HELIOS
POWER SOLUTIONS

Power Supply RS232 & RS485 Command Codes
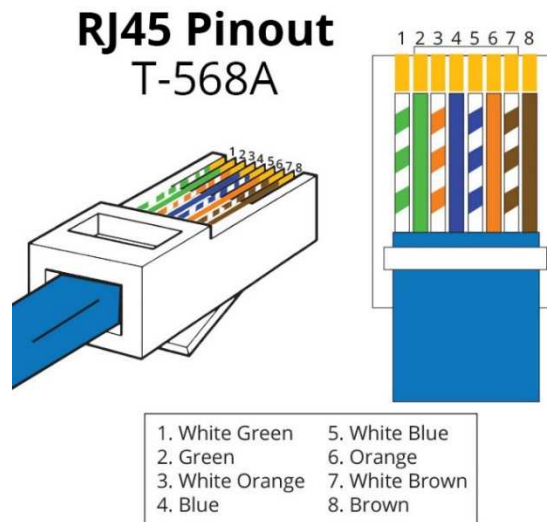
for SR…**H*i*** models

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1. Communication Settings

Bits/second: 9600
Databits;   8
Parity:None
Stop bits: 1
Flow control: Hardware

An **RJ45** connector is used at the SR…H.. Power supply/Charger

RJ45 Pinout T-568A

1. White Green   5. White Blue
2. Green   6. Orange
3. White Orange   7. White Brown
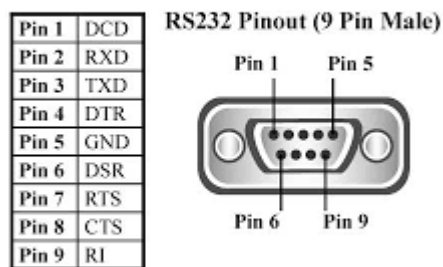4. Blue   8. Brown

See below for connection pin outs to monitor using a PC.

2. RS232 models

Use: RJ45 – DB9 female adaptor <u>with</u> RJ45 to RJ45 (Cat5e) cable **plus** DB9 male to USB cable.

RS232 Pinout (9 Pin Male)

Pin 1	DCD
Pin 2	RXD
Pin 3	TXD
Pin 4	DTR
Pin 5	GND
Pin 6	DSR
Pin 7	RTS
Pin 8	CTS
Pin 9	RI

RJ45	DB9 (female)
4	5
5	3
6	2

3.   RS485 models

Use **FTDI** USB to RS485 serial converter (**USB-RS485-WE**) cable to RJ45 connector

RJ45	Cat5e/6e	Signal	FTDI USB-RS485-WE Cable
1	White/Green	Data+ (A)	Orange (5)
2	Green	Data- (B)	Yellow (2)
4	Blue	GND	Black (1)

RJ45 connector at SR…H.. charger/power supply

FTDI cable reference:

https://www.ftdichip.com/Support/Documents/DataSheets/Cables/DS_USB_RS485_CABLES.pdf

5. List of commands (use CAPITAL letter for alpha commands)

1	Start float charge (cc)
2	Request configuration data
3*	Set to receive new config data
4*	Set to receive new timing data
6	Request time left before next BCT
7	Request time left in BCT
8	Request time left in EQ
AR*	Trigger output 1 for 5 seconds
AY*	Enable/disable auto Equalisation charge
C	Clarify reason of Mains fail alarm
D	Request state information
E*	Start equalisation charge
F	Request measurement data
G	Start BCT
H	Stop BCT
I	Enable scheduled BCT
J	Disable scheduled BCT
K	Request BCT info (BCT enabled or disabled)
L	Reset temperature log
M	Request DC high alarm threshold
TO*	Adjust BCT length
TP*	Adjust CC days
TQ*	Adjust CC hours
TR*	Adjust CC minutes
TU*	Adjust EQ hours
TW*	Adjust boost hours
VP*	Adjust V present
VQ*	Adjust V shudown
VR*	Adjust V batlow
VU*	Adjust V disconn
VW*	Adjust V equalisation
VY*	Adjust V boost
XPP*	Set to XPP secure comms.
Z	Request internal temperature
~	Request firmware date
?	Request this list of commands

*   not yet implemented

## 6.   List of parameters and data codes

V out   output voltage

V pres   Voltage threshold for battery detection & battery condition test (BCT). If voltage drops to this level during BCT then the test is aborted and BATT SYS OK alarm shows

Vshutd   Output voltage of PSU during battery detection & BCT

V batl   voltage where BATT low alarm activates during mains fail

V disco   Battery disconnect level on low voltage during mains fail

Bccl   Maximum charge current as % of rated PSU rated current

Comms   communications mode of PSU: F = continuous data stream of status, M = responds only to request made by a controller

BatDetect Battery detection interval time, active only when no battery charge current is detected (the unit may not detect a missing battery for up to this time)

BCT   length of battery condition test

Ret   retest option: N = after a failed BCT further scheduled BCTs are inhibited, Y = after a failed BCT further scheduled BCTs will be allowed

CC   Length of charge cycle in minutes/hours/days. ie. time between battery condition tests

6.1 Data Codes

All data is transmitted as direct readable ASCII code.

Typical Screen View:

```
IEL NB5sys.V13  SR100i12T
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 B
          |_____ Code A
```
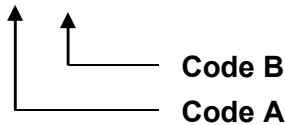
Code A

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

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