



Optional internal V/I meter shown



◆ 24 Month Warranty

Charger

- Battery detection - regular battery presence and battery circuit integrity checks
- Deep discharge protection for battery (low voltage disconnect circuit)
- Battery circuit overload & short circuit protection
- Automatic temperature compensated output
- Automatic or manually controlled battery condition test (BCT)
- LED flash codes for precise state indication
- Alarm relay outputs
- Adjustable charge current limit
- Reverse battery polarity protection

Communication interfaces

- Ethernet
- RS485
- RS232

Protocols

- SNMP
- Modbus RTU, TCP/HTTP (using external protocol converter)
- Innovative Energies ASCII code

BRIEF SPECIFICATIONS (at nominal input, full load and at 20°C unless otherwise stated)

Input voltage	230V 50Hz standard 110V 50/60Hz on request	Battery detection	Every 60 minutes when charge current < 200mA
Fusing / protection	Input fuse plus varistor Out-put fuse & ECB for battery circuit	Battery protection	Electronic circuit breaker (ECB) operates under the following conditions:
Output power	500W	- low battery volts	<ul style="list-style-type: none"> • battery voltage drops to 1.67V/cell - auto reset
Output voltages	12, 24, 30, 36, 48VDC (nominal)	- overload	<ul style="list-style-type: none"> • < 300ms for load > 6 x rated PSU current, allows ~1.5x rated PSU current from battery without acting,
Temp. compensation	-4mV / °C / cell	- short circuit	<ul style="list-style-type: none"> • < 2ms, backed up by fuse
Line regulation	<0.2% over AC input range	Relay outputs	<ul style="list-style-type: none"> • Power OK • Battery System OK - alarms when battery voltage low (on mains fail), battery missing, battery circuit wiring faulty, BCT fail • BCT in progress
Load regulation	<0.4% open circuit to 100% load	Alarm relay contacts	Changeover, rated 1A /50V DC, 32VAC
Thermal protection	Yes, self resetting	Standby mode	Turns off DC output of PSU & allows load to run off battery
OVP	Over-voltage protection on output at ~ 130% of nominal output voltage	Battery condition test	Using communication port: <ul style="list-style-type: none"> • automatic test can be enabled or disabled by user (default setting 20mins/28days) • manually start and stop BCT
EMI	CISPR 22 / EN55022 class A	Cooling	Fan cooled
Safety	IEC950 / EN60950 / AS/NZS3260	Protection	IP20
Battery type	Lead acid	Weight	4.3kg
Isolation	1KV DC input - output / earth	Dimensions	225W x 304D x 70H mm
Efficiency	≥ 85%		
Indication LEDs	Green: Battery System OK, Power OK Red: Standby		
Operating temperature	0 to 50 °C ambient at full load		

Models and Ratings

MODEL No.	DC Output				
	Output (V)	PSU Rated (A)	Charge Limit (A) *1	Recomm. Load (A)	Peak load on input fail (A)
SR500i12	13.8	36	9	27	54
SR500i24	27.6	18	6	12	27
SR500i30	34.5	14.5	5.5	10	21.5
SR500i36	41.4	12	5	7	18
SR500i48	55.2	9	4	5	13.5



Modbus protocol converter

Communication Functions

Alarms (all versions)

- Input power fail
- Failed BCT
- Battery missing
- Battery low (during power fail)

Alarm Traps (SNMP versions)

- Battery over temperature
- Battery low temperature
- Overload
- Communications fail

Command Functions

- Enable pre-programmed BCT
- Disable pre-programmed BCT
- Start BCT manually
- Stop BCT manually

