Sub-Assembly
Installation Instructions

for Models:
ACM4
ACM4CB
ACM8
ACM8CB
MOM5
PD4UL
PD4ULCB
PD8UL
PD8ULCB
PD16W
PD16WCB

SECURITY  SECURITY  SIGNALING
UL LISTED  C UL LISTED  UL LISTED

Rev. MS050913

Ω Altronix®
More than just power.™
Installation Instructions for Maximal:

1. Fasten standoffs onto metal pems A configuration or B configuration of enclosure depending on the sub assembly module (Fig. 1, pg. 2). ACM8 or ACM8CB modules can only be installed in the middle or bottom mounting positions of the Maximal enclosure.

2. Position sub assembly module over corresponding standoffs and secure module into enclosure with four (4) pan head screws supplied (Fig. 1a, pg. 2).


Sub Assembly Position Chart for the following models:
Maximal Access Power Controller and Maximal Expandable Power Systems (refer to instruction #3 above).

<table>
<thead>
<tr>
<th>Sub Assembly Module</th>
<th>Mounting Position</th>
<th>Pem Mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACM4, ACM4CB</td>
<td>Top, Middle &amp; Bottom</td>
<td>B</td>
</tr>
<tr>
<td>ACM8, ACM8CB</td>
<td>Middle &amp; Bottom</td>
<td>A</td>
</tr>
<tr>
<td>MOM5</td>
<td>Top, Middle &amp; Bottom</td>
<td>B</td>
</tr>
<tr>
<td>PD4UL, PD4ULCB</td>
<td>Top, Middle &amp; Bottom</td>
<td>B</td>
</tr>
<tr>
<td>PD8UL, PD8ULCB</td>
<td>Top, Middle &amp; Bottom</td>
<td>B</td>
</tr>
<tr>
<td>PD16W, PD16WCB</td>
<td>Top, Middle &amp; Bottom</td>
<td>B</td>
</tr>
</tbody>
</table>

Fig. 1

Fig. 1a
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire (Fig. 2a, pg. 3).

* Output from power supply is power-limited: Maximal11, Maximal11D, Maximal11E.

* Output from top power supply board is non power-limited and bottom power supply board is power-limited: Maximal13E.

Output from power supply is non power-limited: Maximal3, Maximal5, Maximal7, Maximal3D, Maximal5D, Maximal7D, Maximal11, Maximal33, Maximal55, Maximal75, Maximal77, Maximal11D, Maximal33D, Maximal55D, Maximal75D, Maximal77D, Maximal11E, Maximal13E, Maximal33E, Maximal35E, Maximal37E, Maximal55E, Maximal75E, Maximal77E.
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire (Fig. 3a, pg. 4).

* Output from power supply is power-limited: Maximal11F, Maximal11FD and Maximal11FE.

* Output from top power supply board is non power-limited and bottom power supply board is power-limited: Maximal13FE.

Output from power supply is non power-limited: Maximal3F, Maximal5F, Maximal7F, Maximal3FD, Maximal5FD, Maximal7FD, Maximal33F, Maximal55F, Maximal75F, Maximal77F, Maximal33FD, Maximal55FD, Maximal75FD, Maximal77FD, Maximal33FE, Maximal35FE, Maximal37FE, Maximal55FE, Maximal55FE and Maximal77FE.
Enclosure Dimensions \((H \times W \times D \text{ approximate})\):

\(26'' \times 19'' \times 6.25'' \ (660.4\text{mm} \times 482.6\text{mm} \times 158.75\text{mm})\)

Wiring Output to Devices (power-limited or non power-limited depending on Sub Assembly).

Enclosure for models:
**Installation Instructions for Power Supply/Chargers:**

1. Fasten standoffs onto metal pems A configuration of enclosure (Fig. 4, pg. 6).
2. Position sub assembly module over standoffs and secure module into enclosure with four (4) pan head screws supplied (Fig. 4a, pg. 6).
3. Refer to the corresponding Power Supply/Charger Installation Instructions (AL300ULX, AL300ULXR, AL400ULX, AL400ULXR, AL600ULX, AL600ULXR, eFlow3N, eFlow4N, eFlow6N, eFlow102N, eFlow104N) and *Sub Assembly* (ACM4, ACM4CB, MOM5, PD4UL, PD4ULCB, PD8UL, PD8ULCB, PD16W, PD16WCB) Installation Guides for all other installation instructions.

**Sub Assembly Position Chart for the following models:**
AL300ULX, AL300ULXR, AL400ULX, AL400ULXR, AL600ULX, AL600ULXR, eFlow3N, eFlow4N, eFlow6N, eFlow102N, eFlow104N.

<table>
<thead>
<tr>
<th>Sub Assembly Module</th>
<th>Mounting Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACM4, ACM4CB</td>
<td>Right of Power Supply</td>
</tr>
<tr>
<td>ACM8, ACM8CB</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>MOM5</td>
<td>Right of Power Supply</td>
</tr>
<tr>
<td>PD4UL, PD4ULCB</td>
<td>Right of Power Supply</td>
</tr>
<tr>
<td>PD8UL, PD8ULCB</td>
<td>Right of Power Supply</td>
</tr>
<tr>
<td>PD16W, PD16WCB</td>
<td>Right of Power Supply</td>
</tr>
</tbody>
</table>

Sub Assembly Position Chart for the following models:
AL300ULX, AL300ULXR, AL400ULX, AL400ULXR, AL600ULX, AL600ULXR, eFlow3N, eFlow4N, eFlow6N, eFlow102N, eFlow104N.
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute). **Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire, *(Fig. 5a, pg. 7).*

Fig. 5 - *AL300ULX, AL300ULXR, AL400ULX, AL400ULXR*

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* Output from power supply is power-limited: AL300ULX, AL300ULXR, AL400ULX and AL400ULXR.

