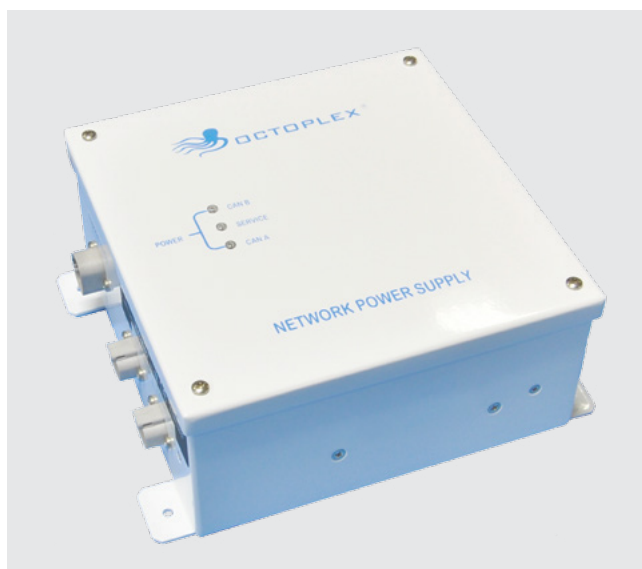


NETWORK POWER SUPPLY

A2205-[]-CE

The Network Power Supply (NPS) provides regulated +15 VDC to the OctoPlex dual CAN network system. The power supply utilizes one AC and two DC power inputs for redundancy.



Product Highlights:

- ◆ 120 VAC Input Power (Carling P/N A2205-1-CE)
- ◆ 230VAC Input Power (Carling P/N A2205-2-CE)
- ◆ +24V DC Input Power
- ◆ Dual CAN Bus Connection/Communications
- ◆ 7.5 amp Thermal breakers for each 15 volt output
- ◆ Network Health LED Status Indicators



Table 1:

LED Indicator	Color	Condition
CAN Bus A	Green	CAN Bus On
	No Indication	CAN Bus Off
Service	Red	Needs Service
	No Indication	Normal Operation
CAN Bus B	Green	CAN Bus On
	No Indication	CAN Bus Off

Installation

The Network Power Supply should be installed in a location that allows access to the thermal circuit breakers installed on the connector side of the unit. At least one (1) power input (AC or DC) must be present for the NPS to operate. Depending on network complexity, one (1) or more Network Power Supplies can be installed. See Diagrams for Typical Single or Multiple NPS installations.