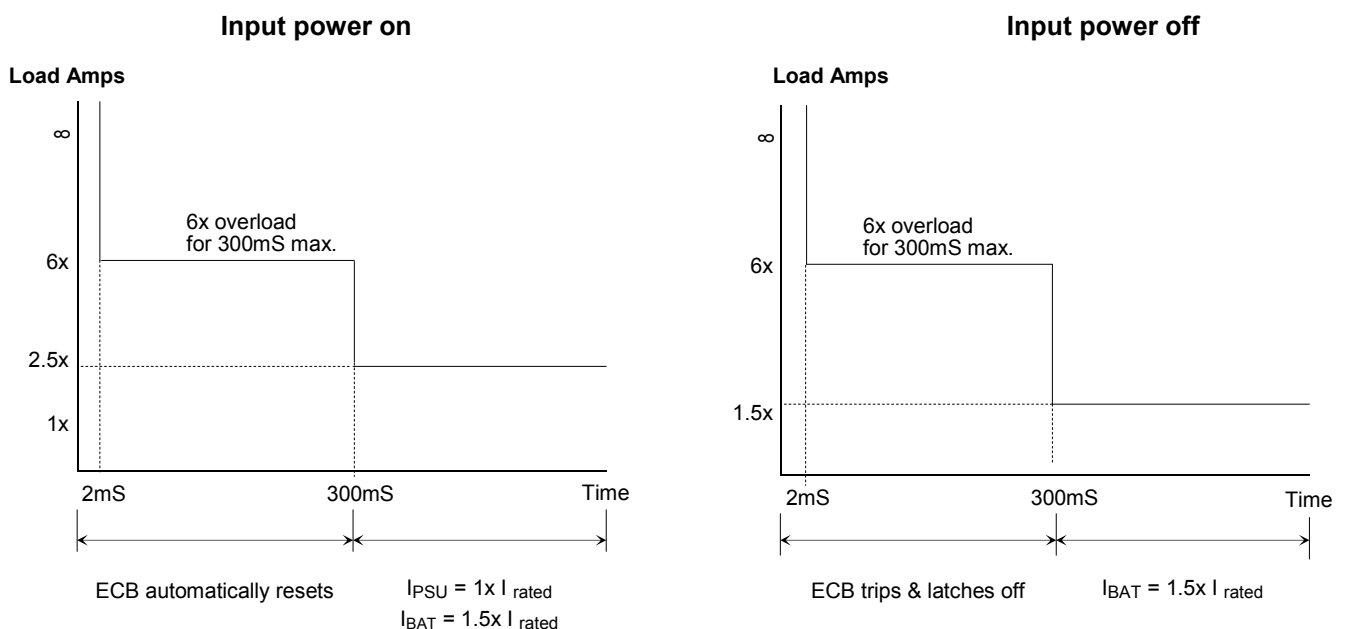
Monitored States (all versions)

- BCT in progress
- BCT passed
- Battery fully charged
- Output voltage
- Battery current
- PSU current
- Load current
- Battery temperature

Monitored States (SNMP versions)

- Lowest temperature recorded
- Highest temperature recorded

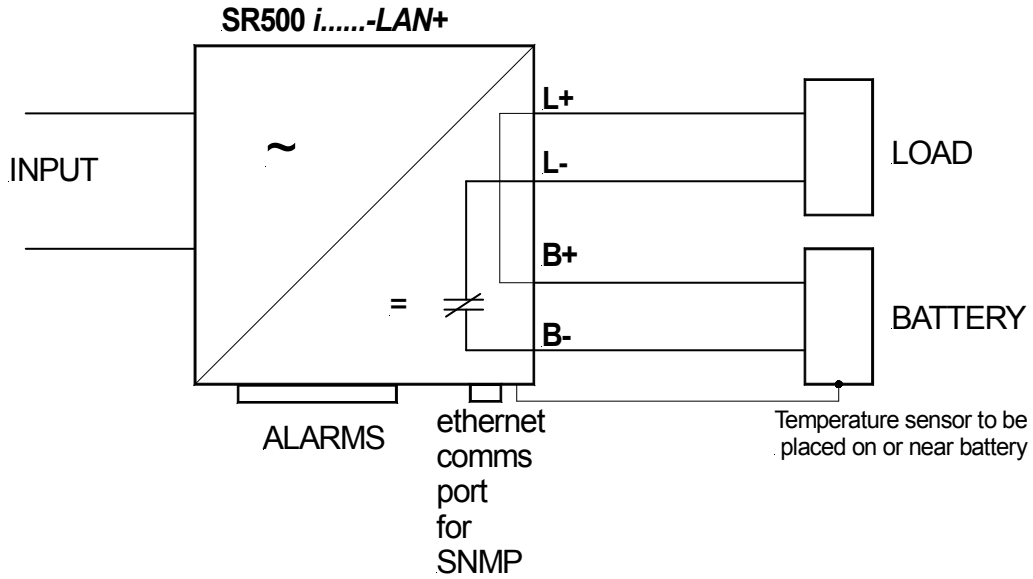
Operation of ECB (system current limit)



Connection Diagrams and Screenshots

1. Ethernet/SNMP

L+, B+ are linked internally and labelled COM



Monitoring & Control

SR500i24T

- Monitoring & Control
- Network Settings
- PSU Configuration
- SNMP Configuration
- Syslog Configuration
- Firmware Upgrade
- Contact Details

