

# Power Sentinel

## Power Sentinel Charger

SCR Automatic Battery Charger



- Power for utility, UPS and communications or industrial type loads
- Advanced technology microprocessor control
- Universal control boards; and control disable for tamper-free operation
- Battery Eliminator option for use as a DC source without batteries
- UL Listed, and CSA certified

The NRS Power Sentinel Charger integrates the latest digital and power electronics technologies, making it one of the most reliable battery chargers available. The unique SCR rectifier with a double wound isolation transformer provides precise regulated DC output and current limiting capabilities.

National Railway Supply, Inc.





# Power Sentinel Battery Charger

## Specifications

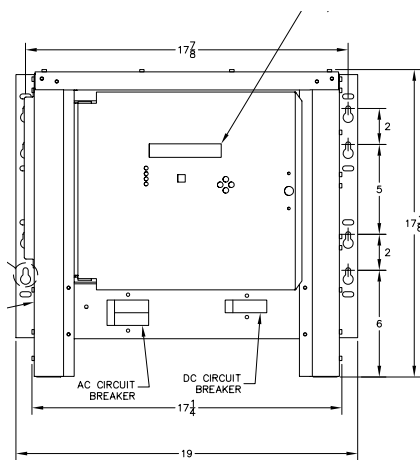
Electrical	
AC Input Voltage	120, 208, or 240V +10%, -12%
Phase	1
Frequency	50 or 60Hz ±3Hz
Power Factor	0.8 typical full load
Efficiency	80-90% at 50-100% load
DC Output Voltage	24, 48 or 130VDC nominal
Current	6, 12, 18, 20, 25 or 50ADC
Continuous Rating	110% rated current at max equalize voltage at 50C
Voltage Regulation	± .25% for line, load and temperature variations
Transient Response	<±6% with 20-100% step load with battery connected
Electrical Noise	30m Vrms/32BDmC weighted maximum on filtered versions (battery eliminator) <2%Vrms for 130VDC output <1%Vrms for 24, 48VDC output

Mechanical	
Nema 1 Enclosures	Standard
Dimensions S1 (in/mm):	17.13 H x 19 W x 16.38 D (445 x 483 x 425)
Dimensions S2 (in/mm):	25.88 H x 19 W x 16.38 D (667 x 483 x 425)
Dimensions S3 (in/mm):	34.5 H x 19 W x 16.38 D (889 x 483 x 425)

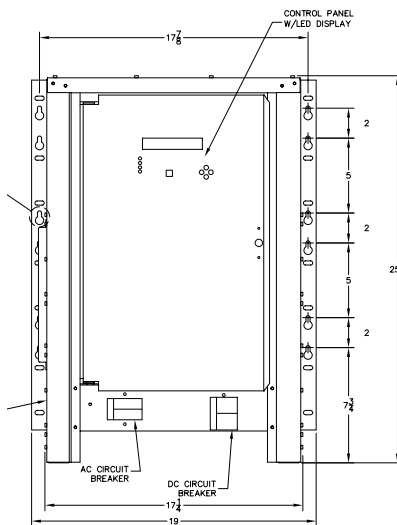
Environmental	
Natural Convection	
Ambient Temperature	0-40°C (32-105°F)
Elevation	1000m (3000ft) without derating
Relative Humidity	0-95% (non condensing)

Standard Features	
LCD Display	High DC Voltage Shutdown
Charger Pause 0-60 min	Push Button Mode Selection
Reverse Polarity Protection	AC and DC Surge Suppressors
Sprinkler Resistant Ventilation	Wire Protection on all Field Terminals
UL Listed, CSA Certified	Wall or Floor Mount
Stackable Enclosure	Summary Alarm Contact Relay
Summary Alarm Buzzer	
H/L AC Voltage Alarm and AC Fail Indication	
H/L DC Voltage Alarm	
Positive and Negative Ground Fault Alarm	
AC Input and DC Output Circuit Breakers	
Control Panel and Circuit Breakers Recessed	
Bottom / Side Cable Entry	
AC, DC, Float and Equalize Indicator Lights	
Field Programmable with Security Levels	
Compression Terminal Strip for Field Wiring	

