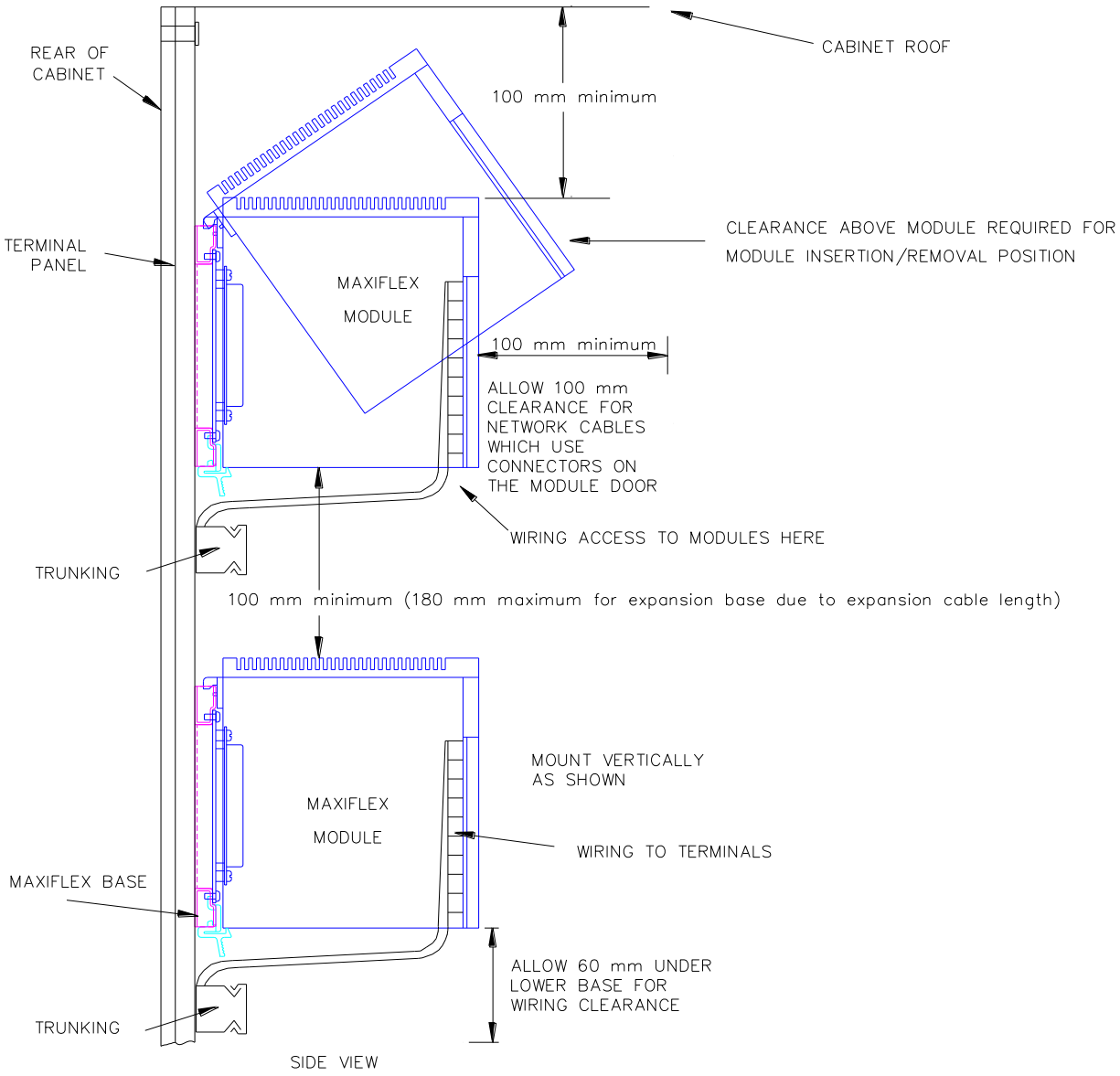
Figure 1 : Typical base combinations



The number in each I/O slot indicates the I/O slot address.