CONTROL

BCT Start

BCT Stop

Reset Temperature Log

Scheduled BCT Disabled

Enable Scheduled BCT

Disable Scheduled BCT

MONITORING

Power Supply Status:	Charge Cycle (Normal Operation)
Battery Status:	Battery Missing
Output Voltage:	27.6
Battery Current:	0.0
PSU Current:	0.0
Load Current:	0.0
Temperature:	17
Temperature Log Low:	14
Temperature Log High:	26
Estimated Battery Time Remaining:	N/A

Refresh Configuration

THRESHOLDS (Please note that only integer values are accepted)

Temperature High Threshold (degC):

Temperature Low Threshold (degC):

Over Voltage Threshold(V):

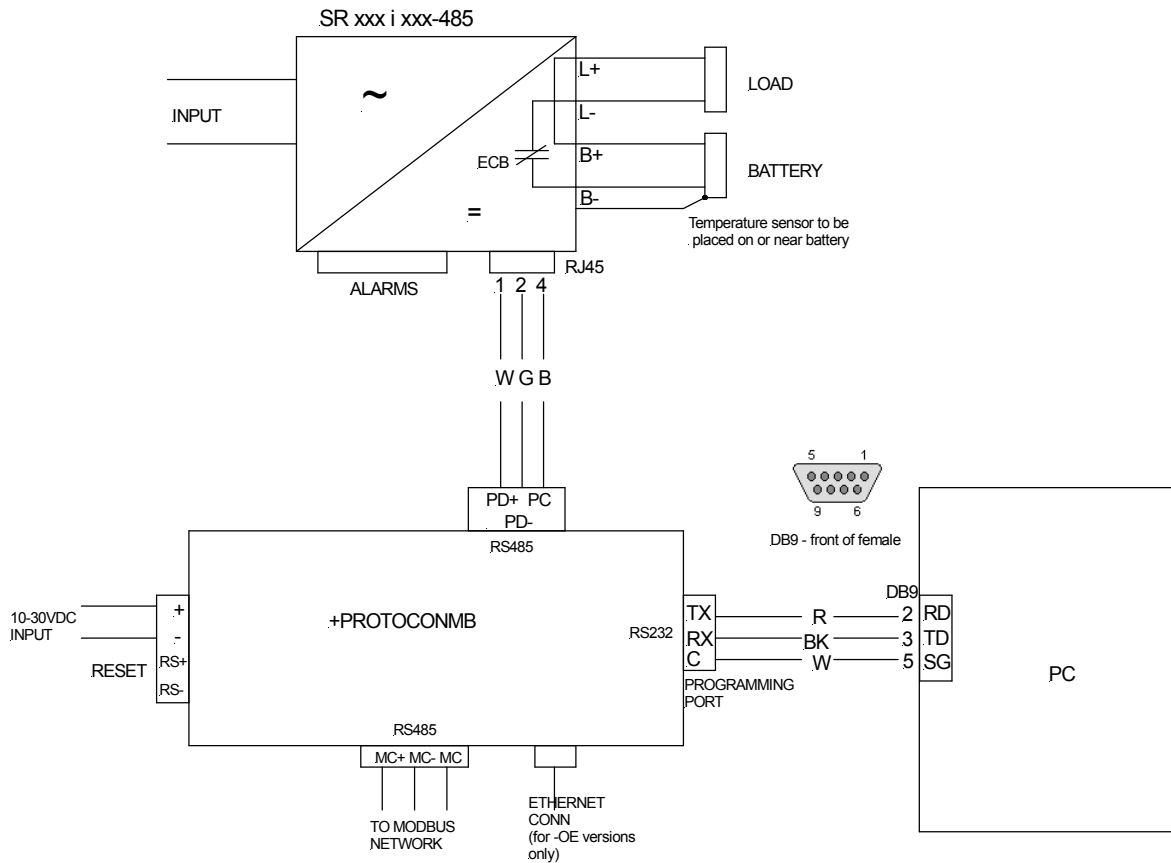
Load Current Threshold(A):

Threshold Update

Total current
PSU + Battery

Connection Diagrams and Screenshots

2. RS485/ Modbus



Power MBLink v1.2

Innovative Energies - Power Supply - Modbus Interface Programmer

Power MBLink Version 1.2

Configuration | Configuration Instructions | Wiring Instructions | **Modbus Monitor** | Settings & Diagnostics

Power Supply Variables

Output Voltage: 27.7 Volts	Battery Current: 00.0 Amps	Power Supply Current: 01.5 Amps	Battery Temperature: 20.0 DegC
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Status

