

Liebert® NX Battery Interface Box™

Product Specification/Installation Sheet

SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation of your Liebert NX™ 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 NX 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 Board 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 Boards (BIB), fuse disconnects and terminal blocks are behind the front door. See **Figure 1** for cable entry layout.

Control Connection

Each Liebert NX Battery Interface Board Box contains two Battery Interface Boards (BIB). All DC systems must have their Battery Interface Board controls connected in series. The control cables must be double-insulated. The wire must be 600V, 16-18 AWG stranded wire.



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 Network Power Liebert Services will set the jumpers on the External Interface Board in the Liebert NX 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

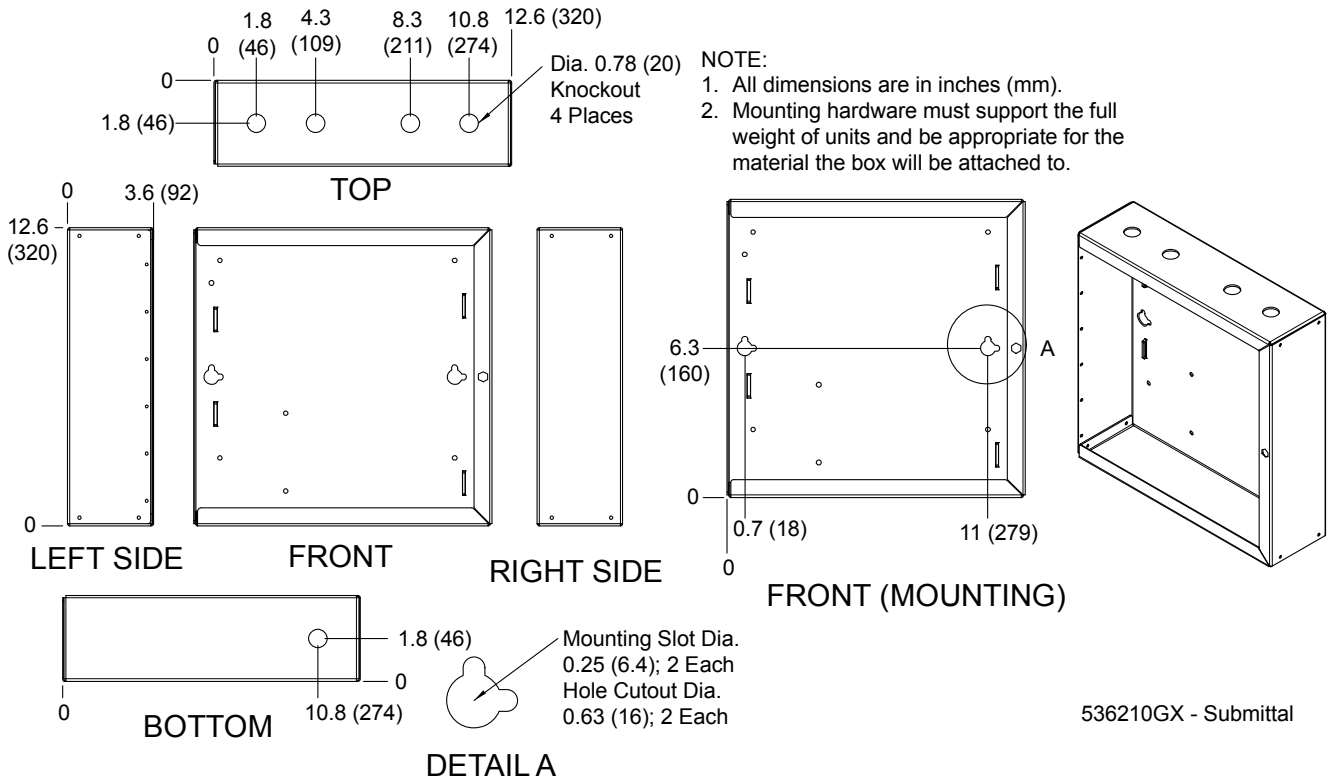


Table 1 Battery Interface Board Box specifications

Parameter	Values
DC Sense Volts, VDC	384-576
DC Sense Current, IDC	0.5A
Shunt Trip Volts, VDC	220V
Dry Contacts Volts, VDC (Auxiliary Contacts)	220V
Dry Contacts Volts, VDC (Breaker Aux)	10mA
Mounting Hardware (supplied by others)	Must support 30 lb. (13.6kg)

