

**TITLE:** Horien Salt Battery Compatibility  
**DOCUMENT NO.:** 01-182035  
**ISSUED DATE:** 1/30/2026  
**WRITTEN BY:** Rob George

**REVISION:** A  
**REVISION DATE:** 1/30/2026  
**APPROVED BY:** Sam Crescenze

**ATTENTION**

**Read the entire procedure before attempting to program the software.**

**SCOPE:**

All AMETEK Solidstate Controls UPSs and Chargers can be compatible with Horien Sodium Metal Chloride (SMC) batteries. This procedure describes the required configuration changes to existing chargers/rectifiers to achieve optimal compatibility with the battery. It is targeted at systems that do not communicate with the battery monitoring system (BMS) on the SMC battery.

Digital systems (DPP, DSE, DCR, etc.) can be retrofitted to enable communication with the BMS on the Sodium Metal Chloride batteries. Analog systems (SE, BCR, etc.) can be connected to Sodium Metal Chloride batteries, but they cannot communicate with them. Contact AMETEK Solidstate Controls to inquire about retrofit packages.

There is a possibility that the ripple voltage output from the charger/rectifier does not meet the specifications of the battery manufacturer. If this is the case, a Ripple Choke Filter (RCF) can be purchased from AMETEK Solidstate Controls to reduce the ripple voltage.

**TERMS:**

BMS = Battery Monitoring System  
RCF = Ripple Choke Filter  
SMC = Sodium Metal Chloride

**PROCEDURE:**

1. Verify that the ripple voltage at the battery is  $\leq 2\%$  volts RMS of the batteries rated voltage.

Battery Model Number	Maximum Ripple Voltage (RMS)
110UP80	2.2 V RMS
125UP80	2.5 V RMS
130UP80	2.6 V RMS
220UP40	4.4 V RMS
250UP40	5.0 V RMS

2. Disable battery current limiting by setting the battery current limit equal to the charger current limit.

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- Set the float voltage of the charger to the voltage specified in the table below depending on the battery model number.

Battery Model Number	Recommended Float Voltage	Battery Voltage Range
110UP80	122 VDC	121 – 160 VDC
125UP80	138 VDC	135 – 160 VDC
130UP80	145 VDC	141 – 160 VDC
220UP40	250 VDC	242 – 300 VDC
250UP40	275 VDC	270 – 300 VDC

- Set the equalize voltage of the charger to the voltage specified in the table below depending on the battery model number.

Battery Model Number	Recommended Equalize Voltage	Battery Voltage Range
110UP80	122 VDC	121 – 160 VDC
125UP80	138 VDC	135 – 160 VDC
130UP80	145 VDC	141 – 160 VDC
220UP40	250 VDC	242 – 300 VDC
250UP40	275 VDC	270 – 300 VDC

- Set the low DC disconnect set point to the voltage specified in the table below depending on the battery model number.

Battery Model Number	Low DC Disconnect Voltage
110UP80	90 VDC
125UP80	100 VDC
130UP80	104 VDC
220UP40	180 VDC
250UP40	200 VDC

- Disable temperature compensation, if applicable.