

SeaPower™

KPPS010-ICD Battery Charger Interface Control Document



General

Overview

Part Number	KPPS010
Type	Portable Battery Charger
Charging Power	15 kW
Transport	Air, Maritime, & Land
Simultaneous Charging	Up to 9 Batteries

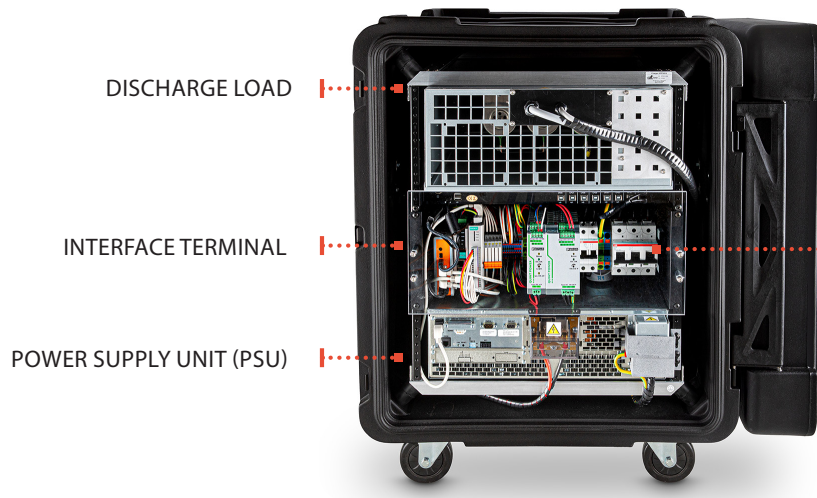


Features

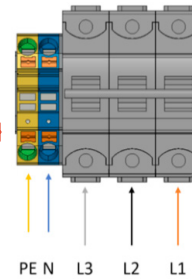
High Charge Current	Computer-controlled, rapid charging of large-capacity battery systems to minimize downtime in field operations.
Simultaneous Charging	Charges multiple batteries at different states of charge (SoC) at the same time, ensuring efficient turnaround and maximizing operational readiness.
Over-Current Protection	Prevents damage to both battery and charger by limiting unsafe current levels.
Integrated Resistive Load	Enables safe, accurate battery discharge without external loads.
Current & Voltage Controls	Allow precise charge profile tuning to match battery specs and prolong service life.
Data Logging & Visualization Tools	Tracks and displays system performance for analysis and tuning.
Rugged Mobile Housing	Rack-mounted design enables easy transport and protection in harsh environments.



Electrical



REAR PANEL



INPUT TERMINALS
3 PHASE POWER CONNECTION W/
AUTOMATIC CIRCUIT BREAKER

- 10-25MM² (8-4 AWG) WIRE, DEPENDING ON LENGTH, ACCEPTABLE TEMPERATURE RANGE, AND VOLTAGE DROP.
- CONNECT PROTECTIVE EARTH AND NEUTRAL IF AVAILABLE
- ALWAYS USE FERRULES

Input

AC Input	3 phases
Input Voltage Range	208/230 VAC (operating range 187 - 242 VAC)
Input Frequency Range	47-63 Hz
Maximum Input Current (I _{max-IN})	60 A

Output

Max Power P _{max}	15 kW
Output Voltage Range	0-60 V
Maximum Output Current (I _{max-OUT})	210 A

Interfaces

Charger Output Connections	Communication MS312E18-8P (MIL-DTL-5015)
	Power HVA630 2P Header (TE High Voltage)
Data Ports	USB
Selector Modes	Charge, Discharge, & Standby



GUI

System Overview

Workstation	Windows 10 OS
Software Interface	SeaPower Charger GUI
Unit Communication	USB ports for in-field upgrades
Peripherals	Display, keyboard, trackpad

Environmental

Operational Specifications

Operating Temperature Range	0 to 40 °C
Storage	-25 to 40 °C
Max. Operating Humidity	95% RH @ 25°C, non-condensing

Safety

Electrical

Dynamic Current Limiting	Automatically reduces output current if BMS comms are lost, battery is near full, or charge state ends.
Primary Circuit Protection	Main power protected by an integrated circuit breaker for fault and overcurrent isolation.
Parameter Lockout Control	Charge voltage and current setpoints locked once charging begins to prevent mid-process changes.
Redundant Safety Interlocks	Hardware and software interlocks ensure charger remains synchronized with battery state and prevent unsafe operation.



