

# DATA SHEET

Subject to change without notice

## MODEL:- IPS-BC-140W-PB

Industrial Power Supply / Battery Charger

### TECHNICAL DATA

**Power Supply (Input)** 85 – 265VAC /120 - 390VDC  
Frequency 40 - 60Hz  
Power < 175VA

**Power Factor correcting, controlled Start-Up Input Stage (Designed to requirements of EN61000-3-2).**  
**Two Stage EMI line filter and transient protection is standard.**

#### Inputs

1. The test input switches load to the batteries, by monitoring the battery voltage the health of batteries can be determined.
2. An NTC with lead is included to allow for Battery Temperature Monitoring

#### Outputs (Operated as Power Supply)

Output 1 (< 3 amps) 27.6V nominal (no Battery)  
Output 2 (< 3 amps) 13.8V nominal (no Battery)  
Combined Ave Output ≤ 140W at 70C (99% DF)  
Combined Peak Output ≤ 165W (3secs. & 1% DF)

#### Outputs (Operated as Battery Charger)

Battery '1' Limited to 13.8V nominal  
Battery '2' Limited to 13.8V nominal  
Charge Temp. Coeff. -4mV/C per cell.  
Charge Current: 2.5A nominal

**(suitable for from 7AH to 24AH batteries).**

Deep discharge Automatic load disconnect.

#### Alarm Outputs

AL1 = Battery or Internal Fault  
AL2 = Supply Failure

**The unique charger design prevents boiling of batteries under nearly all conditions.**

### GENERAL SPECIFICATION

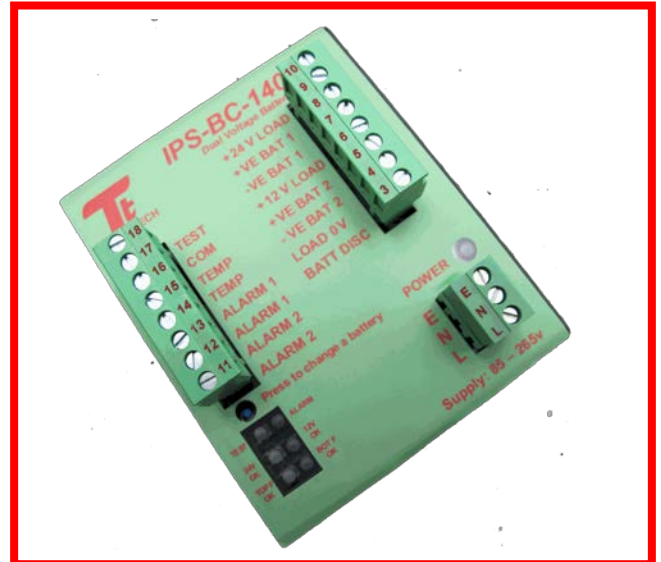
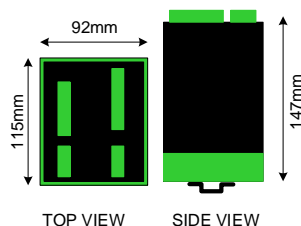
Efficiency 80% -95%  
PFC (required) to EN61000-3-2.  
Emissions to EN61000-4-6  
Immunity ESD to EN61000-4-2  
Immunity RF fields to EN61000-4-3  
Isolation (Input/Output) 4kV rms (VDE 0550 and BS4 15 Class 2)

Operating Temp 0 to 70 Deg C  
Storage Temp -25 to 85 Deg C

Reliability (estimated) 50,000 hours at 25C as per MIL-HDBK-217 or equiv.

Mounting Style DIN mount  
Terminals Self-opening 5mm/12AWG (plug on/off)

Housing Material Mild Steel & Polycarbonate  
Ventilation Natural  
Dimensions 92mmX115mmX147mm (W x D x H)  
Weight 1.0 kg



### GENERAL DESCRIPTION

The **IPS-BC-140W** is a uniquely designed combined industrial power supply / battery charger, purpose built to supply instrument installations with both 12V and 24v requirements and sealed lead-acid backup batteries.

**To comply with the requirements of EN61000-3-2 for electronic equipment consuming more than 75W, the input stage is Power Factor Corrected.**  
The **IPS-BC-140W** may be operated without batteries, in which case the 12V and 24V outputs will approach 13.8V and 27.6V respectively.  
When the **IPS-BC-140W** is operated as a battery charger the unique control circuitry prevents either battery being overcharged (boiled). This unique feature can either sink or source current, rising or falling automatically depending upon the state of charge of either battery.  
In the event of loss of ACV, or an internal fault an alarm contact will close.