Mounting of Bases

Figure 2 : System Installation



The Maxiflex bases should be installed in cabinets which provide the following:

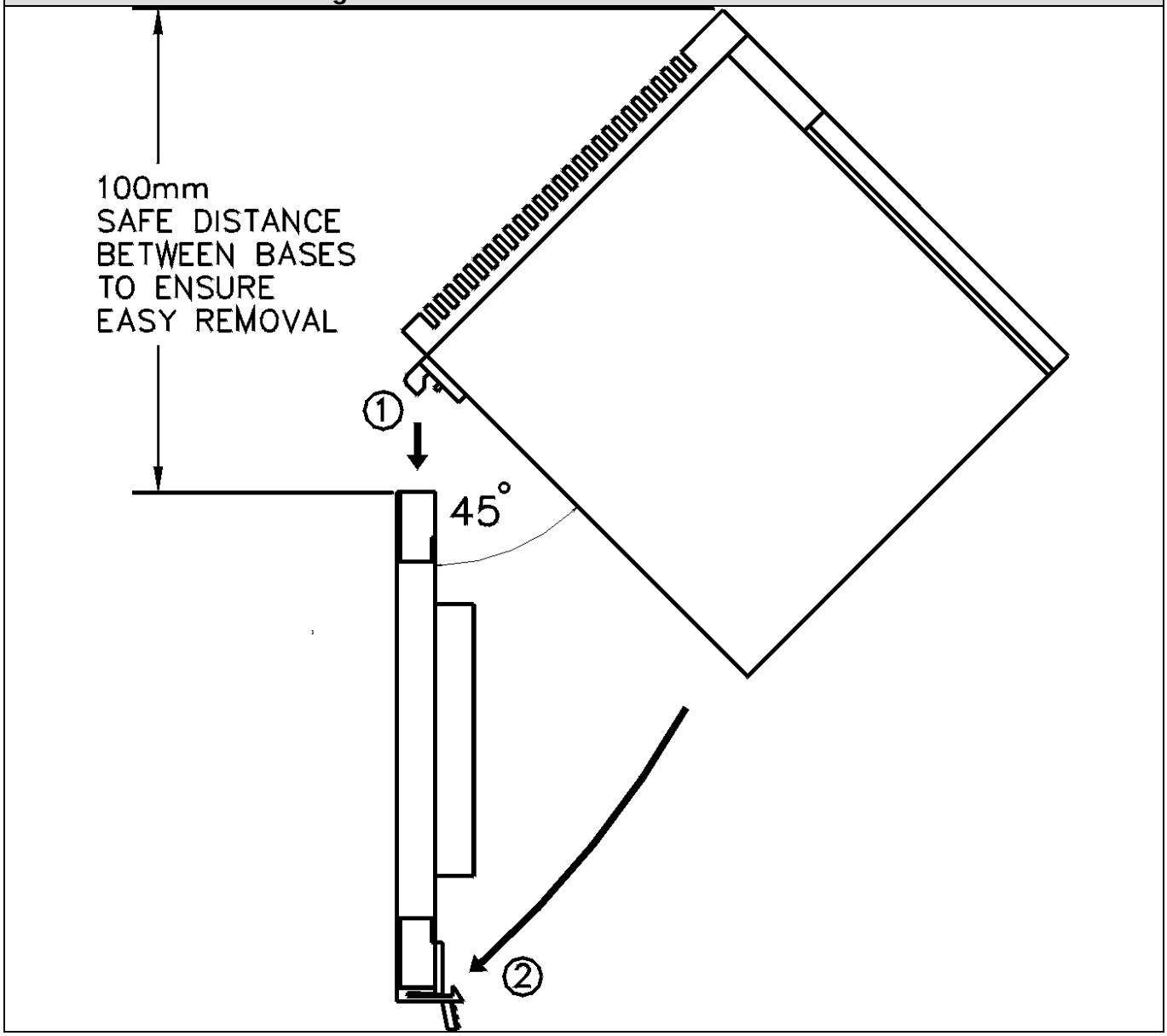
- Protection from moisture, dust and dirt, corrosive chemical atmospheres, direct sunlight, etc.
- An electromagnetic shield.
- A good earth point;
- Adequate air flow to maintain the temperature within the operating limits of the modules.

Inserting Module into Base

Refer to Figure (a) below.

1. Hold module at 45° to base.
2. Place hood A on rear of module into the selected slot on the top of the base.
3. Keeping the hook pressed into the slot, swing the bottom of the module towards the base until the retaining clip A snaps into groove of the module.

Figure 3 : Insertion and Removal of Modules



Removal of Module from Base

Refer to Figure (b) above.

1. Press and hold down the retaining clip A at the bottom of the module.
2. Swing the bottom of the module A away from the base.
3. Disengage the hook A of the module, by lifting the module up from the base.

