iQUBE²®
Digital Diagnostic Junction Box

Specifications

Voltage Input:
115/230 VAC power supply
DC/DC converter for 9 to 36V
6 to 12 V DC to CPU

Analog Signal Input Range:
-78 to +78 mV

Analog Signal Sensitivity:
0.3 uV/grad at 30 Hz
0.5 uV/grad at 100 Hz
1.2 uV/grad at 500 Hz

A/D Sampling Rate:
2.5 to 500 Hz (selectable)

Digital I/O:
Four per card, for push-button operation,
setpoint control or cell status

Communication Ports:
RS-232/RS-422

Load Cell Inputs:
Four channels per board
up to four networked boards

Load Cell Excitation:
5 V DC, 57 mA maximum per channel

Temperature Range:
Certified:
14 °F to 104 °F (-10 °C to 40 °C)
Operating:
-13 °F to 140 °F (-25 °C to 60 °C)
Storage:
-13 °F to 158 °F (-25 °C to 70 °C)

Rating/Material:
Polycarbonate (NEMA Type 4X) enclosure with
overlapping solid cover, stainless steel screws
Stainless steel (NEMA Type 4X) enclosure
with hinged cover

Warranty:
Two-year limited

Approvals:
NTEP 03-032A1
Measurement Canada AM-5561
cULus E151461
CE Marked

Approvals

NTEP | Measurement Canada Approved | cULus LISTED | CE

TuffSeal®

Standard Features

- iQUBE² board has four A/D channels
- Supports networking up to four boards, for 16 A/D channels; connection can be up to four separate platforms with a system total, or four separate scale systems
- Diagnostic routines for weighing errors and system health
- Cell tests for overloaded, underloaded, zero reference, drift, noise and unbalanced conditions
- Onboard status LEDs for communication and visual bi-color indication of cell health
- Cell emulator compensates for load cell failure until a repair can be made

- Cal-Match® algorithm automatically trims and calibrates the scale in one pass of test weights (stopping over each mount)
- Standard communications
- Option card slot for fiber optic, Ethernet TCP/IP, wireless TCP/IP, USB or RS-232/RS-485
- Communicates to 920i®, 1280, VIRTUi²® using ASCII (EDP) serial commands

Applications

- Truck and railroad scales
- Tank and hopper scales
- Multi-channel scales

Part Number/Price

Part #	Description	Est. Weight	Price
With AC Power Supply			
108425*	iQUBE², four-channel, polycarbonate 8 × 10 in junction box	9 lb	Consult
108426	iQUBE², four-channel, polycarbonate 10 × 12 in junction box	11 lb	Consult
108427	iQUBE², eight-channel, polycarbonate 10 × 12 in junction box	11 lb	Consult
108428*	iQUBE², four-channel, stainless steel 8 × 10 in junction box	13 lb	Consult
Without Power Supply			
108429*	iQUBE², four-channel, polycarbonate 8 × 10 in junction box	8 lb	Consult
108430	iQUBE², four-channel, polycarbonate 10 × 12 in junction box	10 lb	Consult
108431	iQUBE², eight-channel, polycarbonate 10 × 12 in junction box	10 lb	Consult
108432*	iQUBE², four-channel, stainless steel 8 × 10 in junction box	12 lb	Consult
Conduit Adapters			
92734	Conduit adapter 3/8 in NTP to 3/4 in NPT		Consult
92735	Conduit adapter 1/2 in NTP to 3/4 in NPT		Consult

* Enclosure size 8 x 10 in required for truck scale junction box pocket

Note: Do not mix junction box models or use other brands of junction boxes with Rice Lake junction boxes.
There is a risk of system instability.

