TROVE™

Access & Power Integration

Altronix/Openpath Kits

Models Include:

T1PHK1F4S
4 Door Kit with Fused Outputs
Fully assembled kit includes:
- Trove1 enclosure with TC1 Altronix/Openpath backplane
- One (1) eFlow4NB - Power Supply/Charger
- One (1) ACM4 - Fused Access Power Controller
- One (1) VR6 - Voltage Regulator
- One (1) PDS8 - Dual Input/Output Fused Power Distribtuion Module

T1PHK3F8
8 Door Kit with Fused Outputs
Fully assembled kit includes:
- Trove1 enclosure with TC1 Altronix/Openpath backplane
- One (1) eFlow6NB - Power Supply/Charger
- One (1) ACM8 - Fused Access Control Module

T2PHK33F16
16 Door Kit with Fused Outputs
Fully assembled kit includes:
- Trove2 enclosure with TCV2 Altronix/Openpath backplane
- Two (2) eFlow6NB - Power Supply/Chargers
- Two (2) ACM8 - Fused Access Control Modules

T2PHK33F16P8
16 Door Kit with Fused Outputs
Fully assembled kit includes:
- Trove2 enclosure with TCV2 Altronix/Openpath backplane
- Two (2) eFlow6NB - Power Supply/Chargers
- Two (2) ACM8 - Fused Access Control Modules
- One (1) PD8UL - Fused Power Distribution Module

T2PHK77F24
24 Door Kit with Fused Outputs
Fully assembled kit includes:
- Trove2 enclosure with TCV2 Altronix/Openpath backplane
- Two (2) eFlow104NB - Power Supply/Chargers
- Three (3) ACM8 - Fused Access Control Modules

T1PHK1F4SD
4 Door Kit with PTC Outputs
Fully assembled kit includes:
- Trove1 enclosure with TC1 Altronix/Openpath backplane
- One (1) eFlow4NB - Power Supply/Charger
- One (1) ACM4CB - PTC Access Power Controller
- One (1) VR6 - Voltage Regulator
- One (1) PDS8CB - Dual Input/Output PTC Power Distribtuion Module

T1PHK3F8D
8 Door Kit with PTC Outputs
Fully assembled kit includes:
- Trove1 enclosure with TC1 Altronix/Openpath backplane
- One (1) eFlow6NB - Power Supply/Charger
- One (1) ACM8CB - PTC Access Control Module

T2PHK33F16D
16 Door Kit with Fused Outputs
Fully assembled kit includes:
- Trove2 enclosure with TCV2 Altronix/Openpath backplane
- Two (2) eFlow6NB - Power Supply/Chargers
- Two (2) ACM8CB - PTC Access Control Modules

T2PHK33F16P8D
16 Door Kit with PTC Outputs
Fully assembled kit includes:
- Trove2 enclosure with TCV2 Altronix/Openpath backplane
- Two (2) eFlow6NB - Power Supply/Chargers
- Two (2) ACM8CB - PTC Access Control Modules
- One (1) PD8ULCB - PTC Power Distribution Module

T2PHK77F24D
24 Door Kit with PTC Outputs
Fully assembled kit includes:
- Trove2 enclosure with TCV2 Altronix/Openpath backplane
- Two (2) eFlow104NB - Power Supply/Chargers
- Three (3) ACM8CB - PTC Access Control Modules

Installation Guide

Altronix®
More than just power.™

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Rev. TPHK_100124

Installing Company: _____ Service Rep. Name: _____

Address: _____ Phone #: _____

Overview:

Altronix Trove Openpath kits are pre-assembled and consist of Trove enclosures/backplanes with factory installed Altronix power supply/chargers and sub-assemblies. These kits also accommodate various combinations of Openpath boards for up to twenty four (24) doors in a single enclosure.

Configuration Chart:

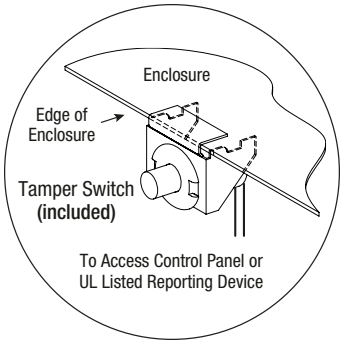
Altronix Model Number	Power Supply Board Input Fuse Rating	Power Supply Board Battery Fuse Rating	120VAC 60Hz Input Current (A)	Maximum Supply Current for Main and Aux. Outputs on Power Supply board, ACM4(CB)/ACM8(CB) Access Power Controllers' or PDS8(CB) outputs	Nominal DC Output Voltage Power Supply [DC] Output Range (VDC)	Nominal DC Output Voltage Power Supply [Aux] Output Range (VDC)	Fail-Safe/Fail-Secure or Dry Form "C" Outputs	Additional Fuse or PTC Protected Outputs	ACM4(CB) or ACM8(CB) Board Input Fuse (PTC) Rating	ACM4(CB) or ACM8(CB) Board Output Fuse (PTC) Rating	PDS8(CB) Board Input Fuse (PTC) Rating	PDS8(CB) Board Output Fuse (PTC) Rating	PD8UL(CB) Board Output Fuse (PTC) Rating
T1PHK1F4S	5A/ 250V	15A/ 32V	3.5	24VDC @ 3.7A	20.17-26.4	20.28-26.4	4	8	10A/ 32V	3A/ 32V	10A/ 32V	3A/ 32V	–
T1PHK1F4SD									9A	2.5A	9A	2.5A	–
T1PHK3F8	5A/ 250V	15A/ 32V	3.5	24VDC @ 5.9A	20.17-26.4	20.28-26.4	8	–	10A/ 250V	3.5A/ 250V	–	–	–
T1PHK3F8D										2.5A			
T2PHK33F16	5A/ 250V	15A/ 32V	7.0	24VDC @ 5.9A + 24VDC @ 5.9A	20.17-26.4	20.28-26.4	16	–	10A/ 250V	3.5A/ 250V	–	–	–
T2PHK33F16D										2.5A			
T2PHK33F16P8	5A/ 250V	5A/ 250V	7.0	12VDC @ 5.6A + 12VDC @ 5.6A	20.17-26.4	20.28-26.4	16	8	10A/ 250V	3.5A/ 250V	–	–	3.5A/ 250V
T2PHK33F16P8D										2.5A			2.5A
T2PHK77F24	6.3A/ 250V	15A/ 32V	9.0	24VDC @ 9.7A + 24VDC @ 9.7A	20.17-26.4	20.28-26.4	24	–	10A/ 2502V	3.5A/ 250V	–	–	–
T2PHK77F24D										2.5A			