Module Keying

Modules can be keyed to a particular I/O slot via an 8 position “key” on the back of the module as well as a “key” on the base motherboard. Module Key Sets are supplied with each base and additional Key Sets are available as an accessory (Model No. M1841A). If the module and base are NOT “keyed”, ensure each module is inserted in the correct slot for correct operation.

The Module Key Set has two interlocking plastic discs which enable modules and bases to be keyed so that each module can only fit into its designated slot. The disc is fitted onto the rear of the module, with its stud aligned to one of eight numbered positions (ensure the stud is aligned to the correct position before the disc is inserted). The disc with the cut-out is fitted at the module’s position on the base with a self-tapping screw (provided), with its cut-out set to the same number as the stud.

19 inch Mounting Adaptor Plate
A 19” Mounting Adaptor Plate is available for bases that need to be installed into a 19” rack. Refer to Mounting Adaptor Plate Installation Guide for mounting details of this adaptor. One Mounting Adaptor is required for each base.

Electrical Installation

Power Supply Considerations
The Maxiflex PSU module supplies all power to the modules via the bases (+12V, +5V). The 5 I/O Expander base draws its power from the Master base via the expander cable. However on the 8 I/O Expander base, power is not drawn from the Master base but from its own power supply in the left-most slot.

In applications where an 8 I/O Expander base is used, the primary input to the power supply on this base and on the Master base **must** be wired in parallel. This will ensure that when the primary supply fails, both bases will be powered down simultaneously, which will alleviate problems caused by only one of the bases being powered.

Each power supply in a system must be earthed to the same earth point.

Network Considerations
The Conet/+ Cascade line is localised to each Maxiflex base. It is ***not*** carried from the Master base to the Expander base by the expander cable. Therefore, in order to connect the two Cascade llines, a hub is required in each base.

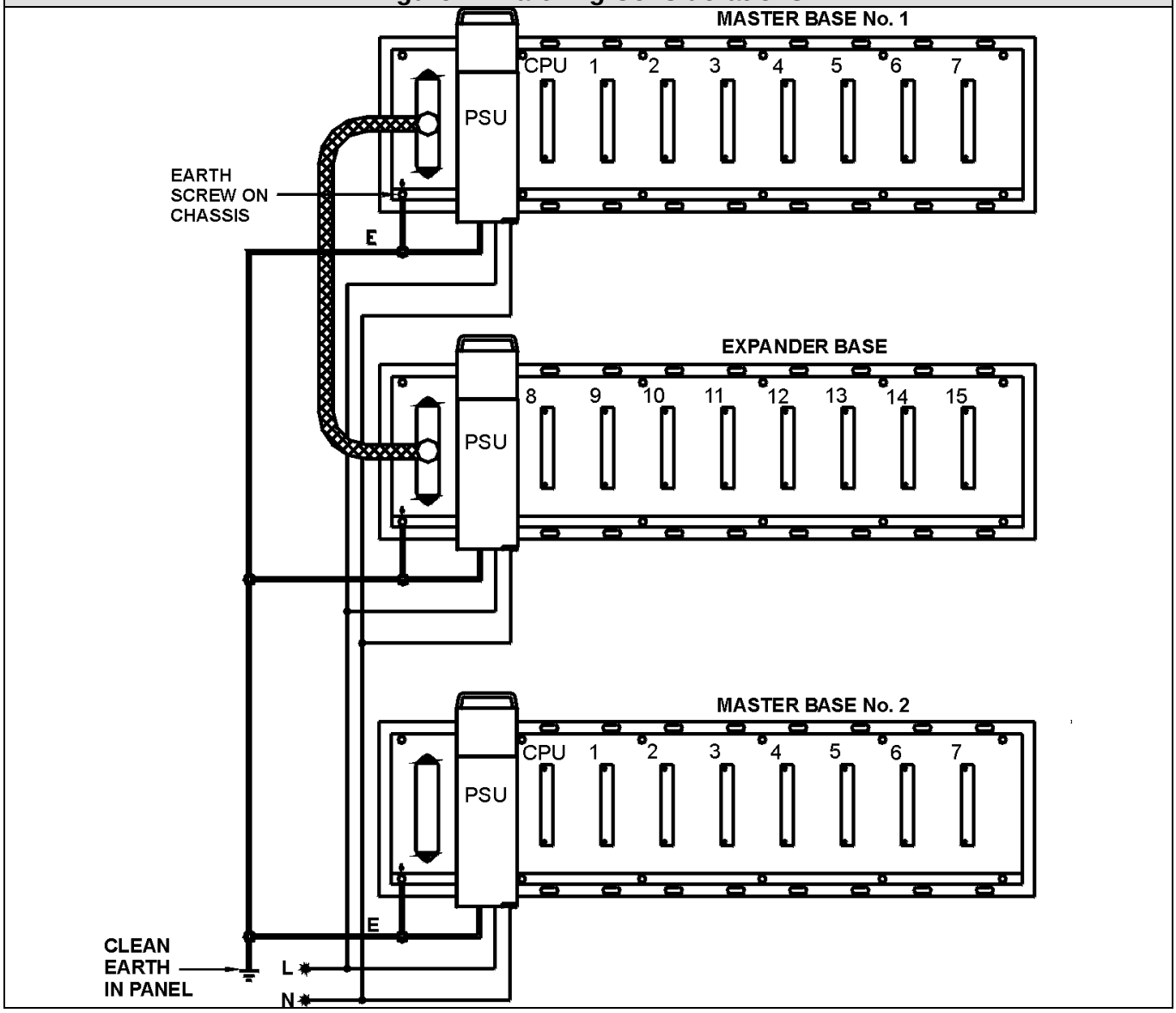
The use of NIMs to achieve a Star Network Topology for Conet from a base and expander allows multiple Conet Networks to exist on one base. NIMs are connected using DB9 connectors through their front doors – allow space in front of the modules for this.