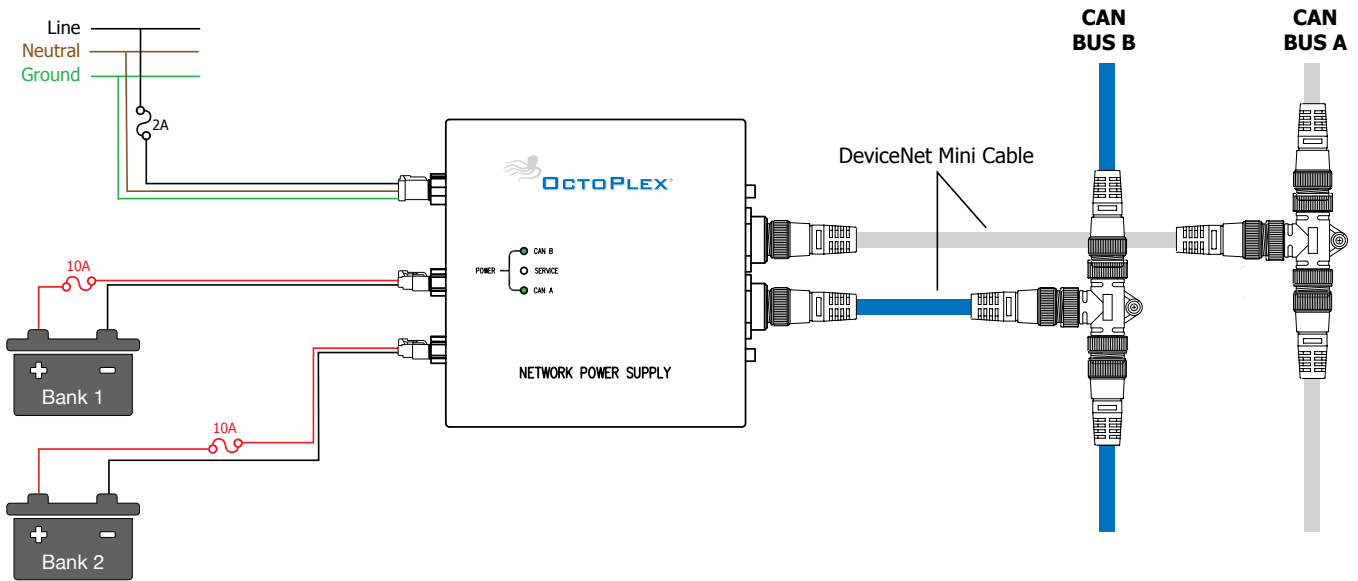


CAUTION!

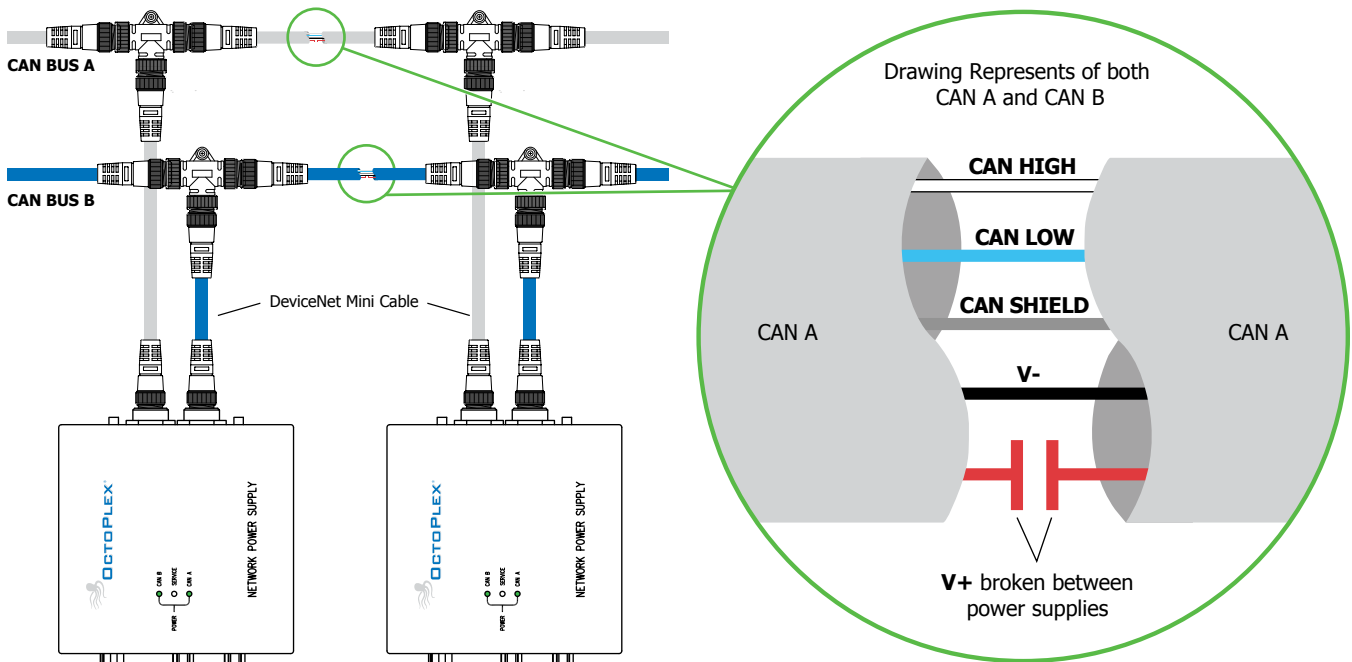
This is the only OctoPlex® component, which uses Mini/Thick cable and Mini-C connectors (other components use Micro-C connectors). The drops used for this component should have a Male Mini-C connection on both ends.

*Manufacturer reserves the right to change product specification without prior notice. Please refer to our website for the latest details.

Typical Installation Diagram's Single Network Power Supply



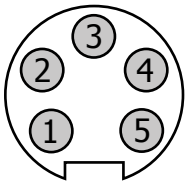
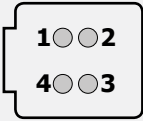

Typical Installation Diagram's Multiple Network Power Supply



WARNING!

