

STROM R

Industrial rectifiers/ Chargers

STROM R1/R3

24, 48, 60, 110, 125, 220 VDC

The Strome R DC system has been developed and designed to provide high reliability power supply and battery charging capability. The Strom R DC system is a thyristor-controlled rectifier suitable for charging nickel-cadmium or lead-acid batteries while supplying DC loads. It can also be used without batteries as a direct power supply.

The rectifier is built from independent building blocks and can be equipped with optional items such as distribution boards, diode droppers etc. built inside or in a separate cubicle.

The cabinets are floor mounted and can be designed to meet specific environmental requirements. The batteries are mounted in free-standing racks or in cabinets together with or separated from the rectifier.

Typical applications

- Power generation
- Transmission & Distribution
- Oil & Gas
- Petrochemical and chemical
- Heavy industry
- Mining industry
- Transportation and signalling

FEATURES

- Input isolation transformer, isolated DC output with built-in earth fault detection
- Standard system configurations
- Heavy industrial duty design
- Building block modular design
- Built-in protection
- Digital processing and setting of all parameters
- Monitoring of all parameters via the front panel display
- Built-in intelligent battery management
- Temperature-compensated charge voltage regulation
- Manual or automatic high rate charge
- Parallel operation for redundancy and power increase
- Alarm- and event logger, with a date and time-stamped event log memory
- Large communication facility options
- Inbuilt programable logic control to provide a wide range of interaction possibilities with external systems

BENEFITS

- Existing pre-defined configurations to permit reduced lead times
- Highly customizable with a fully comprehensive list of options and fully flexible design
- Compatible with all industrial battery types including gas recombination, with easy parameter adjustment
- Field proven high reliability with microprocessor-controlled thyristor technology
- Ease of installation, start-up & maintenance, low Mean Time To Repair (MTTR)
- International service support

Specifications

INPUT	
Nominal input voltage	Single phase (SPRe) 220 V/230 V/240 V ±10 % (+15 % - 20 % functional) Three phase (TPRe) 380 V/400 V/415 V ±10 % (+15 % - 20 % functional)
Frequency	50 Hz or 60 Hz, ±6 %
Power factor	Single phase system (SPRe) ~ 0.67/Three phase system (TPRe) ~ 0.81
OUTPUT	
Voltage (UDC)	24, 48, 60, 110, 125, 220 VDC
DC voltage settings range	Floating charge - 75 % - 125 % of UDC nominal at full load and nominal mains voltage (±10 %) High-rate charge - 75 % - 135 % of UDC nominal at full load and nominal mains voltage (0/+10 %) Commissioning charge - 75 % - 140 % of UDC nominal at half load and nominal mains voltage (0/+10 %)
Static voltage regulation	±0.5 % at float voltage, 0 - 100 % DC load variations, input nominal voltage ±10 %, frequency ±6 %, temp. range 0 °C to +40 °C
Dynamic voltage regulation	10 - 100 %, 100 % - 10 % load step - deviation 5 %
DC ripple voltage	<2 % rms of UDC nominal with battery connected (Standard battery capacity 5 x nominal current) 2.5 % rms typically (max 5 %) of UDC nominal battery not connected (standard battery capacity 5 x nominal current)
DC current	According to range
Current settings range	0 - 100 %
DC current regulation	0/+2 % of current limit
Long-term stability	0.15 % per 1000 hrs
Temperature coefficient	<0.02 % per °C
Charging characteristic	Constant current/constant voltage (I/U as per IEC 478 1) during float charge
Insulation resistance	>200 MΩ / 500 VDC
Input/output isolation	2,500 V AC between input/output and electrical earth
MECHANICAL	
Degree of protection	IP21 according to IEC 60529
Equipment color	RAL 7035, powder coated, textured paint
Dimensions & weight	According to range
Acoustic noise @ 1 m	45 - 65 dB(A)
Connections	Bottom
ENVIRONMENTAL	
Type of cooling	Natural convection or fan forced cooling depending on output power and IP protection
Operating temperature	0 °C to +40 °C with a de-rating of 1.25 %/°C between 40 °C and 55 °C
Storage temperature	-25 °C to +70 °C
Operating humidity	10 % to 95 % R H Non-Condensing
Installation height	0 to 1,000 m - de-rating @ 1 % per 100 m above 1,000 m up to 3,000 m
Seismic	BELLCORE GR-63-CORE issue 1 for Zone 1, Zone 2, Zone 3 and Zone 4
STANDARDS	
Safety	IEC/EN 60529, IEC 60146-1-1
EMC	IEC/EN 61000-6-2, IEC/EN 61000-6-4
Performance	IEC/EN 60146-1-1
Approvals & certification	CE marking, NFC58-311 (gas recombination battery)

PROTECT RCS	R1 SINGLE PHASE RANGE			R3- THREE PHASE RANGE			
	24	48/60	110/125	24	48/60	110/125	
BATTERY VOLTAGE (VDC)							
220 Output current (A)	25	25	25	25	25	25	25
	50	50	50	50	50	50	50
	75	75		75	75	75	75
	100	100		100	100	100	100
				150	150	150	150
				200	200	200	200
				300	300	300	300
				400	400	400	400
				500	500	500	500
					600	600	
					700	700	
					800	800	
					1,000	1,000	
					1,200	1,200	