Charger Power Cable

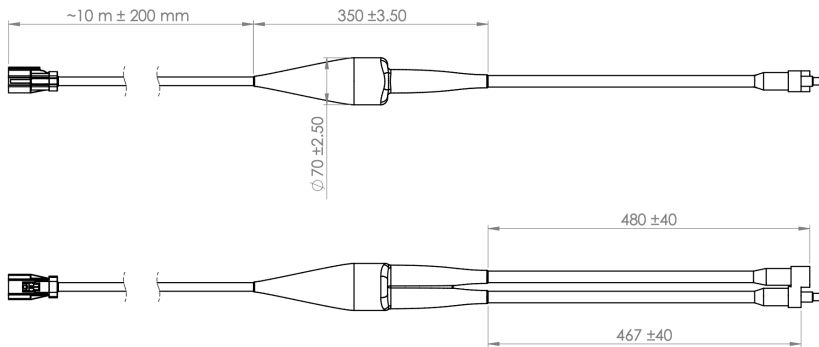
Characteristics

Model	KPCB082
Overall Length	10 ft

Connectors

BATTERY SIDE

HVA630 2P Pigtail Cod.A



Ground
IL1F

Power
IL1M

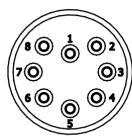
CHARGER SIDE

Charger Communication Cable

Characteristics

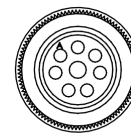
Model	KPCB089
Overall Length	10 ft

Connectors



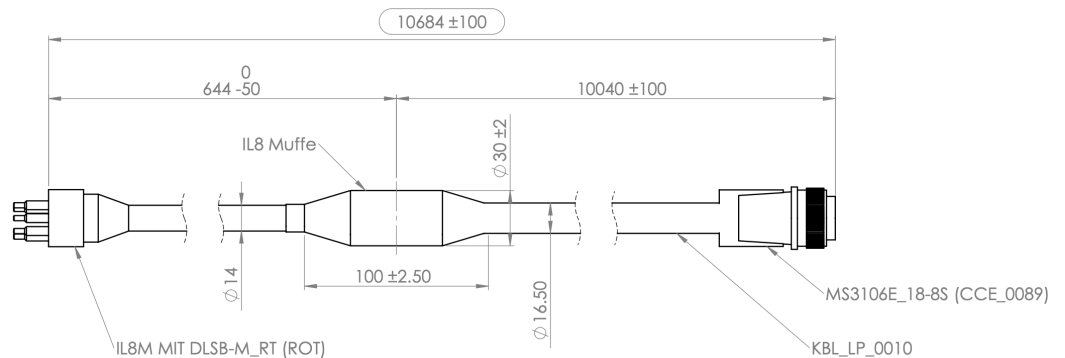
BATTERY SIDE
IL8M

SCALE 1 : 1



CHARGER SIDE
MS3106E18-8S

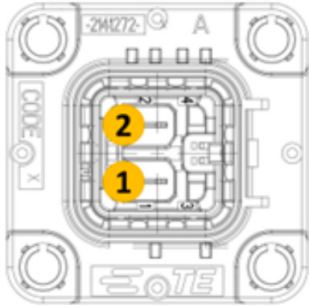
SCALE 1 : 1



Connection Pinouts

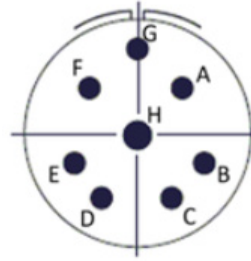
Charger Output Connections

POWER AT RACK
HVA63 2P Header



Pin	Signal
1	Bat. PWR
2	Bat. GND
3	Reserved
4	Reserved

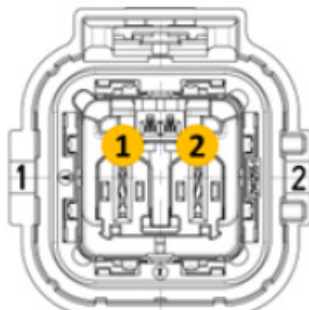
COMMUNICATION AT RACK
MS312E18-8P



Pin	Signal
A	RS485+ (A)
B	RS485-(B)
C	BMU_ON
D	BMU_RETURN
E	Reserved
F	COM_GND
G	Reserved
H	Reserved

