Liebert® NXL Battery Interface Box™

Product Specification/Installation Sheet

SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation of your Liebert NXL™ Battery Interface Board Box. Read this manual thoroughly before working with the DC system. Retain this manual for use by installing personnel.

WARNING

Risk of electrical shock. Can cause personal injury or death.

The DC terminal voltage connected to this equipment will exceed 400VDC and is potentially lethal. Be constantly aware that the DC system contains high DC as well as AC voltages. Check for voltage with AC and DC voltmeters before making contact.

Special safety precautions are required for procedures involving handling, installing and maintaining the DC system. Only properly trained and qualified personnel wearing appropriate personal protective equipment should be involved in installing the Liebert NXL Battery Interface Board Box or preparing the system for installation.

Special care must be taken when working with the batteries associated with this equipment. Observe all DC safety precautions before working on or near the DC system.

The following precautions must be observed when working on this equipment:

- Remove watches, rings and other metal objects.
- Use tools with insulated handles.
- Wear rubber gloves and boots.
- Do not lay tools or metal parts on top of batteries.
- Disconnect charging source prior to connecting or disconnecting DC terminals.
- Determine whether the DC source is grounded. If it is grounded, remove source of ground.

Contact with any part of a grounded DC source can result in electrical shock. The likelihood of such shock will be reduced if such grounds are removed during installation and maintenance.

This unit complies with the limits for a Class A digital device, pursuant to Part 15 Subpart J of the FCC rules. These limits provide reasonable protection against harmful interference in a commercial environment. This unit generates, uses and radiates radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this unit in a residential area may cause harmful interference that the user must correct at his own expense.

Placement and Cable Entry

The Liebert Battery Interface Box should be installed near the DC disconnect. The location should allow access to the box and allow the front door to be opened for service. Access to the Battery Interface Board (BIB), fuse disconnects and terminal blocks are behind the front door. See **Figure 1** for cable entry layout.

Control Connection

Each Liebert NXL Battery Interface Board Box contains a Battery Interface Board (BIB). All DC systems must have their Battery Interface boards controls connected in series. The CAN controls cables must be two, twisted pair, shielded 18AWG (Belden 9156 or equivalent).

NOTE

Care must be taken to route control cables away from high-voltage cables and busbars.Use recommended knockouts for installing all cables and use provided tie point to secure, see ***Figure 2****.*

NOTICE

Risk of improper installation. Can cause equipment damage.

During system commissioning, Emerson Services will set the jumpers on the External Interface Board in the Liebert NXL UPS and the BIB. If another DC source is added to the system after commissioning, it is imperative that Liebert Services reset the jumpers on the EIB board and the BIB board.