Earthing Considerations
Good earthing is essential for proper operation of the equipment. Connect the base to a good earth reference in the cabinet via a suitable stranded copper cable or preferably a 6,5mm or larger ground braid. Connection to the base is made on the bottom left hand side screw where the earth symbol is indicated. When more than one base is used in the same system, each one must be earthed at the same point, in a star configuration as shown in Figure 4. The dc resistance between each base and the earth point must be less than 0,1 ohms.

The earth terminal on the power supply ***must*** be connected to the same point on the base. This connection must exhibit less than 0,05 ohms of dc resistance. Refer to Figure 4.

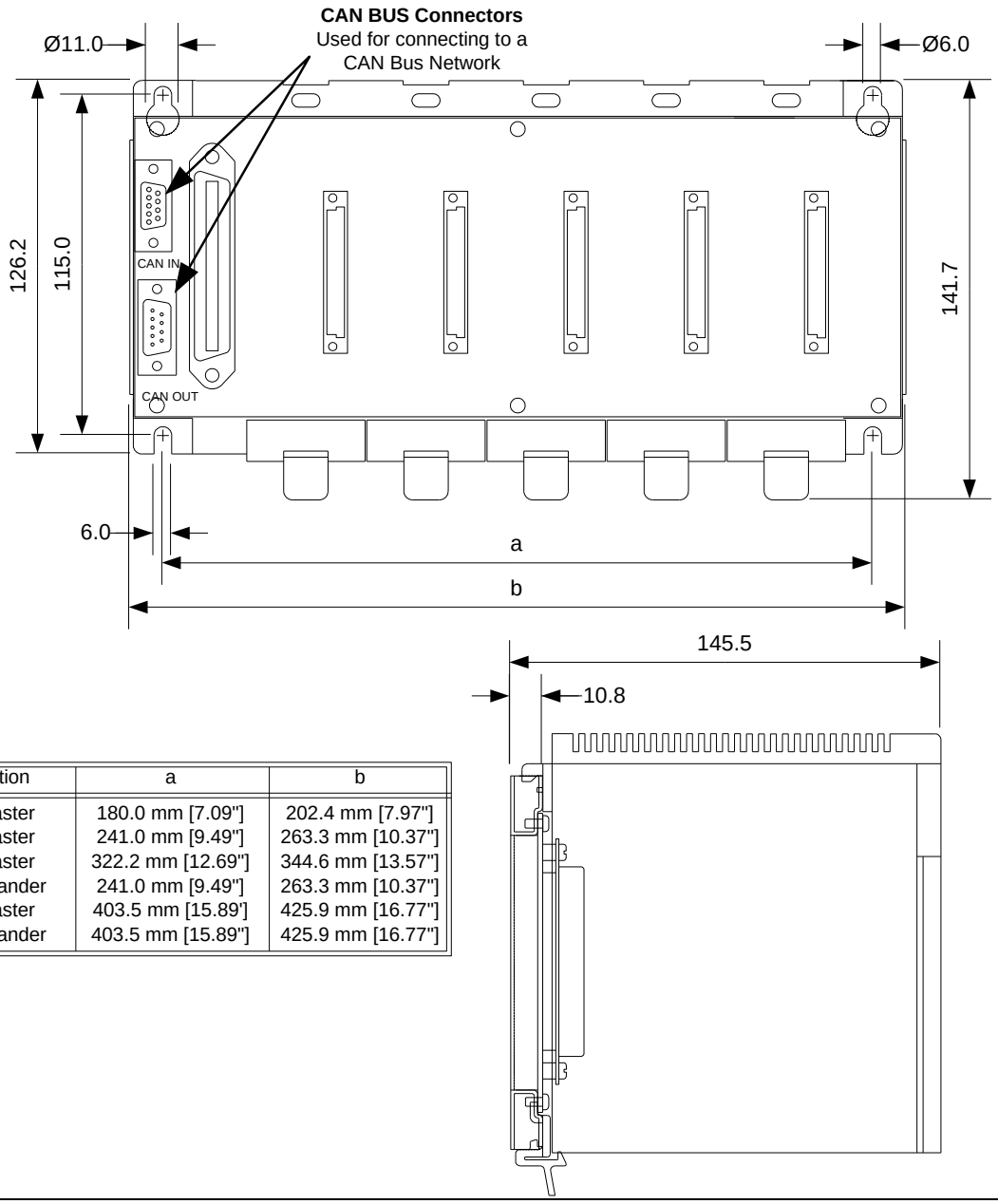
CAN Bus Network
All bases (except for the 2 I/O Master Base) come with onboard DB9 CAN Bus connectors which allows for the Base to be connected to a CAN Bus network. These bases would need to be daisy chained to connect all Bases to the CAN Bus network. The last base on the CAN Bus network would have to be terminated with a CAN Bus terminator. Refer to Figure 5 for location of these connectors.