Charger Power Cable KPCB082

CHARGER SIDE
HVA630 2P Pigtail Cod.A



Pin	Signal
1	Bat. PWR
2	Bat. GND

BATTERY SIDE
Power
IL1M



Pin	Signal
1	Bat. PWR

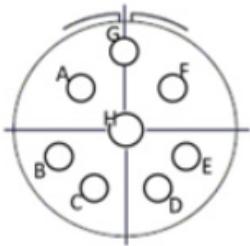
Ground
IL1F



Pin	Signal
1	Bat. GND

Charger Communication Cable KPCB089

CHARGER SIDE
MS3106E18-8S



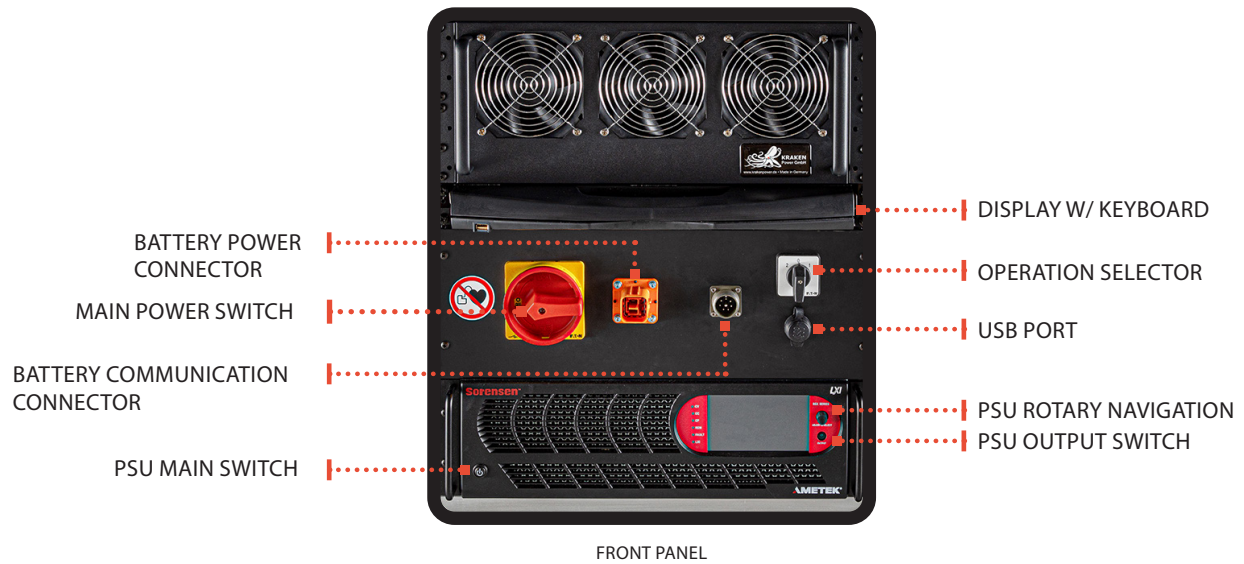
Pin	Signal
A	RS485+ (A)
B	RS485-(B)
C	BMU_ON
D	BMU_RETURN
E	Reserved
F	COM_GND
G	Reserved
H	Reserved

BATTERY SIDE
IL8M

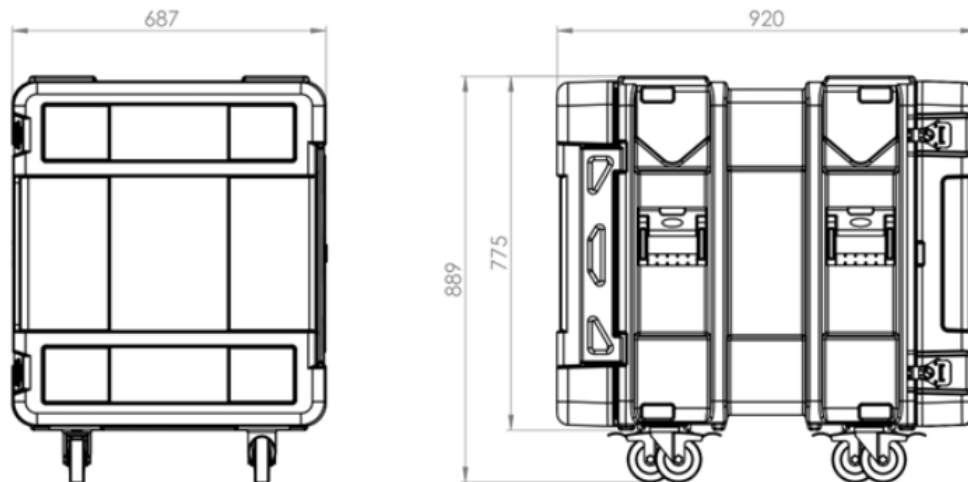


Pin	Signal
1	RS485+ (A)
2	RS485-(B)
3	BMU_ON
4	BMU_RETURN
5	Reserved
6	COM_GND
7	Reserved
8	Reserved

Controls



Mechanical



Overview

Weight	125 $\pm$ 5.0 kg
Length	920 $\pm$ 5 mm
Width	687 $\pm$ 5 mm
Height	889 $\pm$ 5 mm

Unit Characteristics

Mounting	Mobile rack-based housing
External Housing	PE elastomeric shock rack
Casters	High-grade steel, polyurethane
Locking System	Latch Lock
Transport	Grip Handle/Tie Down (4)