The required number of Network Power Supplies will be determined by the length of the backbone and the sum of the devices powered on the network. If multiple power sources are required, V+ (NET-S) must be broken (on both Buses) between the sources. The SHIELD (drain) must be connected at only ONE power supply.

Pin Out Connections

Connector	Pin	Connection	View	Mating Connector
J1 / J2	1	Shield		Device Net Mini-C Male
	2	Power Output		
	3	Power Return		
	4	CAN HI		
	5	CAN LOW		
J3	1	AC Neutral		DT06-4S
	2	AC Ground		
	3	AC Ground		
	4	AC Line		
J4 / J5	1	DC Power Input		DT06-2S
	2	DC Power Return		

* Two female Mini-C connectors are provided for connection to the primary and secondary CAN Bus via drop cables.

Maintenance

The Network Power Supply requires no maintenance. Any service or repair issues should be handled by a factory authorized technician.

General Specifications

Electrical

AC Voltage Input	
A2205-1-CE:	90-126VAC; 56Hz - 63Hz
A2205-2:	220-264VAC; 47Hz-53Hz
AC Input Current (Max)	2 Amps
DC Voltage Input	18VDC – 36VDC
DC Input Current (Max)	6 Amps
CAN Bus Output Voltage	+15 VDC (± 0.5)

Mechanical

Dimensions	7.80" X 8.84" X 3.85"
CAN Bus Connectors	Two (2) Mini Female
AC Power Input Connector	Deutsch P/N DT06-4S
DC Power Input Connector	Two (2) Deutsch P/N DT06-2S
Mounting	4 each 4 x 0.16 #6 hardware
Orientation	N/A

Certifications

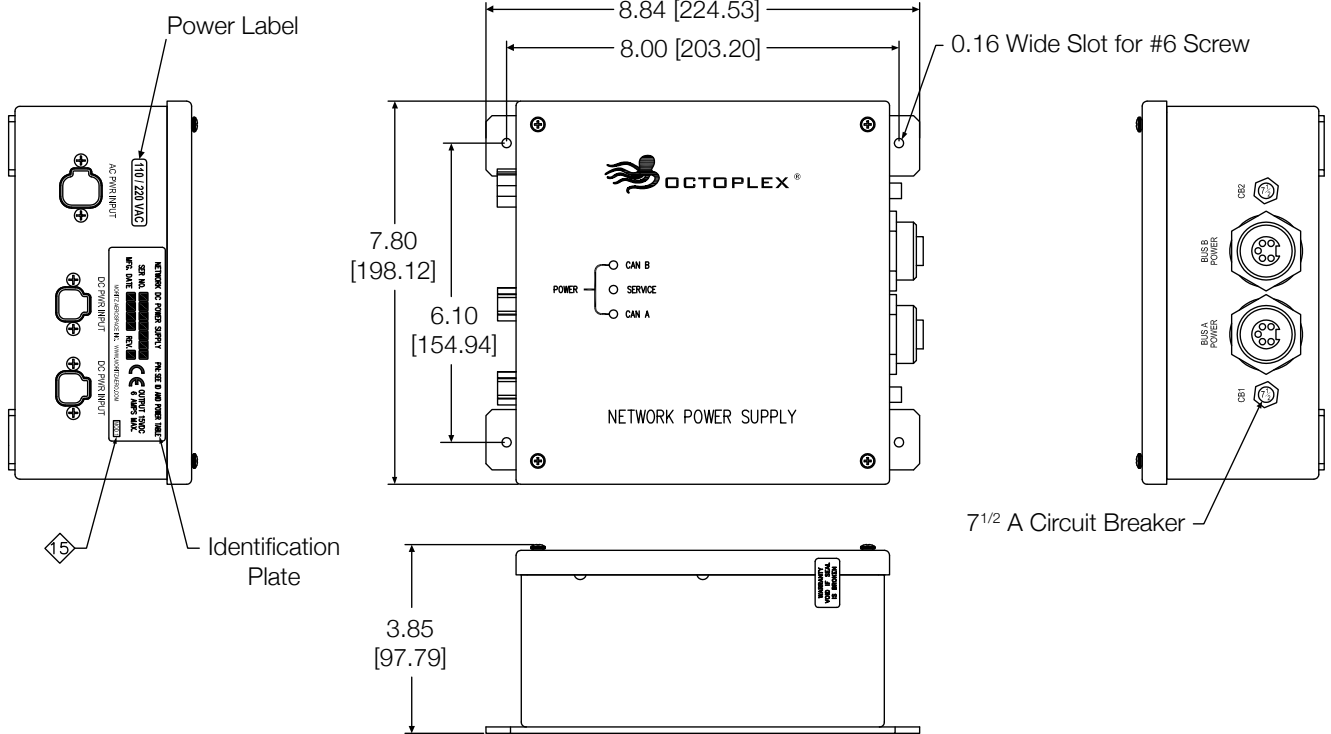
NMEA 2000	Category B
Lloyd's Register	Lloyd's Type Approved, Test Specification #1, Env 2
CE	IEC 60533 Electrical and Electronic Installations in Ships IEC 60945 Maritime Navigation and Radio Communication Equipment and Systems

