

## iQUBE<sup>2</sup> Digital Diagnostic Junction Box

# 12 VDC Remote Power Supply Installation

This document contains procedures for installing the 12 VDC remote power supply, PN 108434. This power supply is recommended for use in iQUBE<sup>2</sup> installations that do not have AC power available at the scale platform.

See the iQUBE<sup>2</sup> Installation Manual, PN 106113, for general installation and configuration information. The Power Considerations section of that manual includes a discussion of how to calculate current draw and voltage drop for a given system.



**WARNING:** Disconnect Power before opening your supply enclosure.



**CAUTION:** Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when working with circuit boards.

This power supply provides 44 watts of power, with continuous current of 3.7 amps, to power a full system over typical distances from scalehouse to scale. The power supply is mounted in an 8 x 6 x 4-inch NEMA 4X FRP enclosure and includes a transient protection board, PN 109396. The transient board option for the iQUBE<sup>2</sup>, PN 110949, includes the transient protection board and a mounting bracket for the iQUBE<sup>2</sup> enclosure.

Figure 1 shows the transient protection board connectors. Wire the output DC power cable from the V+ and V- terminals to the corresponding transient protection board terminals in the iQUBE<sup>2</sup> enclosure

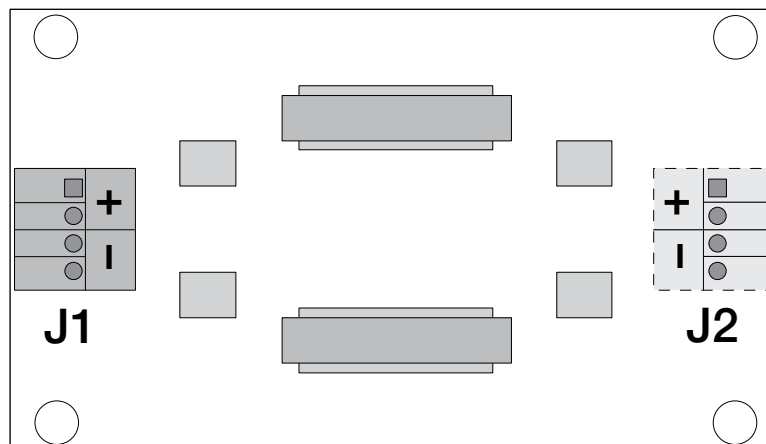


Figure 1. Transient Protection Board Connections

The transient boards will handle the maximum current provided by the power supply, but large current loads increase the voltage drop across the inductive chokes and could reduce the input voltage to the iQUBE<sup>2</sup> system below the 6 VDC minimum.



**NOTE:** When using 4-wire power cable, the cable voltage drop between the remote power supply and the iQUBE<sup>2</sup> can be cut in half by using two wires for both the supply and return cable runs. Cabling can be doubled by wiring to both V+ terminals and both V- terminals on the transient board connectors.

Number	PN	Description	Quantity
1	110496	Enclosure	1
2	214444	Power cord assembly	1
3	15628	Cord grip, 1/2 NPT	1
4	30376	Seal ring, 1/2 NPT	1
5	15630	Lock nut, 1/2 NPT	1
6	221141	Back panel	1
7	109526	Machine screws, 10-32NC x 3/8	4
8	109529	Machine screw, 8-32NC x 3/8	1
9	15631	Cable ties	2
10	208511	12V power supply board	1
11	109396	Transient protection board	1
12	14825	Machine screws, 4-40NC x 1/4	8
13	88733	Breather Vent	1
14	88734	Breather vent nut	1
15	16892	Earth/ground label	1