Normal Operation	Battery Present	Battery OK (Pwr Fail)	Battery Charging
Batt. Condition Test	BCT Enabled	Retry BCT on Fail	Battery Discharging
Batt in Good Cond.		BCT Enable Ack	BCT Disable Ack
		BCT Start Ack	BCT Stop Ack

Alarms

Mains Failure	Possible M/PSU Fail	Batt in Bad Cond.	Comms to PSU Fail
Overload	System Down	Battery Missing	Battery Low
Poss. Batt Missing			

Communication

Address:

Single Update

Continuous Update

Stop Update

Watchdog:

Battery Condition Test

Start BCT

Stop BCT

BCT Enable

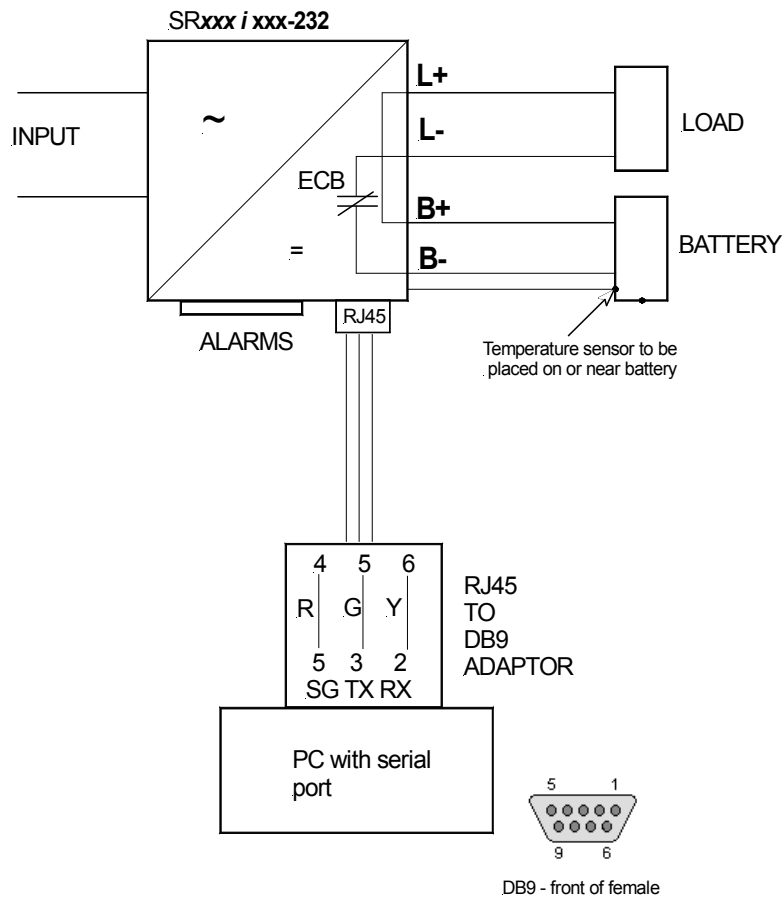
BCT Disable

Notice

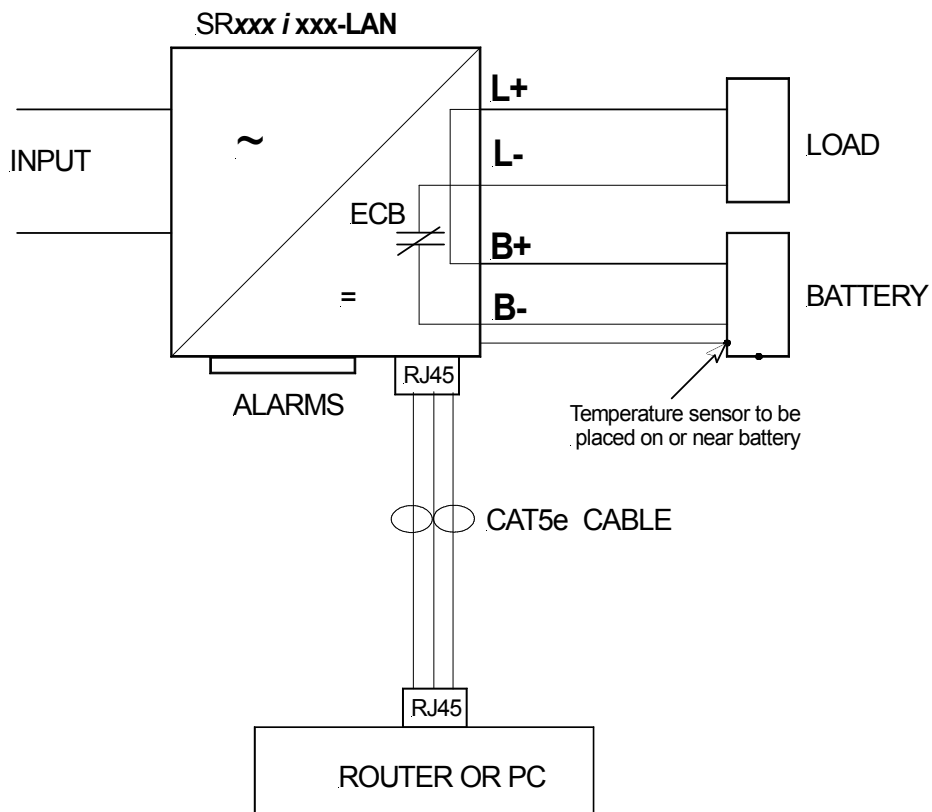
Code	Type	Description
03006	Notice	Updating Information From Device With Address 1