Environmental

Radiated, RF Field Immunity	IEC-61000-4-3
Electrical Fast Transient/Burst Immunity	IEC 61000-4-4
Voltage Surge Immunity	IEC 61000-4-5
Conducted, Immunity	IEC 61000-4-6
Conducted Emissions	IEC 60945
Voltage Variation Immunity	IEC 61000-4-11
Conducted LF Immunity	IEC 61000-4-16
ESD Immunity	IEC-61000-4-2
Insulation Resistance	IEC-60092-504
Operating Temperature	-40°C to +70°C
Storage Temperature	-40°C to +85°C
Vibration	IEC-60068-2-6 Test Fc
Temperature Cycle	IEC 60945
Humidity	IEC-60068-2-30 Test Db
Corrosion	IEC 60945
Weight	6.0 lbs (2.72 kg) Max

Dimensional Specifications: in. [mm]

Network Power Supply A2205-[]-CE



BATTERY

BATTERY MONITOR

A1680-CE

The Battery Monitor is capable of measuring one (1) Current, two (2) DC Voltages, and up to four (4) individual battery temperatures. The Battery Monitor Cable Harness (P/N A2225-[], see Table 1 and 2) enables the monitor to connect to the batteries. The Battery Shunt 200 Amp, 50mV (P/N MS91587-2), is needed to measure the current that is installed on the high side of the installation. The Battery Monitor is NMEA 2000® certified, allowing the user to view all DC information over an NMEA 2000 network.



Product Highlights:

- ◆ Capable of Monitoring the following:
 - Current Measurement
 - Two (2) DC Voltage Measurements
 - Four (4) Temperature Measurements
- ◆ Configurable Alerts/Alarms
- ◆ Single CAN BUS Communication



Installation

The Battery Monitor was designed to be installed in a protected, non-explosive area of the vessel. Take precautions to install the Battery Monitor in an area that will be away from direct exposure to the weather and combustible fumes.

CAN Connections

One male Micro-C connectors is provided on the top of the Battery Monitor for connection to the primary CAN bus via drop cable.