Figure 2 Layout and cable routing

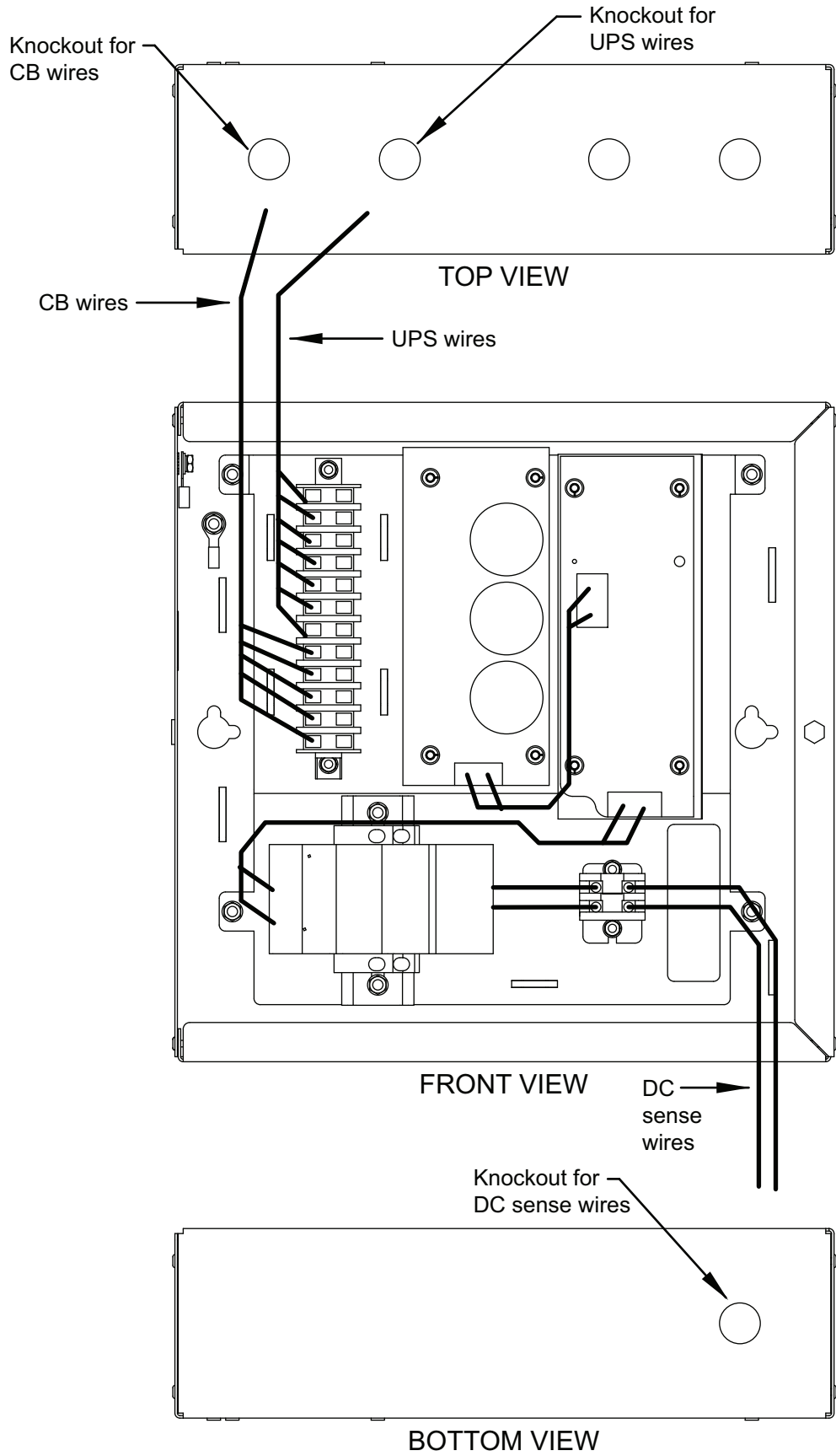
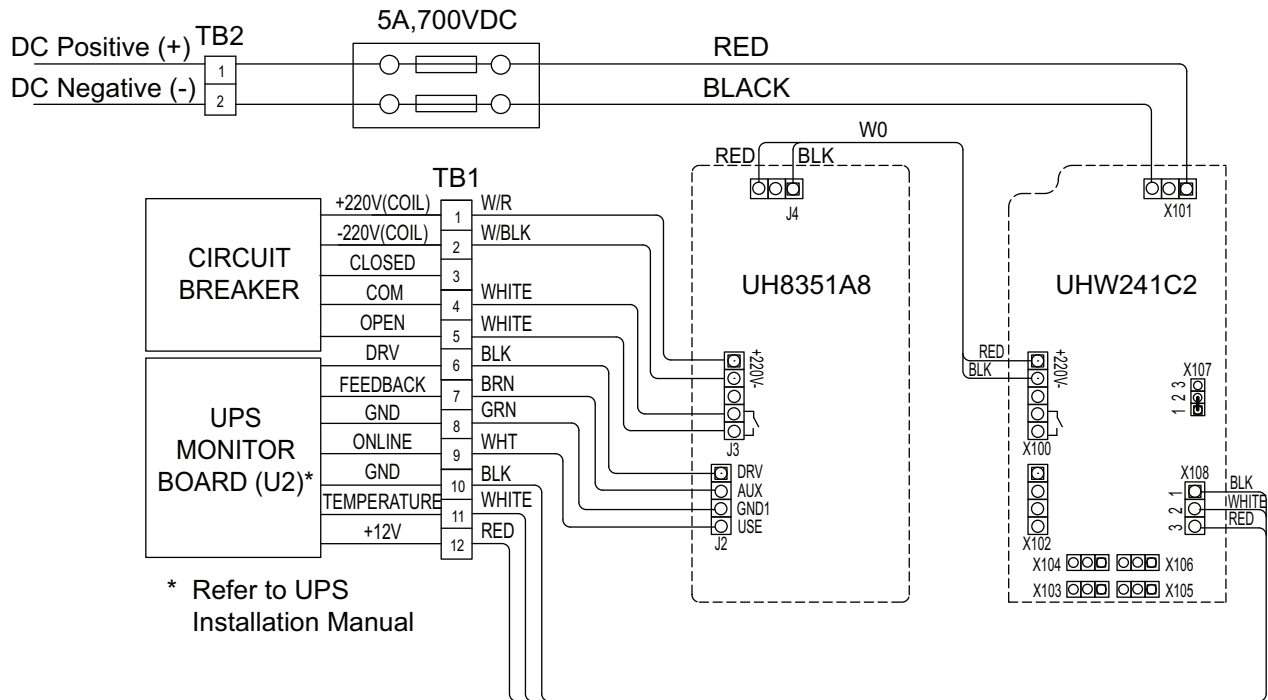


Figure 3 Wiring diagram



DC Sense Connections

Connecting the optional DC sense voltage wires will allow the Liebert NX 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 Shunt Trip Contacts

If the DC breaker is being used as a Module Battery Disconnect breaker (UPS will have control of the breaker), then the 220V shunt trip contacts must be run to the BIB.

If the DC breaker is being used as a Battery Isolation Switch, then the 220V shunt trip contacts will **not** be run to the BIB.

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