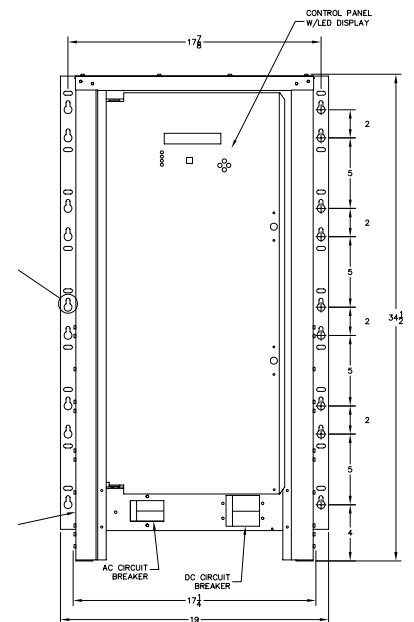
Optional Features	
DC Output Filter	Conformal Seal on Electronic Boards
Battery Eliminator Filter	Anti-Fungus Coating
Input Lightning Arrestor	Special AC Input Voltage
Remote Control Panel	19" or 23" Relay Rack Mounting
Parallel Charging	
Remote DC Voltage Sensor	
Special AC Power Connections	
Local or Remote Voltage Sensor	
Remote Temperature Compensation	
Individual Alarm Relay Contact Board (alarm input/output board)	



S-1



S-2



S-3

## Power Sentinel Series Specifications

Output Voltage	Float Voltage Range	Equalize Voltage Range	DC Ampere Rating		6A		12A		18A		20A		25A		50A							
			AC Input	AC Input	120	240	120	240	120	240	120	240	120	240	120	240	120	240				
24 VDC	24 VDC to 30 VDC	24 VDC to 30 VDC	AC Input Amperes (Nominal)	5A	3A	3A	7A	5A	5A	10A	6A	6A	7A	7A	14A	8A	8A	24A	15A	15A		
			AC Input Circuit Breaker	10A	10A	10A	10A	10A	10A	10A	15A	10A	10A	15A	10A	20A	10A	10A	30A	20A	20A	
			DC Output Circuit Breaker	15A	15A	15A	30A	30A	40A	40A	40A	40A	40A	40A	40A	40A	60A	60A	60A	90A	90A	90A
			Cabinet Style	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S3	S3	S3
			Shipping Weight (lbs)	70	70	70	75	75	85	85	85	85	85	85	85	90	90	90	90	190	190	190
48 VDC	48 VDC to 60 VDC	48 VDC to 60 VDC	AC Input Amperes (Nominal)	7A	5A	5A	14A	8A	7A	17A	11A	10A	18A	12A	28A	14A	13A	45A	25A	23A		
			AC Input Circuit Breaker	10A	10A	10A	20A	15A	10A	30A	15A	15A	30A	30A	15A	30A	20A	20A	60A	40A	40A	
			DC Output Circuit Breaker	15A	15A	15A	30A	30A	50A	50A	50A	50A	50A	50A	50A	50A	60A	60A	60A	90A	90A	90A
			Cabinet Style	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S1	S3	S3	S3
			Shipping Weight (lbs)	75	75	75	90	90	110	110	110	110	110	110	110	110	115	115	115	222	222	222
130 VDC	120 VDC to 150 VDC	120 VDC to 150 VDC	AC Input Amperes (Nominal)	14A	9A	8A	27A	17A	15A	45A	24A	21A	45A	24A	22A	63A	32A	32A	70A	60A		
			AC Input Circuit Breaker	20A	15A	15A	40A	30A	25A	60A	40A	40A	30A	30A	40A	40A	70A	40A	40A	90A	70A	
			DC Output Circuit Breaker	15A	15A	15A	25A	25A	40A	40A	40A	40A	40A	40A	40A	40A	60A	60A	60A	90A	90A	90A
			Cabinet Style	S1	S1	S1	S1	S1	S1	S1	S1	S2	S2	S2	S2	S2	S2	S2	S2	S3	S3	S3
			Shipping Weight (lbs)	100	100	100	130	130	175	175	175	175	175	175	175	175	190	190	190	340	340	340