Figure 1 Dimensions and layout

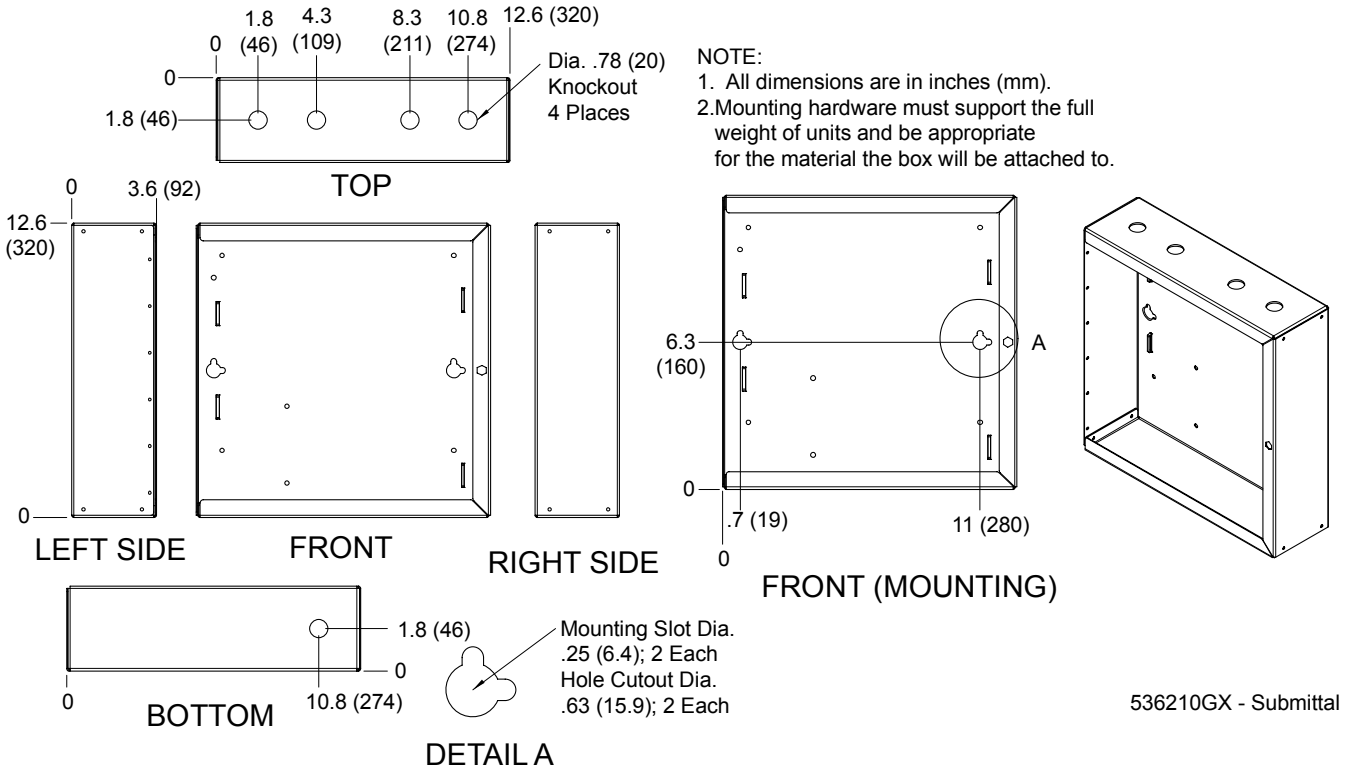
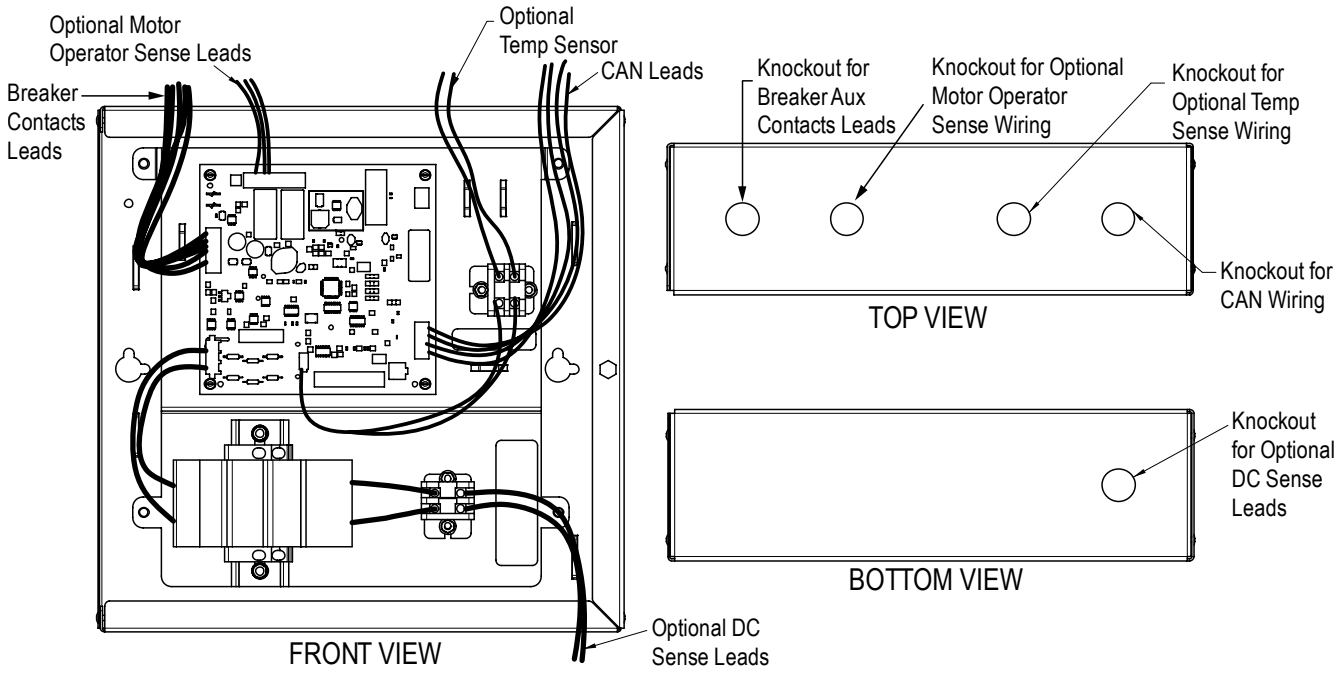


Table 1 Battery Interface Box specifications

Parameter	Values
DC Sense Volts, VDC	384-576
DC Sense Current, IDC	0.0002A
CAN Volts, VDC	24V
CAN Maximum Current, IDC	2A
UVR Volts, VDC	48V
Dry Contacts Volts, VDC (Auxiliary Contacts)	24V
Dry Contacts VoltsCurrent, IDC (Breaker Aux)	10mA
Mounting Hardware (supplied by others)	Must suppor 30lb. (13.6kg)
UVR Max Cont Current, IDC	100mA

Figure 2 Control wiring routing



External Battery Room Temperature Sensor—Optional

Connecting an optional sensor to the BIB to monitor the ambient room temperature will enable the Liebert NXL to perform temperature-compensation charging. The optional temperature sensor should be mounted in the area that will have the highest battery ambient temperature. If multiple Battery Interface Boxes are used with an optional temperature sensor, the UPS will report the highest temperature.