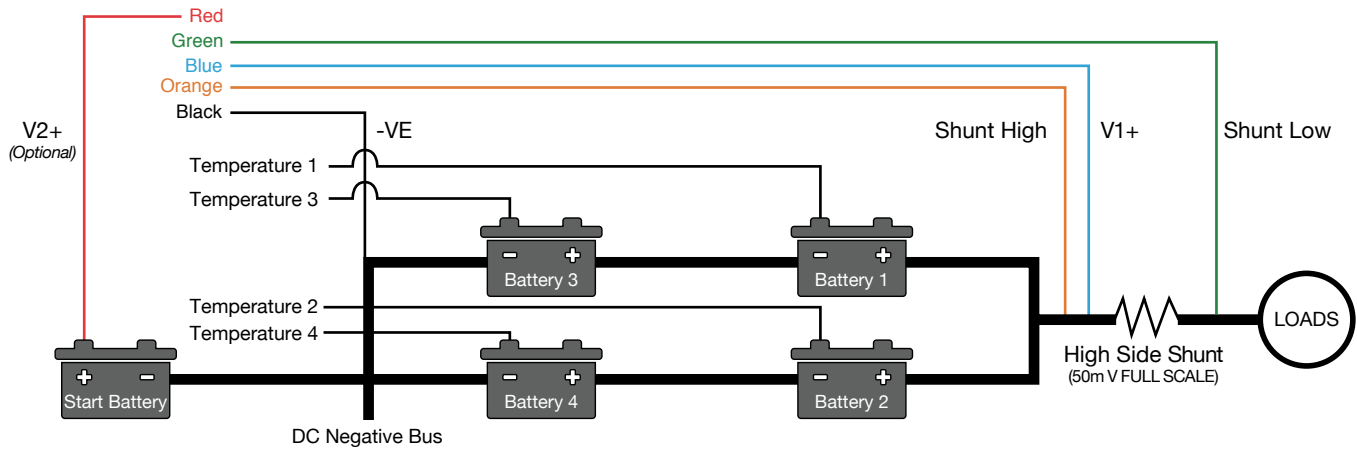


NOTE

Use the shortest drop length possible when connecting the Battery Monitor to the CAN backbone. NMEA 2000 spec is maximum 6 meters for drop cables.

*Manufacturer reserves the right to change product specification without prior notice. Please refer to our website for the latest details.

Typical Installation Diagram



NOTE

Mount Temperature Sensors (Part of A2225-[]) to Battery stud or adhere directly to battery



CAUTION!

When no High Side Shunt is used, tie the orange, green and blue wires directly to the V1+ side of the battery. Installer must follow applicable industry standards i.e. ABYC/CE for properly wiring and utilizing external protective devices i.e. fuses as required.

Battery Monitor Harness Cable

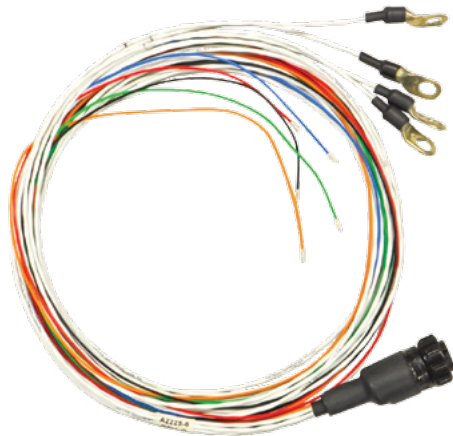


Table 1:

Part Number	Description
A2225-4	Battery Monitor Cable Harness - 4'
A2225-6	Battery Monitor Cable Harness - 6'
A2225-8	Battery Monitor Cable Harness - 8'
A2225-14	Battery Monitor Cable Harness - 14'
A2225-16	Battery Monitor Cable Harness - 16'
MS91587-2	Battery Shunt 200Amp, 50mV

Table 2:

Pin	Connection	Color
1	Temperature Sensor 1 Signal	
2	Shunt High	Orange
3	Temperature Sensor 2 Signal	
4	Temperature Sensor 1 Ground	
5	Ground	Black
6	Shunt Low	Green
7	Temperature Sensor 3 Signal	
8	Temperature Sensor 3 Ground	
9	Temperature Sensor 2 Ground	
10	Reserved	
11	Battery V2+ 12-30VDC	Red
12	Temperature Sensor 4 Signal	
13	Temperature Sensor 4 Ground	
14	Reserved	
15	Not Used	
16	Not Used	
17	Not Used	
18	Battery V1+ 12-30VDC (Must be connected to power monitor)	Blue

Operation

The Battery Monitor has one (1) configurable parameter; the maximum current value of the high side shunt being used. This parameter is a factory setting. The voltage drop across the high side shunt should not exceed 50 mV for the configured current. For example, if the maximum shunt value selected is 200 amps, then the voltage drop across the high side shunt at 200 Amps should not exceed 50 mV DC.

Maintenance

The Battery Monitor requires no maintenance. Any service or repair issues should be handled by a factory authorized technician.

General Specifications

Electrical

Power Input	12 VDC – 30VDC, 100 mA max (Blue Wire)
DC Voltage Input	12 VDC – 30VDC (Red Wire)
Shunt Voltage	50 mVDC (Orange/Green Wires)
CAN Bus Voltage	+15 VDC (± 0.5)
Load Equivalence Number (LEN)	1

Mechanical

Dimensions	5.50" X 2.43" X 2.43"
CAN Bus Connectors	One (1) Micro-C Male
Mounting	4 each 4 x 0.16 #6 hardware
Orientation	N/A