Figure 4 : Earthing Considerations



The diagram illustrates the importance of earthing **ALL** Maxiflex bases in one system to the **SAME** earth point in the cabinet. This should be a **CLEAN EARTH**.

Figure 5 : Base Dimensions



Model No.	Description	a	b
M1001A	2 I/O Master	180.0 mm [7.09"]	202.4 mm [7.97"]
M1021B	3 I/O Master	241.0 mm [9.49"]	263.3 mm [10.37"]
M1023B	5 I/O Master	322.2 mm [12.69"]	344.6 mm [13.57"]
M1031B	5 I/O Expander	241.0 mm [9.49"]	263.3 mm [10.37"]
M1022B	7 I/O Master	403.5 mm [15.89']	425.9 mm [16.77"]
M1032B	8 I/O Expander	403.5 mm [15.89"]	425.9 mm [16.77"]

Specifications	
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)
Operating Humidity	5% to 95% (non-condensing)
Vibration	10 m/s² (1G) 10 Hz – 150 Hz
Vibration	10 m/s² (1G) 10 Hz – 150 Hz

Mass

Description	Without Packing	With Packing
M1001A 2I/O Master Base	410g (14,46 oz)	500g (17,64 oz)
M1021B 3 I/O Master Base	560g (19,75 oz)	675g (23,8 oz)
M1022B 7 I/O Master Base	800g (28,2 oz)	890g (31,4 oz)
M1023B 5 I/O Master Base	710g (28,2 oz)	960g (31,4 oz)
M1031B 5 I/O Expander Base	560g (19,75 oz)	675g (23,8 oz)
M1032B 8 I/O Expander Base	800g (28,2 oz)	985g (34,7 oz)
M1821A 19” Mounting Adaptor Plate	3,2 kg (113 oz) approx.	3,6 kg (127 oz) approx.

Ordering Information

Description	*Order Code*
2I/O Master Base (not expandable)	M1001A
3 I/O Master Base	M1021B
5 I/O Master Base	M1023B
7 I/O Master Base	M1022B
5 I/O Expander Base	M1031B
8 I/O Expander Base	M1032B
500 mm Expander Cable	M1811A
19 inch Mounting Adaptor Plate for Bases	M1821A
Module Key Set	M1841A
Maxiflex 2m CAN Bus Cable with DB9 connectors	C1468A
Maxiflex CAN Bus terminator	C1469A

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NOTE

There is no expander base which matches the length of the M1023A 5 I/O Base, although the M1031B and M1032B bases can be used with it.