# Quick Start Guide
## MLE-D0016N
## MLE-D0016P
## MLE-D0016R

**Description:**
MLE-D0016 I/O expansion module with 16 digital outputs.

**Contents:**
    1 MLE-D0016 (in plastic bag)
    Removable screw type terminal blocks*
    Removable power supply connector*
    Quick Start Guide

*Note: Connector manufacturer may vary.

**Specifications:**

| | |
|---|---|
| Power: | 3.75VDC from MLC PLC base |
| | 80mA maximum |
| Isolation: | I/O optically isolated from internal circuit |

Digital Outputs {4 points per common}:
    -D0016N: 16 sinking (NPN) outputs
    -D0016P: 16 sourcing (PNP) outputs
    -D0016R: 16 relay outputs (Form A)
Rated Output (max. per contact):
    -D0016N: 500mA@24VDC
    -D0016P: 500mA@24VDC
    -D0016R: 2A@230VAC or 30VDC

External DC Power Supply Required:
| | |
|---|---|
| Input Voltage: | 24VDC +/-15% |
| Current Rating: | Max. 200mA (all outputs ON) |

Connection Method: Removable terminals (3.81 mm pitch)
| | |
|---|---|
| Operating Temp: | 0 to 55° C |
| Humidity: | 10% to 90% (non-condensing) |
| Dimensions (LxWxH): | 3.94 x 1.38 x 2.76 inches [100x35x70mm] |

**Dimensional Details:**

100.00  70.00  35.00

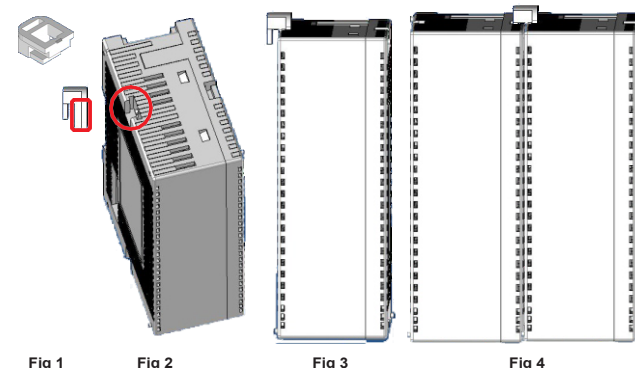**Mounting Module to MLC CPU Base or Expansion:**
The MLE I/O modules are connected in series to a MLC1-E, MLC2-E, or MLC3-E CPU base- up to a maximum of sixteen MLE I/O modules.
Each IO module is designated a slot number (nn = 1-16) based upon its location in relation to the MLC CPU base (i.e. the IO module connected directly to the MLC base is Slot 1, the IO module to the right is Slot 2, and so on.)

Each MLE I/O module is attached to the MLC CPU base or another I/O module with a 20pin I/O interconnect plug located on the left side of each module. In turn, the MLC CPU base or I/O module has an interconnect jack located on the right side of the module (remove the protective sticker).

To attach a MLE I/O expansion module, perform the following steps:
1. Locate the two small white lock connectors above the interconnect jack on the right side of the MLC CPU base (or I/O expansion module).
2. Slide each lock connector out, along the length of the module.
3. Align the interconnect plug (on the MLE expansion module) and insert into the jack of the MLC CPU base. Carefully compress the two units until the interconnect plug is fully connected to the jack.
4. Slide each lock connector back in (towards the module) until it 'snaps' into place.

Fig 1     Fig 2     Fig 3     Fig 4

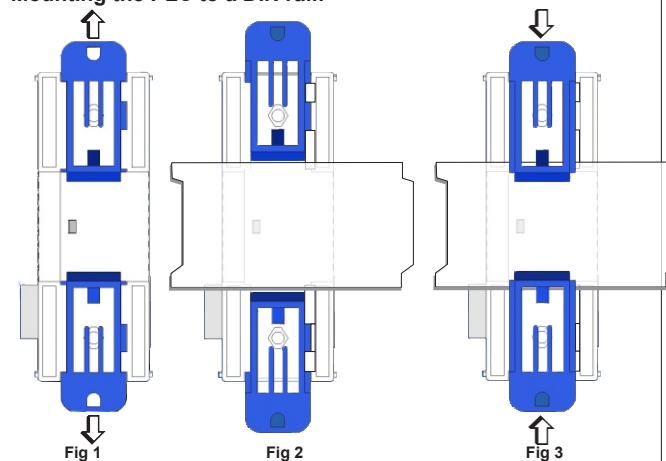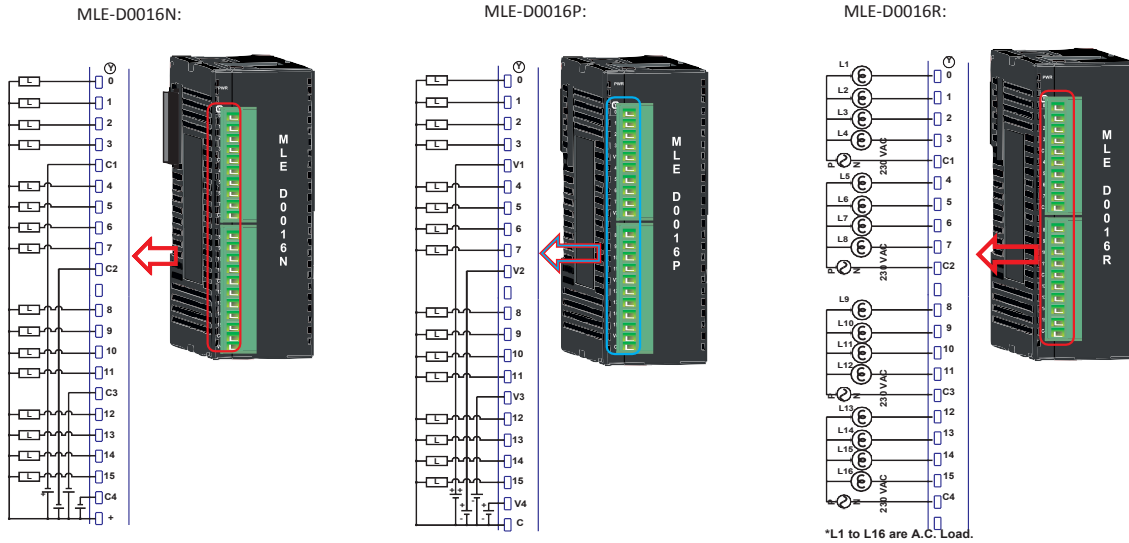**Mounting the PLC to a DIN rail:**