Certifications

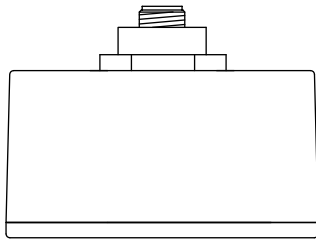
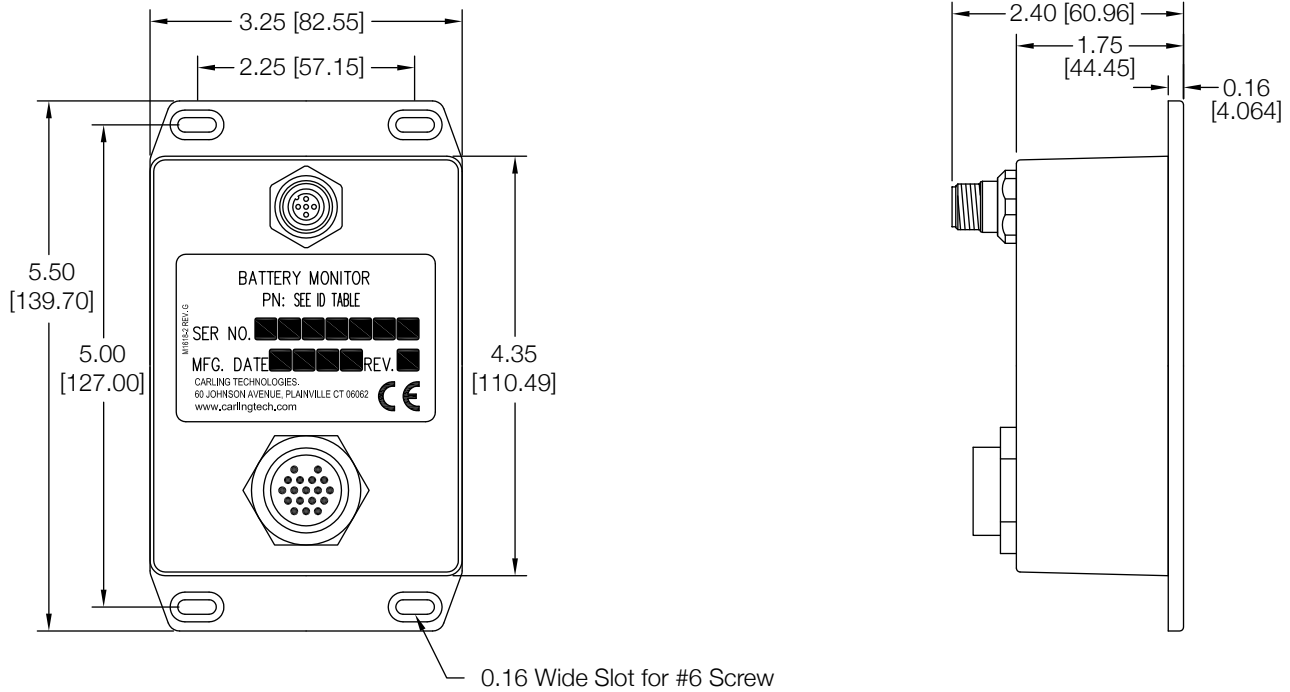
NMEA 2000	Category B
Lloyd's Register	Lloyd's Type Approved, Test Specification #1, Env 2
CE	IEC 60533 Electrical and Electronic Installations in Ships IEC 60945 Maritime Navigation and Radio Communication Equipment and Systems

Environmental

Radiated, RF Field Immunity	IEC-61000-4-3
Electrical Fast Transient/Burst Immunity	IEC 61000-4-4
Voltage Surge Immunity	IEC 61000-4-5
Conducted, Immunity	IEC 61000-4-6
Conducted Emissions	IEC 60945
Voltage Variation Immunity	IEC 61000-4-11
Conducted LF Immunity	IEC 61000-4-16
ESD Immunity	IEC-61000-4-2
Insulation Resistance	IEC-60092-504
Operating Temperature	-40°C to +70°C
Storage Temperature	-40°C to +85°C
Temperature Sensor Range	-20°C to +70°C
Vibration	IEC-60068-2-6 Test Fc
Temperature Cycle	IEC 60945
Humidity	IEC-60068-2-30 Test Db
Corrosion	IEC 60945
Weight	0.75 lbs (0.34 kg) nominal

Dimensional Specifications: in [mm]

Battery Monitor A1680-CE



Shunt

Source: www.deltecco.com/MKB-DC.html

