
PRODUCT SHEET

ABB Integritas Battery Charger

The Integritas battery charger is ABB's highest reliability battery charger designed for cabinet, wall-mounted or rack-mounted installation in industrial applications. It boasts true redundancy, a state-of-the-art controller with monitoring capabilities, and supports NERC compliance. The Integritas series battery chargers can be configured for 24, 48 or 125Vdc (volts DC) output with capacities ranging from 20 amps to 300 amps.

This provides scalability, as well as significantly higher power, compared to traditional SCR-based chargers. The system features an integrated, simple to operate, advanced monitoring and control system using field-proven technology that offers market leading reliability and availability. Advanced maintenance and monitoring solutions provide minimal mean-time-to-repair.

Standard System Features

- Door Mounted full feature digital controller provides access to most control and monitoring parameters including alarms
- Hot Pluggable Charger & Control modules
- Wide Voltage/Frequency input ranges
- AC Input breakers minimum 35kAIC
- DC Output breakers minimum 10kAIC
- Input and Output Surge protection with replaceable arrestor modules
- Integrated Ground Fault Detection
- Pollution Degree 3 treated electronic components
- Secured remote access and monitoring
- Controller independent system operation
- Battery-less Operation
- Optional, field replaceable input air filter

User Configurable Features

- N+1 and N+N redundancy
- Cabinet
 - 19" or 23"
 - Top or Bottom Input/Output locations
- AC Input
 - Single or dual input (Dual breaker available in 23")
 - 120/240V Single Phase
 - 176 - 305V 3 Phase Delta
 - 176 - 305V 3 Phase WYE
 - 320 - 530V 3 Phase WYE
 - 320 - 530V 3 Phase Delta
- DC Output
 - Bulk Load Breaker
 - Two Load Breakers
 - Bulk Load and Battery Breaker
- Controller Communications
 - Standard SNMP/Modbus
 - DNP3
 - IEC61850

Standard Features

- Standard and user-defined alarms
 - Alarm test
 - Assignable alarm severity: critical, major, minor, warning and record-only
 - 10 alarm relays (7 user assigned)
- Rectifier management features
 - Automatic rectifier restart
 - Active rectifier management
 - ARM (energy efficiency)
 - Remote rectifier (on/off)
 - Reserve operation
 - Automatic rectifier sequence control
 - N + X redundancy check
- Configuration, statistics, and history
 - All stored in non-volatile memory
 - Remote/local backup and restore of configuration data
- Industry standard defaults
 - Customer specific configurations
 - Available remote/ local software upgrade
- Basic, busy hour and trend statistics
- Detailed event history
- User defined events and derived channels able/disable

Standard Battery Management Features

- Float/boost mode control
 - Manual boost
 - Manual timed boost locally, T1.317, and remotely initiated
- Auto boost terminated by time or current
- Battery discharge testing
- Slope thermal compensation
- Configurable mV/°C slopes

Specifications

INPUT	MIN	TYP	MAX
Voltage Range - 1Φ High-Line - 1Φ Low-Line - 3Φ High-Line	- 175Vac 85Vac 320Vac	- 220Vac 110Vac 380 - 480Vac	- 305Vac 140Vac 530Vac
Frequency	45Hz	60Hz	66Hz
Power Factor	98%	99.5%	
Total Harmonic Distortion	5%		

OUTPUT	IP100ACR024ATEZ - 1Φ	IP050ACR048ATEZ - 1Φ	IP020ACR125ATEZ - 1Φ	IP100H3R048ATEZ - 3Φ	IP040H3R125ATEZ - 3Φ
Nominal Voltage	24Vdc	48Vdc	125Vdc	48Vdc	125Vdc
Output Current	100A	50A	20A	100A (125A Peak)	40A (50A Peak)
Vo Setpoint (Factory)	27.25Vdc	54.5Vdc	125Vdc	54.5Vdc	125Vdc
Vo Range	21 - 29Vdc	42 - 58Vdc	90 - 160Vdc	42 - 58Vdc	90 - 160Vdc
Regulation (With Controller)	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Efficiency	> 95% (Peak 95.6%)	> 96% (Peak 96.4%)	> 94.5% (Peak 95.1%)	>96% (Peak 96.5%)	>96% (Peak 96.5%)
Output Voltage Ripple	<30mV	<30mV	<30mV	<30mV	<30mV
Thermal Output (Max)	620 BTU/hr	510 BTU/hr	544 BTU/hr	853BTU/hr	853BTU/hr

MECHANICAL					
Module L x W x H (in. /mm)	9/229 x 1.7/43 x 24/610				
System L x W x H (in. /mm)	14 / 356 x 17.5 / 445 x 28.25 / 718 or 14 / 356 x 23 / 584 x 28.25 / 718				
Module Weight (lb / Kg)	12.1 / 5.5	12.1 / 5.5	12.1 / 5.5	16.1/7.3	16.1/7.3
System Weight (lb / Kg)	60 / 27.2 - 84 / 38.1	60 / 27.2 - 133 / 60	60 / 27.2 - 133 / 60	64/29 - 145/65.4	64/29 - 145/65.4

ENVIRONMENTAL	
Operating Temperature	-40°C to +75°C (-40°F to 167°F) (de-rates above 50°C)
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Relative Humidity	95% max, non-condensing
Altitude	4000M (for altitudes above 2000M, peak operating temperature de-rates 0.656° C /100M; 4000M peak temperature rating is 62° C)

SAFETY AND STANDARDS COMPLIANCE	
NEMA	NEMA PE5 for modules, NEMA 2 Enclosure
Safety	UL 1012, ANSI/UL60950-1-2014 and CAN/CSA C22.2 No. 60950-1-07, Second Edition + A2:2014 (MOD), dated October 14, 2014
RoHS	Compliant to RoHS EU Directive 2002/95/EC RoHS 6/6
EMC	European Directive 2014/30/EU; EN55032, Class B, EN55035; FCC, Class B
ESD	EN61000-4-2, Level 4

PROTECTION	
Voltage	Input under voltage, Input over voltage, Output overvoltage, Output under-voltage
Current	Fuse in both the input lines, output over current protection, Output short circuit protection
Thermal	Over temperature protection and auto restart upon removal of over temperature condition
Surge	Input surge protection, Output surge protection
Reverse Polarity	Battery reverse polarity
Ground Fault	Ground fault detection and alarm (Only reporting)
Breakers	Industrial grade UL/IEC recognized bulk input and bulk output breaker