Fig 1     Fig 2     Fig 3

Fig 1:
Pull out the white DIN rail sliders on the back side of each module (along the length of the module).

Fig 2:
Place the module on the DIN rail plate.

Fig 3:
Push in the DIN rail sliders, so that the module is securely connected to the DIN rail plate.

Wiring Diagram for Digital Outputs:

MLE-D0016N:                    MLE-D0016P:                    MLE-D0016R:

*L1 to L16 are A.C. Load.

IO Allocation

| Slot9 | Slot10 | Slot11 | Slot12 | Slot13 | Slot14 | Slot15 | Slot16 |
| Base Unit | Slot1 | Slot2 | Slot3 | Slot4 | Slot5 | Slot6 | Slot7 | Slot8 |

Image

Model  MLE-00000NH

Description

Digital Expansion module with 8 digital inputs ,8 digital outputs (NPN), 4 high speed inputs (single phase & Quadrature counter) ,2 PWM outputs.

☑ Download Configuration Settings

☑ Add tags for XIn, YW and MW used for expansion modules.

Configure    OK    Cancel

In the Project Information Window, click on the Tags folder to view the assigned tags for the selected MLE module, according to slot number:

| | 144 | Initialize__Port_Com2 | | bit | Read Write | S00093 |
| --- | --- | --- | --- | --- | --- | --- |
| | 145 | S01-XW0 | | 2 | Read Only | XW0100 |
| | 146 | S01-X0 | | bit | Read Only | X01000 |
| | 147 | S01-X1 | | bit | Read Only | X01001 |
| | 148 | S01-X2 | | bit | Read Only | X01002 |
| | 149 | S01-X3 | | bit | Read Only | X01003 |
| | 150 | S01-X4 | | bit | Read Only | X01004 |
| | 151 | S01-X5 | | bit | Read Only | X01005 |
| | 152 | S01-X6 | | bit | Read Only | X01006 |
| | 153 | S01-X7 | | bit | Read Only | X01007 |

## Configuration:

Use MAPware-7000 to configure the expansion port, in which the module is installed, using the module's model number.

The input (X and XW), outputs (Y and YW), and configuration (M and MW) memory addresses are used to interact with the module. These addresses are created according to the slot location of the module, where **nn** refers to the slot number (ex. 01...16):

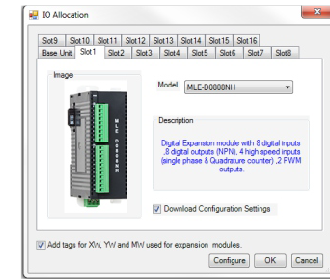| Function | Register | Access |
| --- | --- | --- |
| Y0-Y15 Outputs | Ynn000-015 (YWnn00) | Read/Write |

In your MAPware-7000 project:
1. Start a new project.
2. In the Select Product dialog box, select your MLC base CPU model.
3. In the Project Information Window, expand the IO Allocation folder, then click on the Expansion folder to display the current I/O Slot configuration table:
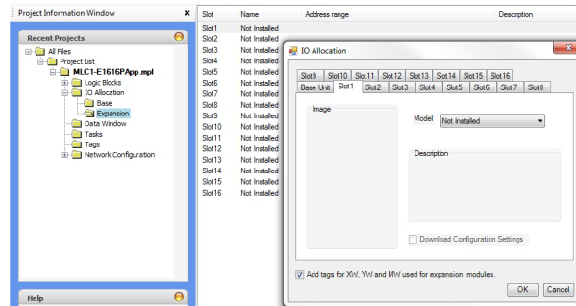
Select the MLE model.
1. Check the "Add tags for XW, YW, and MW used for expansion modules" option. The tags for the selected IO module are added to the Tags database when you press the OK button.
2. Some MLE modules (ex. MLE-0808NH) have additional settings (i.e. HSC or PWM) that can be configured by pressing the Configure button.
   Note: if the selected MLE module has no additional options, the Configure button will not be present.
3. Check the "Download Configuration Settings" option. Any changes that were made using the Configure button will be sent to the MLC the next time you download your project.

## Additional Resources:

Detailed instructions on the operation and installation of the MLC Series are available in the MLC Series PLC Programming Manual (P/N 1010-1054) and the I/O Module Guide for the PLC Series (P/N 1010-1055) that is included with the MAPware-7000 configuration software.

MAPware-7000 also includes help files that provide detailed information on using the configuration software.

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or non-hazardous locations only.

⚠ WARNING – EXPLOSION HAZARD – Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

⚠ WARNING – EXPLOSION HAZARD - Substitution of components may impair suitability for Class I, Division 2.

It is recommended that the user periodically inspect the sealed devices used, check for any degradation of properties, and replace as necessary.

## For Technical Support:

Please contact Maple Systems if you have any questions regarding this product. We ask that you provide us with the unit serial number and firmware revision number written on the product label of the unit.

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