### FEATURES:

- ◆ **Power Factor Correcting (automatic)**
- ◆ **Auto disconnect on reverse battery volts**
- ◆ **Voltage measurement nominally 0.3%**
- ◆ **Current Limited Outputs**
- ◆ **Designed to provide 140Watts @ 70deg C**
- ◆ **Plug Off Terminals with engraved numbers**
- ◆ **Output Healthy LED's (ACV, DCV, F1, F2, ALARM,TEST)**
- ◆ **Complies with EN61000**
- ◆ **Remote Test Input with Contact output (Forces a low VDC to test battery condition)**
- ◆ **Supply Loss Alarm Output**
- ◆ **C-TICK / CE Markings**
- ◆ **(Independently Tested to & Passed CSPIR 11)**

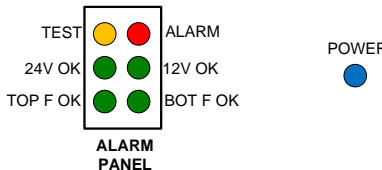
# DATA SHEET

Subject to change without notice

## MODEL:- IPS-BC-140W-PB Industrial Power Supply / Battery Charger

### OPERATING CONTROLS & CONNECTIONS

### INTERNAL SETTINGS & CALIBRATION



**ALARM PANEL**

LED	NORMAL	FAULT/ALARM
TEST	LED = <b>off</b> (normal)	LED = <b>on</b> (test input active)
ALARM	LED = <b>off</b> (all OK)	LED = <b>on</b> (If either battery is flat or reverse connected or Fuses blown)
24V OK	LED = <b>on</b> (all OK)	LED = <b>off</b> (Internal fault)
12V OK	LED = <b>on</b> (all OK)	LED = <b>off</b> (Internal fault or Test input active)
TOP F OK	LED = <b>on</b> (all OK)	LED = <b>off</b> (Top / 24V Fuse blown)
BOT F OK	LED = <b>on</b> (all OK)	LED = <b>off</b> (Bottom / 12V Fuse blown)
NO SUPPLY	24V, 12V and Blue Supply LED = <b>off</b>	

**ALARM 1 & 2** = normally open contacts (close when power is applied to the IPS-BC-140W)

**ALARM 1** Contact opens when TEST input is closed **and** either battery is flat or reverse connected or either fuse is blown

**ALARM 2** Contact opens only if power is lost to the IPS-BC-140W

### LED LEGEND

(shows input conditions)

### CALIBRATION & SET-UP INSTRUCTIONS:-

- The unique design is for 2 x 12VDC Sealed Lead Acid batteries, each charged and monitored independently, regardless of their condition or status.
- Either battery A or battery B may be removed without affecting the charging of the remaining battery.  
(ALL disconnections/reconnections, as a precaution, should be done with POWER OFF). With one of the 12VDC Batteries removed the IPS-BC-140W can still deliver 3 Amps at 12VDC for the Radio Modem.
- Temperature compensation for the batteries is external and included with all IPS-BC-140W units (standard 1 meter leads). Longer leads can be provided.
- To tie the battery negative to Earth make this connection at "Load 0V" (term 4) only.

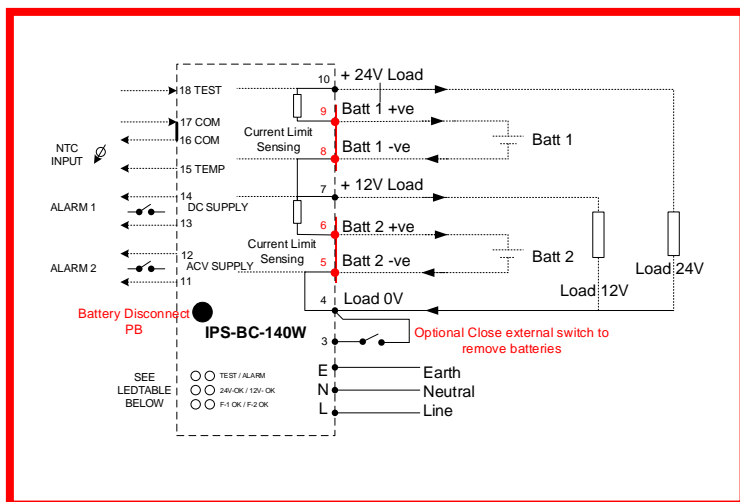
#### EXTRA FEATURE:

If replacing an existing "series type" battery charger, i.e. it is a 24VDC battery or 2 x 12VDC in series, Connect the batteries between PIN 9 and PIN 4.

#### REMOVAL & INSTALLATION NOTES:

- Turn OFF AC Power and avoid turning the IPS-BC off then on – wait a few seconds.
- Disconnect the DC Load and Batteries (via external means)
- Unplug the terminals on the IPS-BC
- Replace the IPS-BC
- Plug the terminals back on the IPS-BC
- Reconnect or close the DC Load and Batteries
- Allow a few seconds for the IPS-BC to "auto-connect"
- Apply the AC Power

Please ensure that **Batteries** are connected to **Battery Terminals** and **Load** is connected to **Load terminals**.



#### NEW FEATURE – Battery change-over.

- Prepare the replacement battery
- Press the Battery disconnect pushbutton.
- AMBER LED flashes during timing cycle - approx. 2-3 minutes
- Replace the battery ensuring correct polarity whilst the AMBER LED flashes.