Connection Diagrams and Screenshots

3. RS232/ IE ASCII code



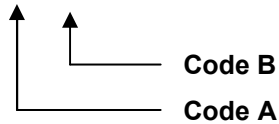
4. Ethernet/ IE ASCII code



Connection Diagrams and Screenshots

Screenshot for IE ASCII code

IEL NB5sys.V13 SR500i12T
s/n: 0025 6666 BatDetect:060m
Vpres(1):12.0V Vshutd(2):11.5V
Vbatl(3):11.0V Vdisco(4):10.0V
Bccl(ABC):100% BCT:020m Ret:Y
Comms(MF):F CC:40m 23h 027d
MfiBCT:090m
- CC BM Vout:13.5V Ibat:-00.0A Ipsu:01.4A + 20C



Code A

CC – charge cycle (normal operation)
MF – mains fail (system on battery power)
OL – system overloaded, output voltage is below Vpres setting
BCT – battery condition test is in progress

Code B

M? – possible mains fail, i.e. no mains detected but brown out timer not expired (30sec)
m? – same as above, but has failed the previous BCT
BP – battery present, system OK
bP – same as above, but has failed the previous BCT
B? – No battery charge current detected, up to the next scheduled battery detection, uncertainty about the presence of the battery exists.
b? – same as above, but has failed the previous BCT
BM - battery is missing, the battery detection routine did not find a battery to be present. This will also reset the 'battery condition not good' of a failed BCT.
BO – battery is in 'OK' state during mains fail
bO – same as above, but has failed the previous BCT
BL – battery is in 'LOW' state during mains fail
bL – same as above, but has failed the previous BCT
SD – system will shut-down if no mains present and output voltage stays below Vdiscon for 30seconds.

Displayed values following Code B

Vout = output voltage of PSU
Ibat = charging current
Ipsu = total output current
+20°C = temperature measured by temp. sensor

Power Supply Default Settings

Parameter	Setting				
V nominal	12	24	30	36	48
BatDetect (mins)	60	60	60	60	60
Vpres:	12.2	24.1	30.4	36.5	48.7
Vbatl:	11	22	27.5	33	44
Vshutd:	11.5	23	28.7	34.5	46
Vdisco:	10	20	25	30	40
Bccl (%)	100	100	100	100	100
BCTim (mins)	20	20	20	20	20
CC Mins:	40	40	40	40	40
CC Hrs:	23	23	23	23	23
CC Days:	27	27	27	27	27
MfiBCT:	30	30	30	30	30

BatDetect: Time between battery detections

Vpres: Voltage threshold for battery detection and BCT. Note that if the voltage drops to this level during a BCT the test is aborted and the **BAT LOW** alarm shows.

Vshutd: Internal voltage level of the power supply during battery detection and battery condition tests.

Vbatl: **BAT LOW** alarm voltage level

Vdisco: Voltage at which the load is disconnected from the battery during mains fail

Bccl: Battery charge current limit as percentage of the rated power supply current

BCTim: Length of battery condition test

CC Mins: Time in minutes between automatically scheduled BCTs

CC Hrs: Time in hours between automatically scheduled BCTs

CC Days: Time in days between automatically scheduled BCTs

Note: The total time interval between BCTs is the accumulation of the above three settings

MFIBCT: Time in minutes before the mains fail check during the BCT (only applicable to SR100)

BCT = battery condition test