Table 1. Replacement Parts

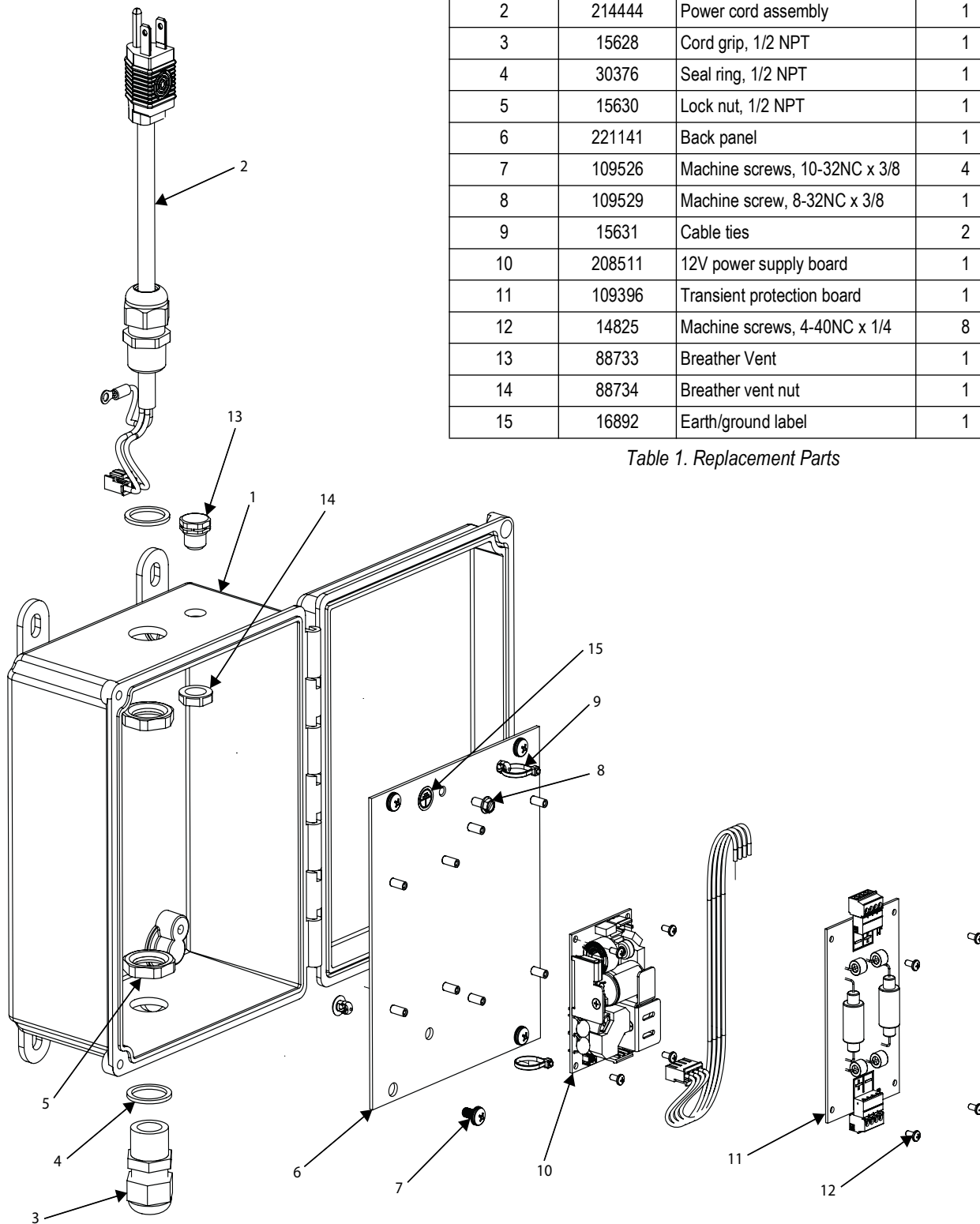


Figure 2. 12 VDC Remote Power Supply Replacement Parts

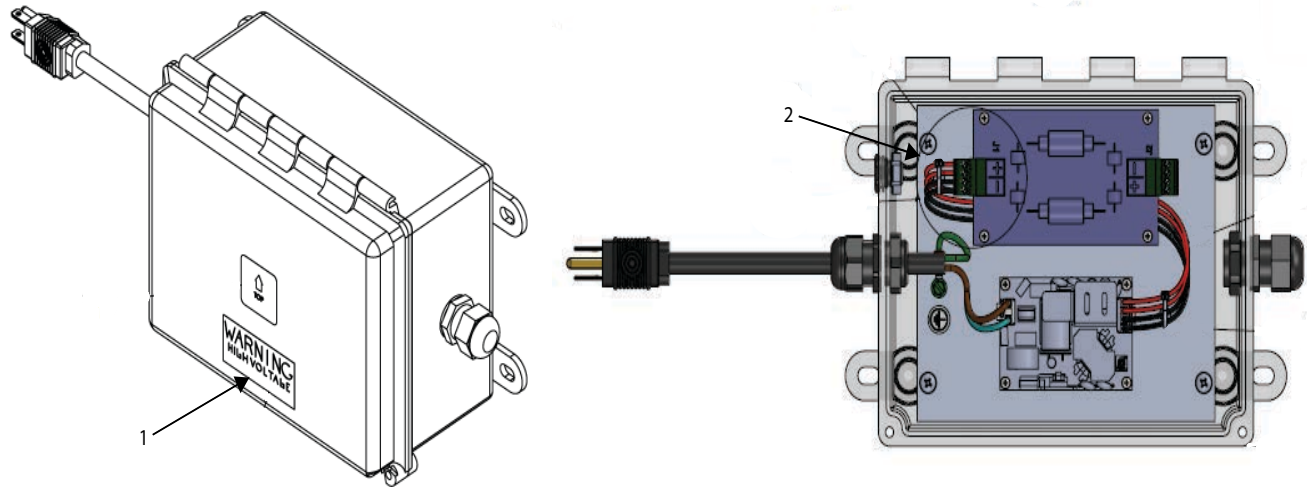


Figure 3. 12 VDC Remote Power Supply Replacement Parts

Number	PN	Description	Quantity
1	16861	High voltage warning label	1
2	221142	4-position power supply, MTA cable	1

Table 2. Replacement Parts

### Specifications

Enclosure	FRP, NEMA 4X 8 in x 6 in x 4 in
Input voltage:	90–265 VAC
DC voltage:	12 V
Rated current:	3.7A
Current range:	0–4.4A
Rated power:	44.4W
Voltage adjustment range:	11.4–13.2 V
Line regulation:	± 1.0%
Operating temperature:	–10°C to +60°C (14°F to 140°F)
Working humidity:	20% to 90% RH, non-condensing
Storage temperature:	–20°C to +85°C (–4°F to 185°F)
Storage humidity:	10% to 95% RH



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