For more information visit [www.nrsga.com](http://www.nrsga.com)

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## Power Sentinel Model Number Configuration

The National Railway Supply part number system uses a 15-digit system. The first 5 digits are the base model number as listed in the UL file. Use the table on the left ("NRS Model Number") for the first 5 digits of the part number.

The second set of numbers, following the dash, is used to describe the options to be ordered for the charger. Use the table on the right ("Options Table") for the last 10 digits of the part number. If a box has no option, a zero must be used.

	—										
NRS 5-Digit Model Number		D	E	F	G	H	I	J	K	L	M

NRS Model Number
2 3 3 2 0 24 Volt; 6 Amp
2 3 3 4 0 24 Volt; 12 Amp
2 3 3 8 0 24 Volt; 18 Amp
2 3 4 3 0 24 Volt; 20 Amp
2 3 4 5 0 24 Volt; 25 Amp
2 3 5 8 0 24 Volt; 50 Amp
2 3 7 0 0 48 Volt; 6 Amp
2 3 7 2 0 48 Volt; 12 Amp
2 3 4 1 0 48 Volt; 18 Amp
2 3 7 8 0 48 Volt; 20 Amp
2 3 8 0 0 48 Volt; 25 Amp
2 3 9 2 0 48 Volt; 50 Amp
2 4 0 3 0 130 Volt; 6 Amp
2 4 0 5 0 130 Volt; 12 Amp
2 4 4 4 0 130 Volt; 18 Amp
2 4 1 1 0 130 Volt; 20 Amp
2 4 0 5 0 130 Volt; 25 Amp
2 4 2 4 0 <sup>††</sup> 130 Volt; 50 Amp

<sup>††</sup> Not Available with 120VAC input

\* 208VAC input does not have UL/CSA approval

Box	Designation	Description
D	1	<b>INPUT VOLTAGE</b> 120 Volts AC (see exceptions) 208 Volts AC (non UL model)* 240 Volts AC
	2	
	3	
E	0	<b>FILTERING</b> Unfiltered Filtered / Eliminator
	1	
F	0	<b>ALARM OPTIONS</b> No Additional Alarm I/O Relay Board N/A N/A
	1	
	2	
	3	
G	0	<b>REMOTE CONTROL &amp; REMOTE SENSING</b> Not Supplied Remote Control Panel Remote Temp. Compensation (in bag, not connected) Remote Voltage Sensing (connected & coiled up) Options 1 & 2 Options 1 & 3 Options 2 & 3 Options 1, 2 & 3
	1	
	2	
	3	
	4	
	5	
	6	
7		
H	0	<b>LIGHTNING ARRESTOR</b> Not Supplied Supplied
	1	
I	0	<b>CHARGING OPTIONS</b> Not Supplied Parallel Charging
	1	
J	0	<b>SPECIAL TREATMENTS</b> None Fungus Proofing (humisel spray, 1 mil thick) Conformal Seal on Electric PC Boards (humisel dip) Options 1 & 2
	1	
	2	
	3	
K	0	<b>OTHER OPTIONS</b> None Lockable Enclosure Door N/A N/A 19" Rack Flanges @ 6" From Front 23" Rack Flanges @ 6" From Front Options 1 & 4 Options 1 & 5
	1	
	2	
	3	
	4	
	5	
	6	
	7	
L / M		<b>RESERVED FOR FACTORY USE</b>