DC Sense Connections—Optional

Connecting the optional DC sense voltage wires will allow the Liebert NXL to display the DC source on the UPS HMI. This connection cannot be used with split-battery bus systems, flywheel systems or any DC system that does not have a valid DC voltage when the DC breaker is open.

If the DC sense wires are connected to the BIB, the DC source cabinet may require field-installed fuse protection; refer to national and local codes to verify. The DC sense wires must run from the most-positive DC voltage to the most-negative DC voltage

DC Breaker Undervoltage Release (UVR) Contacts

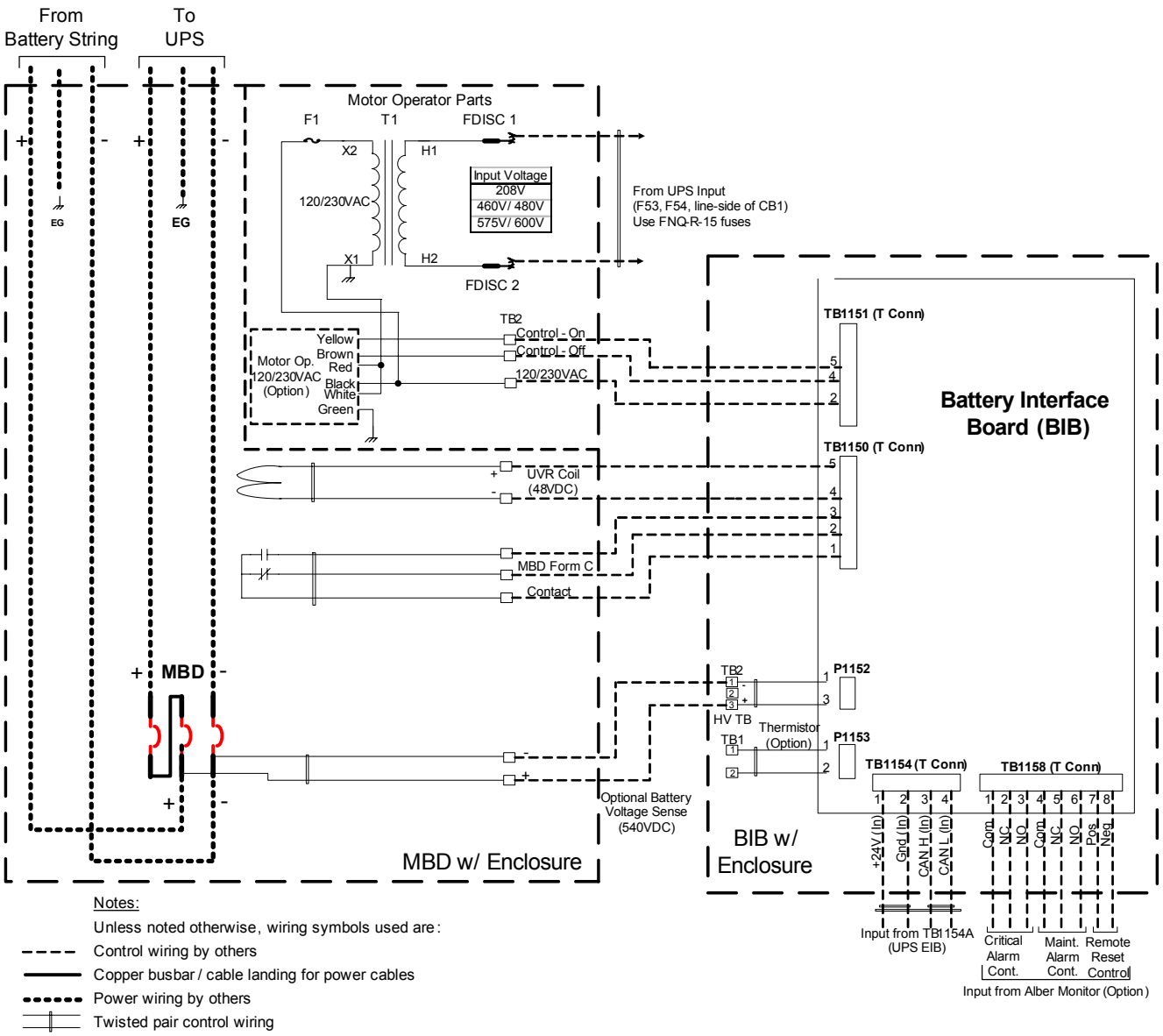
If the DC breaker is used as a Module Battery Disconnect breaker (UPS will have control of the breaker), then the 48V UVR contacts must be run to the BIB.

If the DC breaker is used as a Battery Isolation Switch, then the 48V UVR contacts will **not** be run to the BIB.

CAN Communication Connections

Belkin 9156 (or equivalent) cable must be used to run the CAN Communication Connections. If multiple External Battery Interface Boxes are used, the CAN cables will connect in a daisy chain from the UPS EIB to BIB #1 to BIB #2 to BIB #N.

Figure 3 Motor operator



Liebert Corporation

1050 Dearborn Drive
P.O. Box 29186
Columbus, OH 43229

Telephone: 1-800-877-9222
Facsimile: 1-614-841-6022
www.liebert.com

SL-25515_REV5_07-11