Options/Accessories

Part #	Description	Price
108433	Four-channel iQUBE² board with cables and connectors	Consult
97475	DC/DC power supply, 9-36 VDC (requires factory installation)	Consult
108434	Remote power supply 115/230 VAC and transient board with enclosure	Consult
109396	Transient board	Consult
110949	Transient board with mount	Consult
161954	Hotspot in polycarbonate enclosure	Consult
215178	Mounting tabs-new style (set of 4, includes screws), polycarbonate	Consult
Communication Card		
108579	RS-232/RS-485 port	Consult
77142	Ethernet TCP/IP	Consult
206272	Wireless LAN 802.11 A/B	Consult
93245	USB port	Consult
77143	Fiber-optic board	Consult
77788	Fiber-optic board (installed in 920i)	Consult
Duplex Fiber (Max Run 350 ft)		
78026	Fiber-optic cable, 100 ft	Consult
78027	Fiber-optic cable, 200 ft	Consult
78910	Fiber-optic cable, custom length	Consult/ft
Home Run Cable		
116587	EL166 16 gauge, six conductor, shielded	Consult/ft
Software		
108436	VIRTUi² activation part number	Consult
112262	Firmware update flash cable	Consult
920i® Indicators for use with iQUBE2, requires version 4 software		
77790	920i Universal, 115 VAC, without A/D	Consult
77791	920i Universal, 230 VAC, without A/D	Consult
93243	920i Deep Universal, 115 VAC, without A/D	Consult
93244	920i Deep Universal, 230 VAC, without A/D	Consult
77792	920i Panel Mount, 115 VAC, without A/D	Consult
77793	920i Panel Mount, 230 VAC, without A/D	Consult
77794	920i Wall Mount, 115 VAC, without A/D	Consult
77795	920i Wall Mount, 230 VAC, without A/D	Consult
1280 Indicators for use with iQUBE2		
189623	1280 7 inch touch-only, AC power supply, no power cord, standard display, without A/D	Consult
188526	1280 7 inch touch-only, AC power supply, no power cord, high visibility display, without A/D	Consult
188395	1280 12 inch touch-only, AC power supply, no power cord, high visibility display, without A/D	Consult
181073	1280 Panel Mount, DC power supply, no power cord, standard display, without A/D	Consult
178473	1280 Panel Mount, AC power supply, no power cord, high visibility display, without A/D	Consult
205677	1280 Wall Mount, AC power supply, U.S. power cord, standard display, without A/D	Consult
171667	1280 Wall Mount, AC power supply, U.S. power cord, high visibility display, without A/D	Consult
174750	1280 Panel Mount, AC power supply, no power cord, standard display, without A/D	Consult
174207	1280 Universal, AC power supply, Europe power cord, standard display, without A/D	Consult
171582	1280 Universal, AC power supply, U.S. power cord, standard display, without A/D	Consult
188713	1280 Universal, DC power supply, no power cord, standard display, without A/D	Consult
171540	1280 Universal, DC power supply, no power cord, high visibility display, without A/D	Consult
172419	1280 Universal, AC power supply, U.S. power cord, high visibility display, without A/D	Consult

Fiber Optic Transceiver
RS-232/RS-422/RS-485
Ethernet TCP/IP
Wireless Ethernet

Sample Configurations

Not an actual system—illustrates connectivity

JUNCTION BOXES / SIMULATORS

iQUBE²®
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Dimensions

iQUBE²			
Stainless Steel 8 × 10 in			
A	11.50 in (292 mm)	E	6.00 in (152 mm)
B	10.30 in (262 mm)	F	4.30 in (109 mm)
C	10.90 in (277 mm)	G	4.20 in (107 mm)
D	8.30 in (211 mm)		
POLY 8 × 10 in			
A	10.10 in (257 mm)	E	4.00 in (102 mm)
B	9.50 in (241 mm)	F	6.00 in (152 mm)
C	8.50 to 9.30 in (216 to 236 mm)	G	5.70 in (145 mm)
D	7.40 in (188 mm)		
POLY 10 × 12 in			
A	12.10 in (307 mm)	E	6.00 in (152 mm)
B	11.50 in (292.1 mm)	F	7.00 in (178 mm)
C	10.50 to 11.30 in (267 to 287 mm)	G	6.70 in (170 mm)
D	9.30 in (236 mm)		