Installation Instructions:

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/ANSI, and with all local codes and authorities having jurisdiction. Product is intended for indoor use only.

1. Remove backplane from enclosure. Do not discard hardware.
2. Mark and predrill holes in the wall to line up with the top three keyholes in the enclosure. Install two/three upper fasteners and screws in the wall with the screw heads protruding. Place the enclosure's upper keyholes over the two/three upper screws; level and secure. Mark the position of the lower two/three holes. Remove the enclosure. Drill the lower holes and install the fasteners. Place the enclosure's upper keyholes over the upper screws. Install the lower screws and make sure to tighten all screws.
3. Mount included UL Listed tamper switch (Altronix Model TS112 or equivalent) in desired location, opposite hinge. Slide the tamper switch bracket onto the edge of the enclosure approximately 2" from the right side *(Fig. 1, pg. 2)*. Connect tamper switch wiring to the Access Control Panel input or the appropriate UL Listed reporting device. To activate alarm signal open the door of the enclosure.
4. Connect unswitched AC power (120VAC 60Hz) to terminals marked [L, N]. Use 14 AWG or larger for all power connections. Secure green wire lead to earth ground. Green "AC" LED on power supply board will turn on. This light can be seen through the LED lens on the door of the enclosure.
   Keep power-limited wiring separate from non power-limited wiring (120VAC 60Hz Input, Battery Wires). Minimum 0.25" spacing must be provided.
   CAUTION: Do not touch exposed metal parts. Shut branch circuit power before installing or servicing equipment. There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.
5. Measure voltage before connecting devices. This helps avoiding potential damage.
6. Mount Openpath boards to backplane, *refer to pages 3-7.*
7. Refer to the *eFlow Power Supply/Charger Installation Guide* (eFlow4NB, eFlow6NB, eFlow104NB) and corresponding *Sub-Assembly Installation Guide* (ACM4(CB), ACM8(CB), PDS8(CB), PD8UL(CB) and VR6) for further installation instructions.

Fig. 1



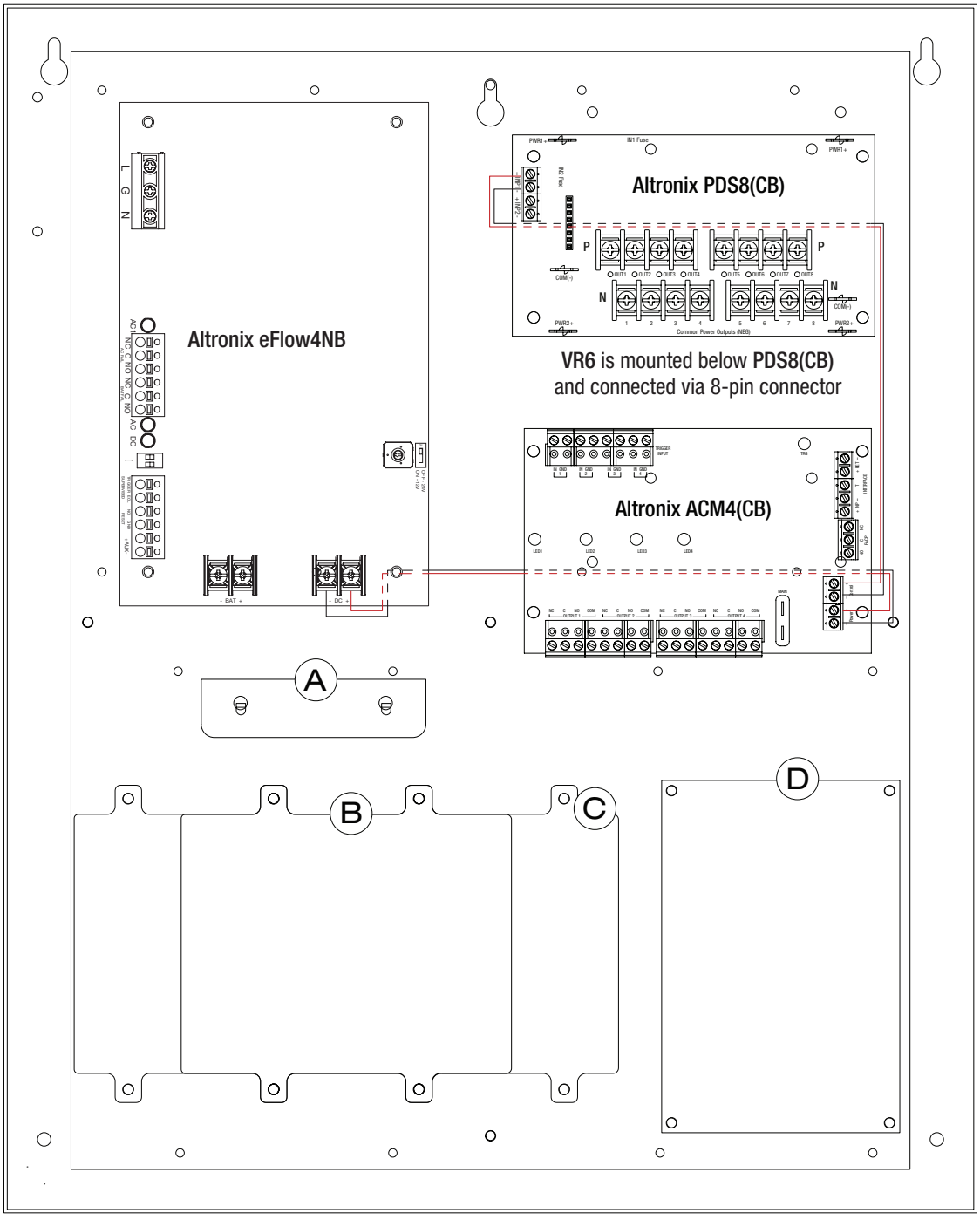
T1PHK1F4S(D): Configuration of Openpath Boards

1. Mount appropriate Openpath boards into the correct positions by postioning pre-mounted spacers over appropriate holes on the backplane and depressing down on board to secure spacer to the backplane *(Fig. 2, pg. 3)*.
2. Fasten TC1 backplane to Trove1 enclosure utilizing pan head screws (provided).

Access Controller Position Chart for the Following Openpath Modules:

Openpath	Mounting Position
OP-ACC	Ⓐ
OP-EX-4E	Ⓑ
OP-EX-8E	Ⓒ
OP-16EM	Ⓓ

Fig. 2



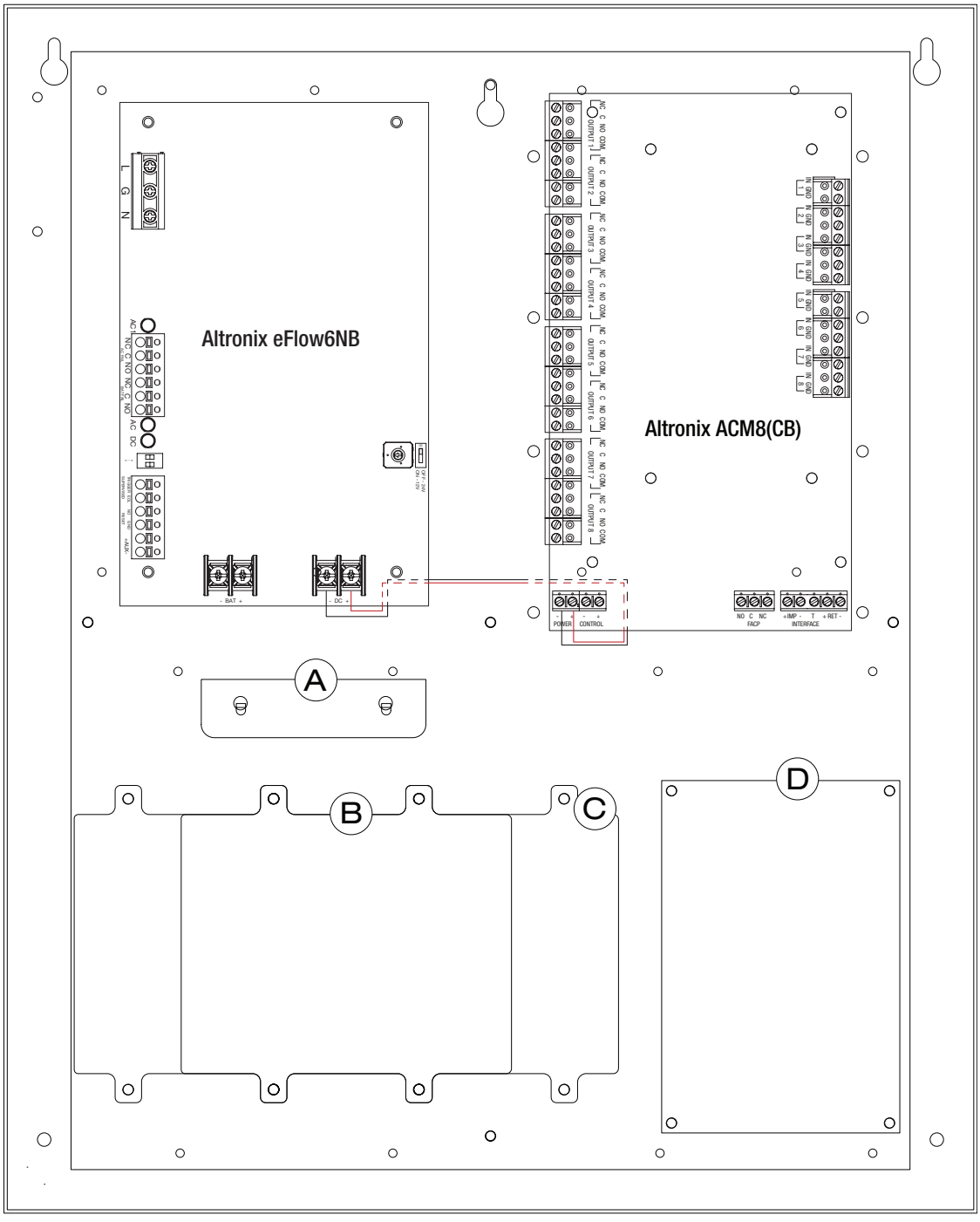
T1PHK3F8(D): Configuration of Openpath Boards

1. Mount appropriate Openpath boards into the correct positions by postioning pre-mounted spacers over appropriate holes on the backplane and depressing down on board to secure spacer to the backplane *(Fig. 3, pg. 4)*.
2. Fasten TC1 backplane to Trove1 enclosure utilizing pan head screws (provided).

Access Controller Position Chart for the Following Openpath Modules:

Openpath	Mounting Position
OP-ACC	Ⓐ
OP-EX-4E	Ⓑ
OP-EX-8E	Ⓒ
OP-16EM	Ⓓ

Fig. 3



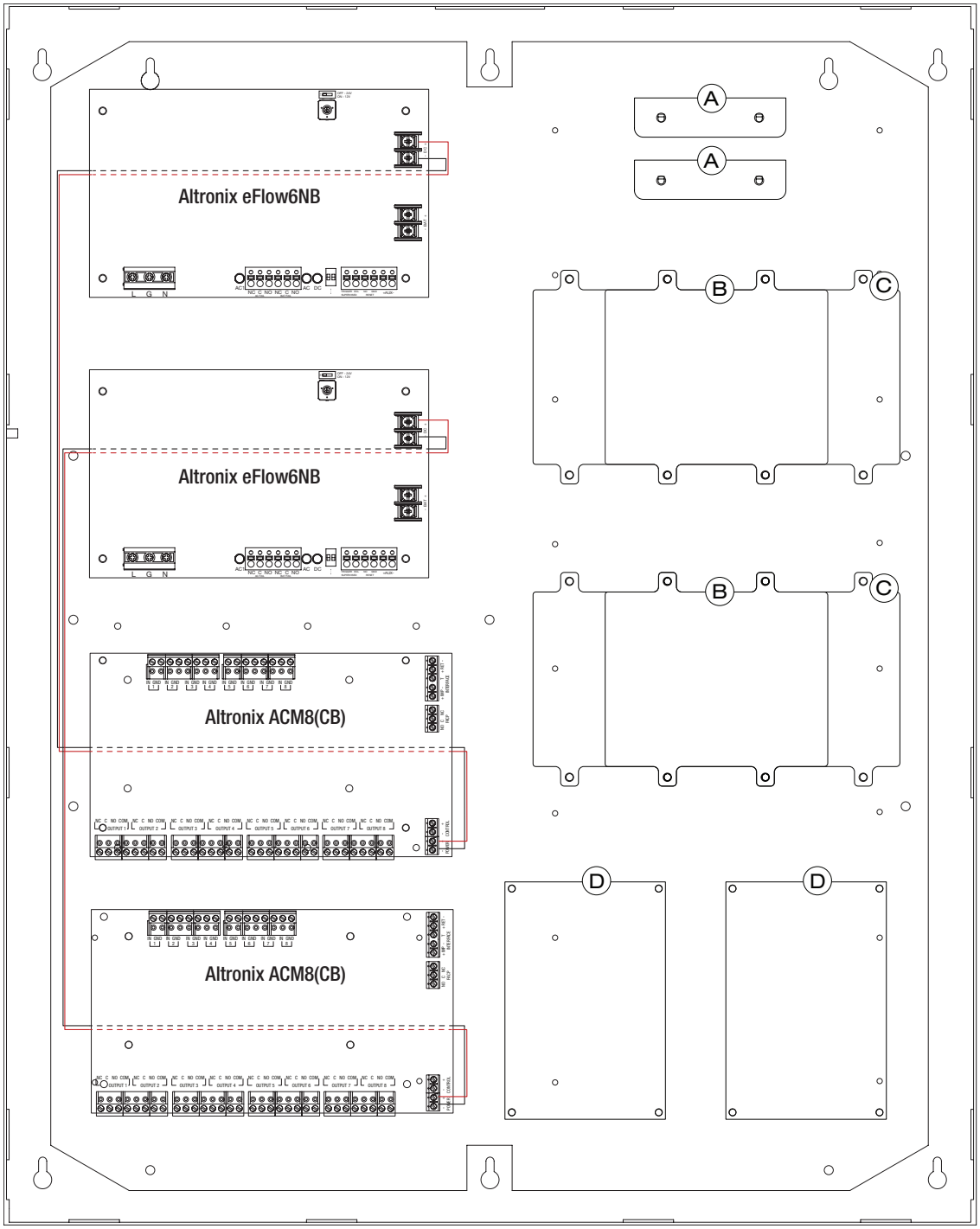
T2PHK33F16(D): Configuration of Openpath Boards

1. Mount appropriate Openpath boards into the correct positions by postioning pre-mounted spacers over appropriate holes on the backplane and depressing down on board to secure spacer to the backplane *(Fig. 4, pg. 5)*.
2. Fasten TC2 backplane to Trove2 enclosure utilizing pan head screws (provided).

Access Controller Position Chart for the Following Openpath Modules:

Openpath	Mounting Position
OP-ACC	Ⓐ
OP-EX-4E	Ⓑ
OP-EX-8E	Ⓒ
OP-16EM	Ⓓ

Fig. 4



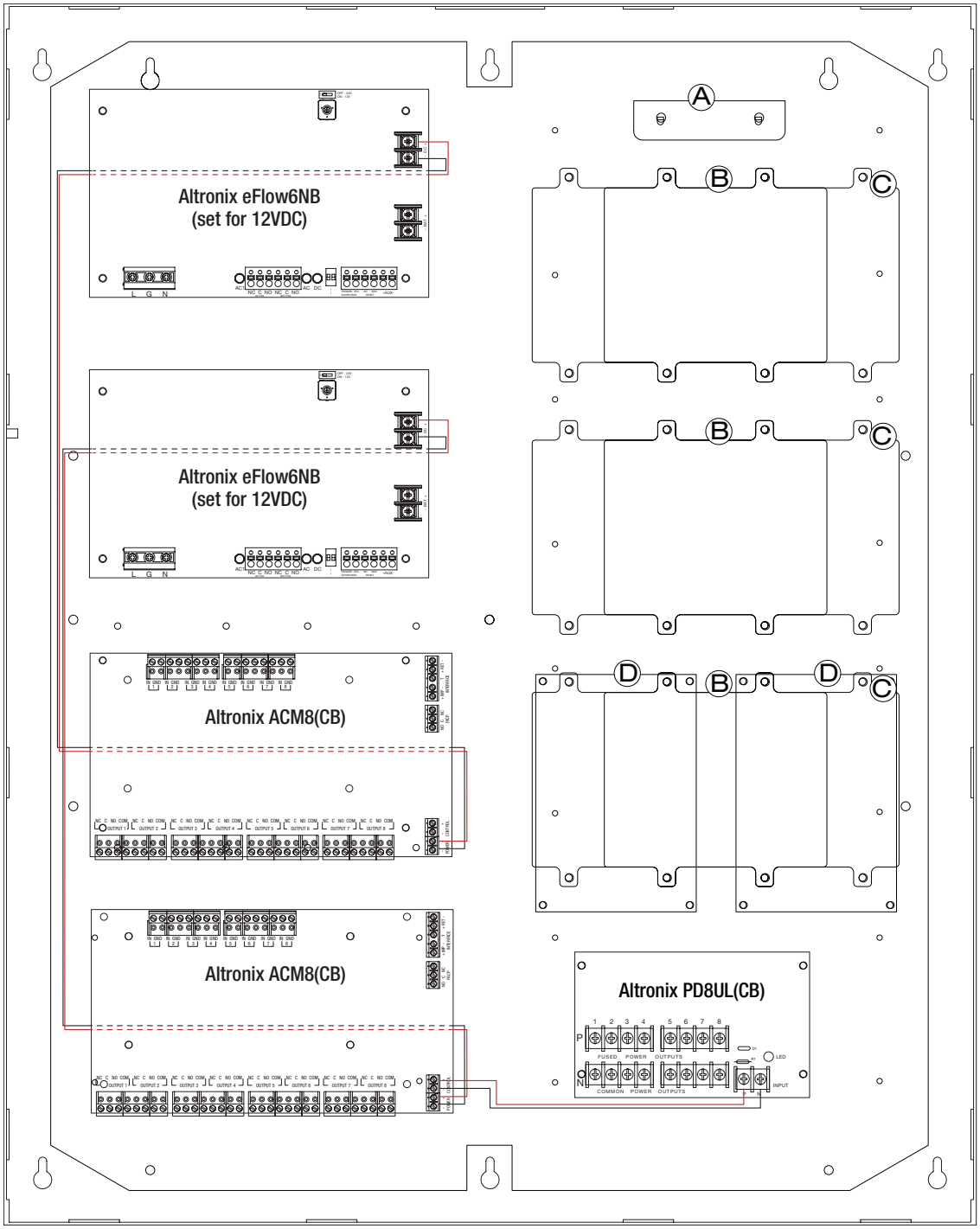
T2PHK33F16P8(D): Configuration of Openpath Boards

1. Mount appropriate Openpath boards into the correct positions by postioning pre-mounted spacers over appropriate holes on the backplane and depressing down on board to secure spacer to the backplane *(Fig. 4, pg. 5)*.
2. Fasten TC2 backplane to Trove2 enclosure utilizing pan head screws (provided).

Access Controller Position Chart for the Following Openpath Modules:

Openpath	Mounting Position
OP-ACC	Ⓐ
OP-EX-4E	Ⓑ
OP-EX-8E	Ⓒ
OP-16EM	Ⓓ

Fig. 4



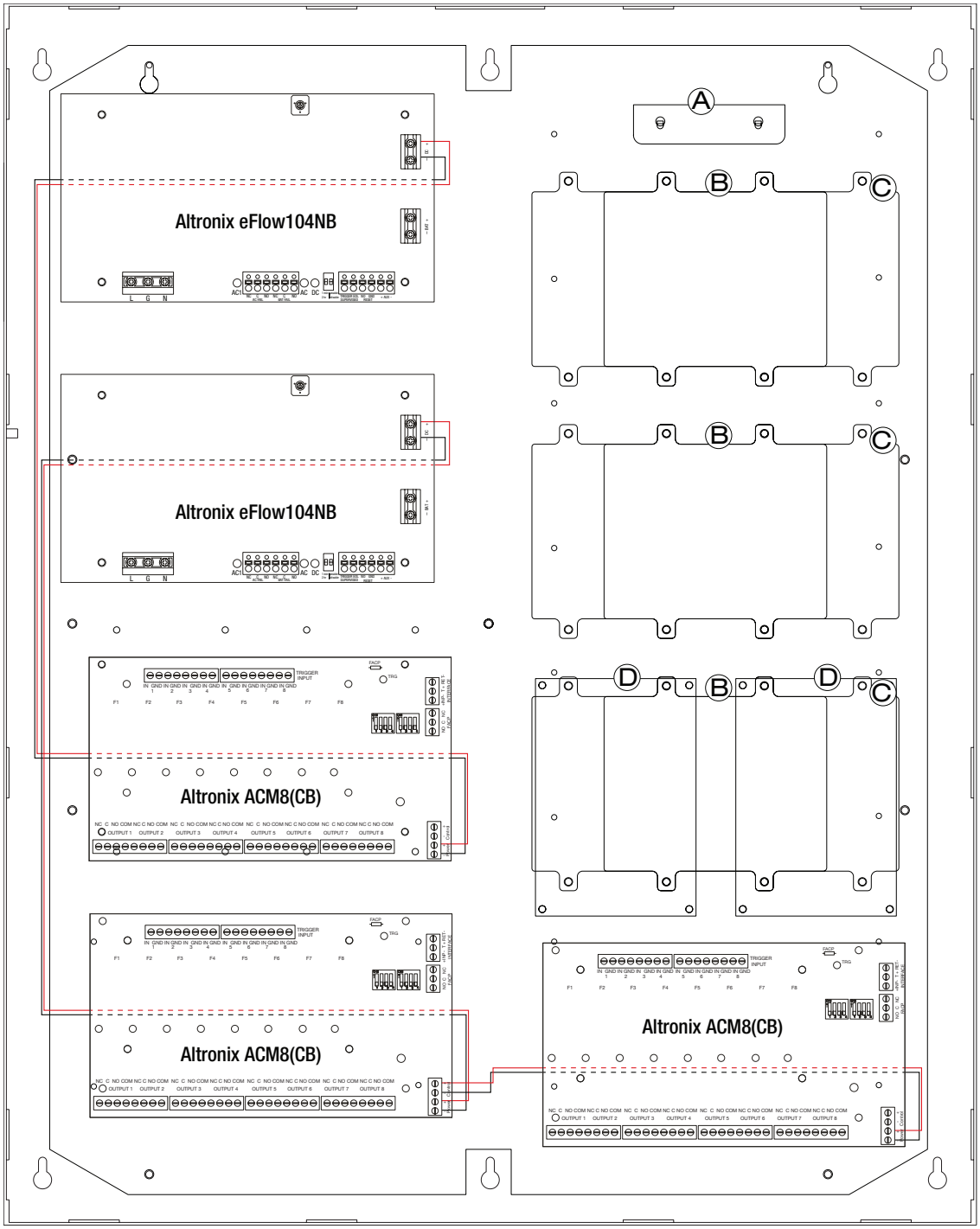
T2PHK77F24(D): Configuration of Openpath Boards

1. Mount appropriate Openpath boards into the correct positions by postioning pre-mounted spacers over appropriate holes on the backplane and depressing down on board to secure spacer to the backplane *(Fig. 5, pg. 6)*.
2. Fasten TC2 backplane to Trove2 enclosure utilizing pan head screws (provided).

Access Controller Position Chart for the Following Openpath Modules:

Openpath	Mounting Position
OP-ACC	Ⓐ
OP-EX-4E	Ⓑ
OP-EX-8E	Ⓒ
OP-16EM	Ⓓ

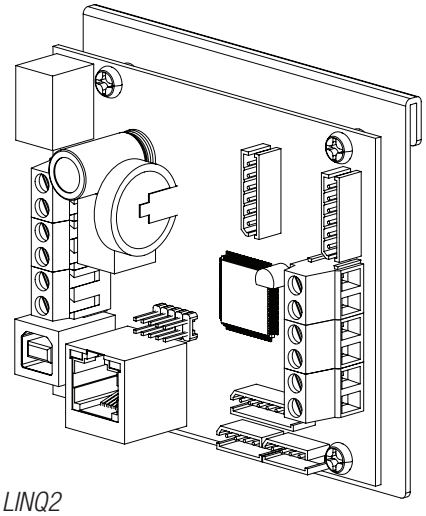
Fig. 5



Notes:

Notes:

eFlow Power Supply/Chargers can be Controlled and Monitored while Reporting Power/Diagnostics from Anywhere over the Network...



LINQ2

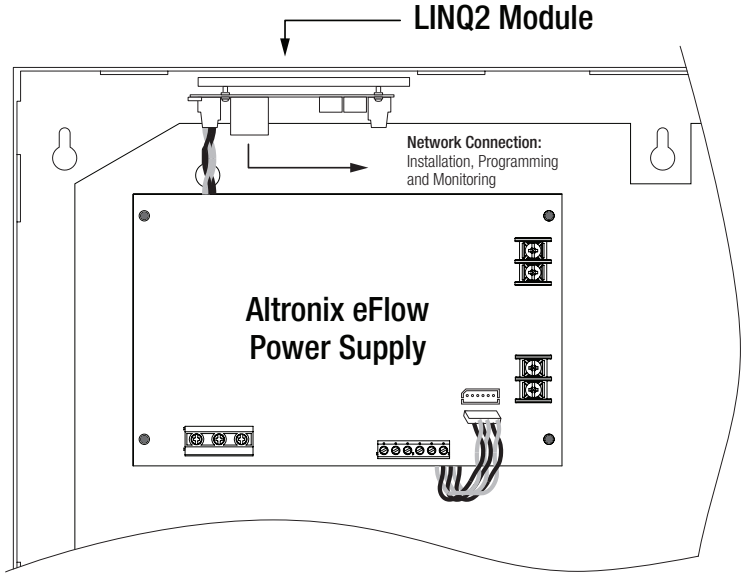
LINQ2 - Network Communication Module

LINQ2 provides remote IP access to real-time data from eFlow power supply/chargers to help keep systems up and running at optimal levels. It facilitates fast and easy installation and set-up, minimizes system downtime, and eliminates unnecessary service calls, which helps reduce Total Cost of Ownership (TCO) - as well as creating a new source of Recurring Monthly Revenue (RMR).

Features:

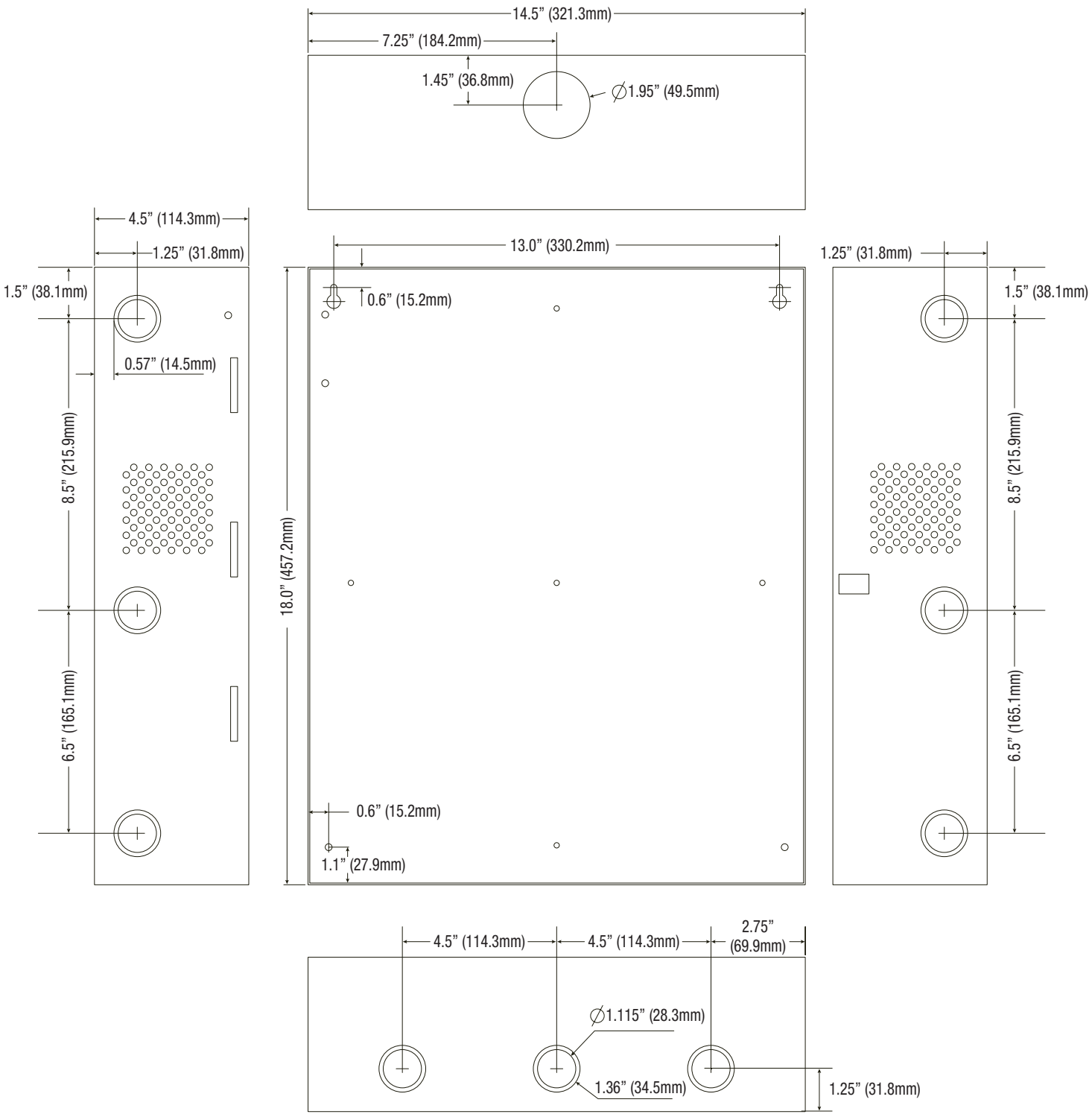
- UL Listed in the U.S. and Canada.
- Local or remote control of up to (2) two Altronix eFlow power output(s) via LAN and/or WAN.
- Monitor real time diagnostics: DC output voltage, output current, AC & battery status/service, input trigger state change, output state change and unit temperature.
- Access control and user managment: Restrict read/write, Restrict users to specific resources
- Two (2) integral network controlled Form “C” Relays.
- Three (3) programmable input triggers: Control relays and power supplies via external hardware sources.
- Email and Windows Dashboard notifications
- Event log tracks history.
- Secure Socket Layer (SSL).
- Programmable via USB or web browser - includes operating software and 6 ft. USB cable.

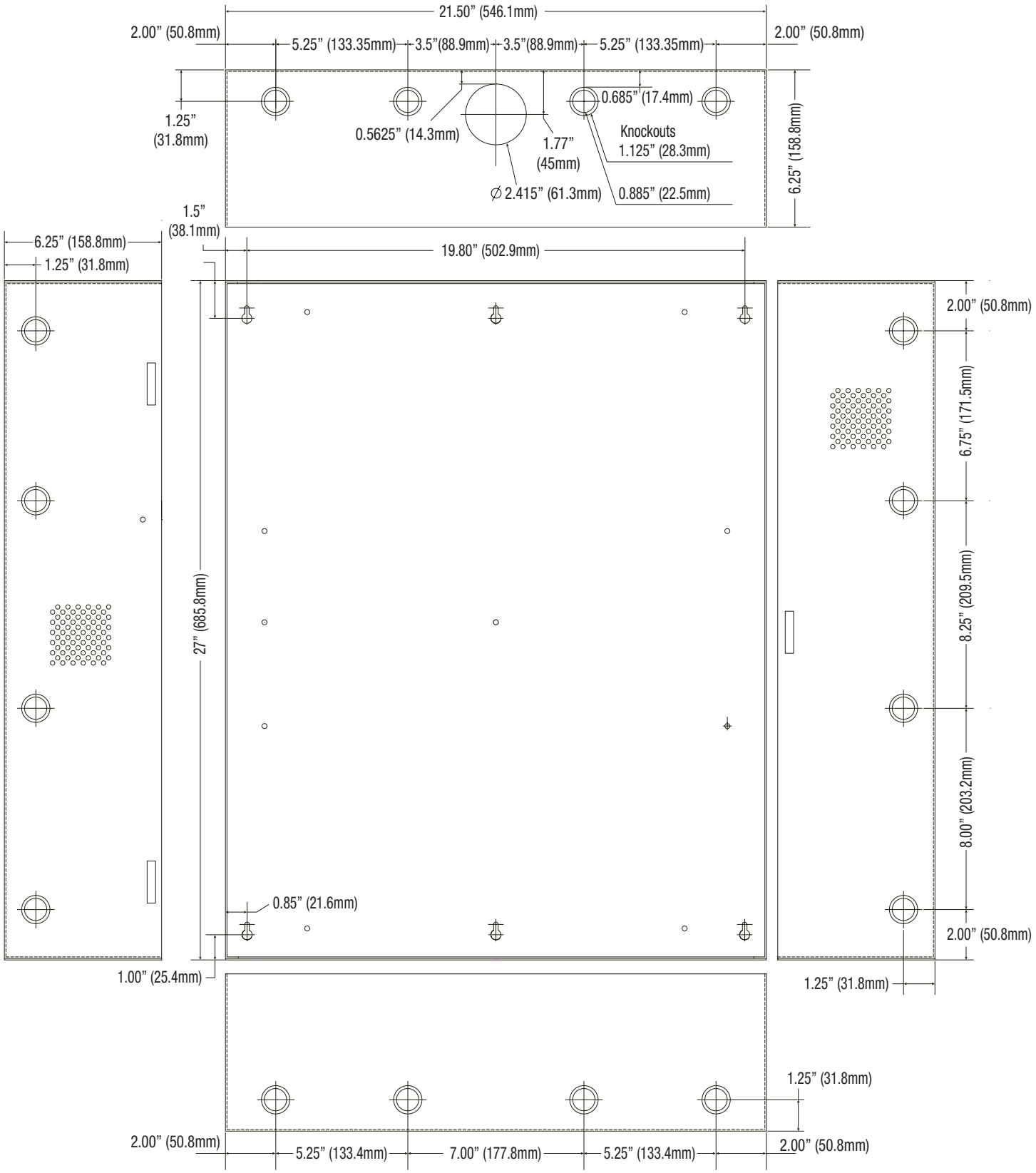
LINQ2 Mounts Inside any Trove Enclosure



T1PHK1F4S(D) and T1PHK3F8(D) (Trove1) Enclosure Dimensions (H x W x D approximate)**:**

18” x 14.5” x 4.625” (457mm x 368mm x 118mm)



T2PHK33F16(D) and T2PHK77F24(D) (Trove2) Enclosure Dimensions (H x W x D approximate):

27.25" x 21.5" x 6.5" (692.2mm x 552.5mm x 165.1mm)