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Sub Assembly
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire, *(Fig. 6a, pg. 8).*

*Output from power supply is non power-limited: AL600ULX and AL600ULXR.*

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**Fig. 6 - AL600ULX, AL600ULXR**

- 115VAC Input 60Hz (non power-limited)
- Supervisory Connections (power-limited)
- Battery Connections (non power-limited. Number of batteries may vary depending on your optional hookup)
- DC Output Wiring to Sub Assemblies*
NEC Power-Limited Wiring Requirements:

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

Note: Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire, (Fig. 7a, pg. 9).

Fig. 7 - eFlow3N, eFlow4N, eFlow6N, eFlow102N and eFlow104N.
**Enclosure Dimensions** *(H x W x D approximate):*
13.5” x 13” x 3.25” (342.9mm x 330.2mm x 82.55mm)

Wiring Output to Devices (power-limited or non power-limited depending on Sub Assembly).

Enclosure for models: AL300ULX, AL300ULXR, AL400ULX, AL400ULXR, AL600ULX, AL600ULXR, eFlow3N, eFlow4N, eFlow6N, eFlow102N, eFlow104N.
**Installation Instructions for Power Supply/Chargers:**

1. Fasten standoffs onto metal pems A configuration of enclosure (Fig. 8, pg. 11).
2. Position sub assembly module over standoffs and secure module into enclosure with four (4) pan head screws supplied (Fig. 8a, pg. 11).
3. Refer to the corresponding Power Supply/Charger Installation Instructions (AL300ULXD, AL600ULXD, AL1012ULX, AL1024ULX, AL1024ULXR, eFlow3NX, eFlow4NX, eFlow6NX, eFlow102NX and eFlow104NX) and Sub Assembly (ACM4, ACM4CB, ACM8, ACM8CB, MOM5, PD4UL, PD4ULCB, PD8UL, PD8ULCB, PD16W, PD16WCB) Installation Guides for all other installation instructions.

**Sub Assembly Position Chart for the Following Models:**

<table>
<thead>
<tr>
<th>Sub Assembly Module</th>
<th>Mounting Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACM4, ACM4CB</td>
<td>Below Power Supply</td>
</tr>
<tr>
<td>ACM8, ACM8CB</td>
<td>Below Power Supply</td>
</tr>
<tr>
<td>MOM5</td>
<td>Below Power Supply</td>
</tr>
<tr>
<td>PD4UL, PD4ULCB</td>
<td>Below Power Supply</td>
</tr>
<tr>
<td>PD8UL, PD8ULCB</td>
<td>Below Power Supply</td>
</tr>
<tr>
<td>PD16W, PD16WCB</td>
<td>Below Power Supply</td>
</tr>
</tbody>
</table>

Fig. 8
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications, use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire (Fig. 9a, pg. 12).

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**Fig. 9 - AL300ULXD**

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* Output from power supply is power-limited: AL300ULXD

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**Battery Connections**

(non power-limited. Number of batteries may vary depending on your optional hookup)
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25" away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications, use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire (Fig. 10a, pg. 13).

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**Fig. 10 - AL600ULXD**

*Output from power supply is non power-limited: AL600ULXD*
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications, use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire, *(Fig. 11a, pg. 14).*

*Fig. 11 - AL1012ULX*

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**115VAC Input 60Hz**

(non power-limited)

**Battery Connections**

(non power-limited. Number of batteries may vary depending on your optional hookup)

*Fig. 11a*

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**Incorrect Wire Handling**

- External Jacketed Shield
- Wire Insulation
- Solid Copper Conductors

**Correct Wire Handling**

- Pull back external jacketed shield approx. 1/2”

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**DC Output Wiring to Sub Assemblies**

* Output from power supply is non power-limited: AL1012ULX
**NEC Power-Limited Wiring Requirements:**

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire (Fig. 12a, pg. 15).

Fig. 12 - AL1024ULX, AL1024ULXR

*Output from power supply is non power-limited: AL1024ULX and AL1024ULXR*
NEC Power-Limited Wiring Requirements:

Power-limited and non power-limited circuit wiring must remain separated in the enclosure. All power-limited circuit wiring must remain at least 0.25” away from any non power-limited circuit wiring. Furthermore, all power-limited circuit wiring and non power-limited circuit wiring must enter and exit the enclosure through different conduits. One such example of this is shown below. Your specific application may require different conduit knockouts to be used. Any conduit knockouts may be used. For power-limited applications, use of conduit is optional. All field wiring connections must be made employing suitable gauge CM or FPL jacketed wire (or equivalent substitute).

**Note:** Refer to wire handling drawing below for the proper way to install the CM or FPL jacketed wire (Fig. 13a, pg. 16).

Fig. 13 - eFlow3NX, eFlow4NX, eFlow6NX, eFlow102NX and eFlow104NX.

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**Battery Connections**

(non power-limited. Number of batteries may vary depending on your optional hookup)

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* Output from power supply is power-limited: eFlow3NX and eFlow4NX.

Output from power supply is non power-limited: eFlow6NX, eFlow102NX and eFlow104NX.
Enclosure Dimensions (H x W x D) (approximate):
15.5" x 12.23" x 4.5" (393.7mm x 304.8mm x 114.3mm)

Wiring Output to Devices (power-limited or non power-limited depending on Sub Assembly).

Enclosure for models: AL300ULXD, AL600ULXD, AL1012ULX, AL1024ULX, AL1024ULXR, eFlow3NX, eFlow4NX, eFlow6NX, eFlow102NX, eFlow104NX.
Notes: