



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## BCS Series



- DC Standby System
- Battery Charging Output
- Optional 5 V, 3 A Supply
- Low Battery Disconnect
- AC OK and Battery Low Alarms
- Battery Overload & Reverse Polarity Protection
- 3 Year Warranty

## Specification

### Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 75 W: 1.5/1.0 A max 115/230 VAC 100 W: 2.0/1.2 A max 115/230 VAC 155 W: 2.5/1.5 A max 115/230 VAC
Inrush Current	• 75/100 W 70 A max/230 VAC cold start 25 °C, 155 W 80 A max/230 VAC cold start 25 °C
Earth Leakage Current	• <1 mA at 264 VAC, 60 Hz
Power Factor	• Meets EN61000-3-2, class A
Input Protection	• Internal 4.0 A (155 W: 5.0 A) 250 V fuse, fitted in line

### Output

Output Voltage	• See tables
Output Voltage Trim	• $\pm 10\%$ on output 1. Output 2 tracks by same percentage
Initial Set Accuracy	• $\pm 1.0\%$
Minimum Load	• None
Start Up Delay	• 75/100 W: 800 ms O/P 1 & 3, 3.5 s O/P 2, 155 W: 4 s O/P 1 & 3, 6.2 s O/P 2
Start Up Rise Time	• 30 ms max
Hold Up Time	• 8 ms min at 115 VAC
Line Regulation	• $\pm 0.5\%$ max
Load Regulation	• Output 1 & 2: $\pm 0.5\%$ , Output 3: $\pm 1.5\%$ (where fitted)
Over/Undershoot	• 5% max at turn on
Transient Response	• 4% max. deviation, recovery to less than 1% within 500 $\mu$ s for step load change of 25%
Ripple & Noise	• Output 1: 1% pk-pk, Output 2: 150 mV pk-pk, Output 3: 100 mV pk-pk (where fitted), 20 MHz bandwidth
Overvoltage Protection	• 115-150% on output 1 only, recycle mains to reset
Overload Protection	• Output 1: >110% of total rated power Output 2: 100-115% of max current Output 3: >3.3 A (where fitted) An overload on any output will affect the voltage regulation of all outputs
Batt. Low Voltage Protection	• Internal battery relay opens at 10 V $\pm 4\%$ for 13 V versions and 20 V $\pm 5\%$ for 27 V versions
Short Circuit Protection	• On all outputs, trip and restart, auto recovery
Temp. Coefficient	• 0.03%/°C

### General

Efficiency	• See tables
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• 75 W: 40-76 kHz at full load typical 100 W: 28-60 kHz at full load typical 155 W: PFC 100 kHz, PWM 30-47 kHz at 25-100% load typical
Power Density	• 75 W: 3.4 W/In <sup>3</sup> , 100 W: 4.5 W/In <sup>3</sup> , 155 W: 3.8 W/In <sup>3</sup>
Signals	• AC OK and BAT LOW signals, see applications note
MTBF	• 130 kHrs typical to MIL-HDBK-217F at 25 °C, GB

### Environmental

Operating Temperature	• -20 °C to +70 °C. Refer to derating curves
Cooling	• 75 & 100 W: Convection-cooled, 155 W: Internal fan
Operating Humidity	• 95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C
Operating Altitude	• 2000 m
Shock	• 30 g pk, half sine, 6 axes
Vibration	• 2 g rms, 10 Hz to 500 Hz, 10 min/cycle for 60 mins on each axis

### EMC & Safety

Emissions	• EN55022, Level B conducted and radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 3 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Surge	• EN61000-4-5, installation class 3, Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 V Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms, Perf Criteria A, B, B
Safety Approvals	• EN60950-1, UL60950-1

## Models and Ratings

**BCS75/100 XP**

Output Power	Output 1		Output 2		Output 3		Efficiency	Model Number <sup>2)</sup>
	Voltage	Current <sup>(1)</sup>	Voltage	Current <sup>(1)</sup>	Voltage	Current <sup>(1)</sup>		
75 W	13.8 V	5.50 A	13.8 V	1.95 A			86%	BCS75US13-C
	27.6 V	2.75 A	27.6 V	1.10 A			88%	BCS75US27-C
	13.8 V	4.40 A	13.8 V	1.95 A	5.0 V	3.0 A	85%	BCS75US13-CA
	27.6 V	2.20 A	27.6 V	1.10 A	5.0 V	3.0 A	87%	BCS75US27-CA
100 W	13.8 V	7.30 A	13.8 V	2.80 A			86%	BCS100US13-C
	27.6 V	3.65 A	27.6 V	1.70 A			88%	BCS100US27-C
	13.8 V	6.20 A	13.8 V	2.80 A	5.0 V	3.0 A	85%	BCS100US13-CA
	27.6 V	3.10 A	27.6 V	1.70 A	5.0 V	3.0 A	87%	BCS100US27-CA

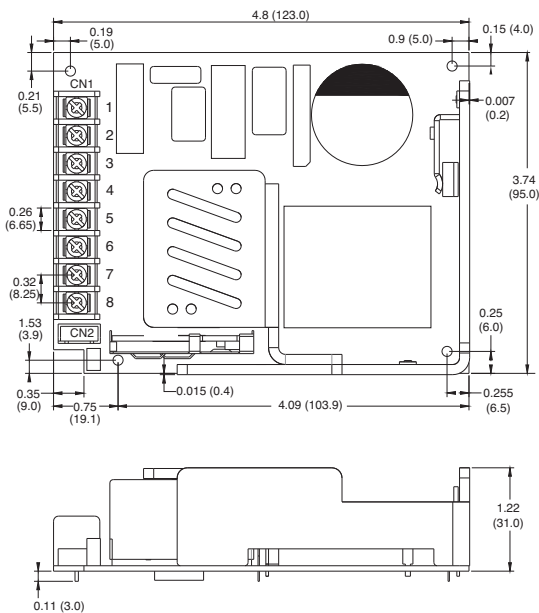
### Notes

1. Total power must not exceed the output power rating, current during battery discharge limited to 4.0 A

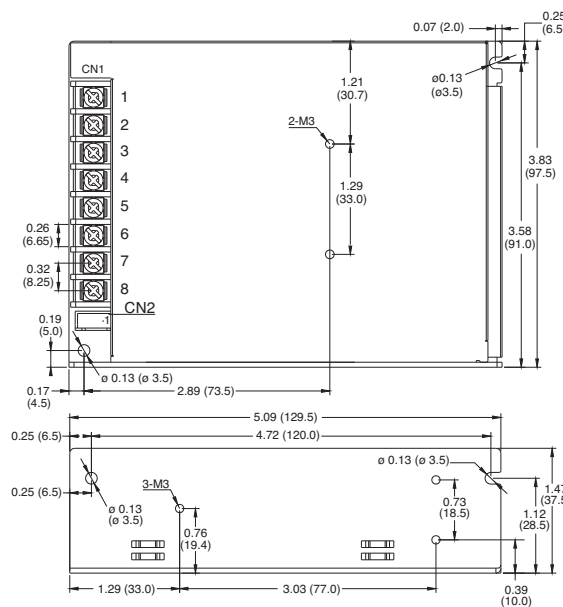
2. Delete C from model number for optional uncased version e.g. BCS75US13. or BCS75US27-A.

## Mechanical Details

### BCS, BCS-A



### BCS-C, BCS-CA



CN1 - Input/Output Connector			
Pin	Function	Pin	Function
1	Line	5	+Vout
2	Neutral	6	BAT+
3	FG	7	BAT-
4	-Vout Com	8	+5V (-A versions only)

CN2 - Alarm Connector for BCS, BCS-C	
Pin	Function
1	AC OK
2	BAT LOW
3	13.8 V/20 mA or 27.6 V/20 mA (Output voltage dependant)

CN2 - Alarm Connector for BCS-A, BCS-CA	
Pin	Function
1 2	AC OK
3 4	BAT LOW

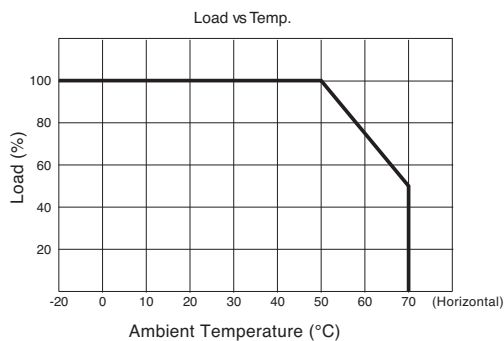
### Notes

1. All dimensions in inches (mm).  
2. BCS, BCS-C CN2 Mating Part JST XHP-3 housing, SXH-001 T-P0.6 crimps or equivalent.

3. BCS-A, BCS-CA CN2 mating part JST XHP-4 housing, SXH-001 T-P0.6 crimps or equivalent.

4. For correct operation of the internal battery fuse, the BAT- terminal should not be connected to earth or -Vout Com.

## Derating Curves



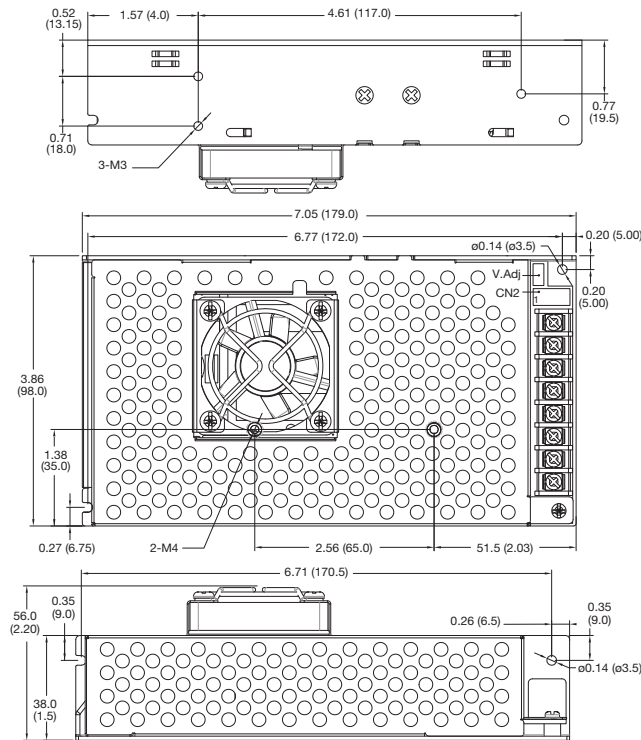
# Models and Ratings

Output Power	Output 1		Output 2		Output 3		Efficiency	Model Number
	Voltage	Current <sup>(1)</sup>	Voltage	Current <sup>(1)</sup>	Voltage	Current <sup>(1)</sup>		
155 W	13.8 V	11.2 A	13.8 V	3.88 A			86%	BCS155PS13-C
	27.6 V	5.6 A	27.6 V	2.10 A			86%	BCS155PS27-C
	13.8 V	10.1 A	13.8 V	3.88 A	5.0 V	3.0 A	85%	BCS155PS13-CA
	27.6 V	5.1 A	27.6 V	2.10 A	5.0 V	3.0 A	85%	BCS155PS27-CA

**Notes**

1. Total power must not exceed the output power rating.

## Mechanical Details



CN1 - Input/Output Connector			
Pin	Function	Pin	Function
1	Line	5	+Vout
2	Neutral	6	BAT+
3	FG Ⓢ	7	BAT-
4	-Vout Com	8	+5V (-A versions only)

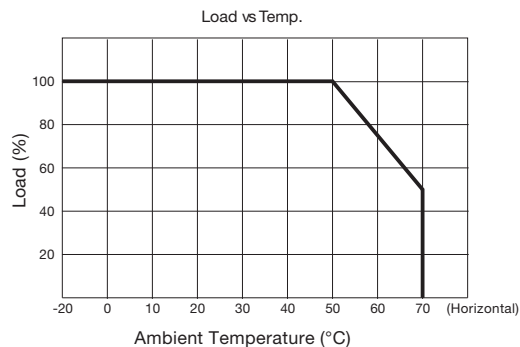
CN2 - Alarm Connector for BCS, BCS-C	
Pin	Function
1	AC OK
2	BAT LOW
3	13.8 V/20 mA or 27.6 V/20 mA (Output voltage dependant)

CN2 - Alarm Connector for BCS-A, BCS-CA	
Pin	Function
1 2	AC OK
3 4	BAT LOW

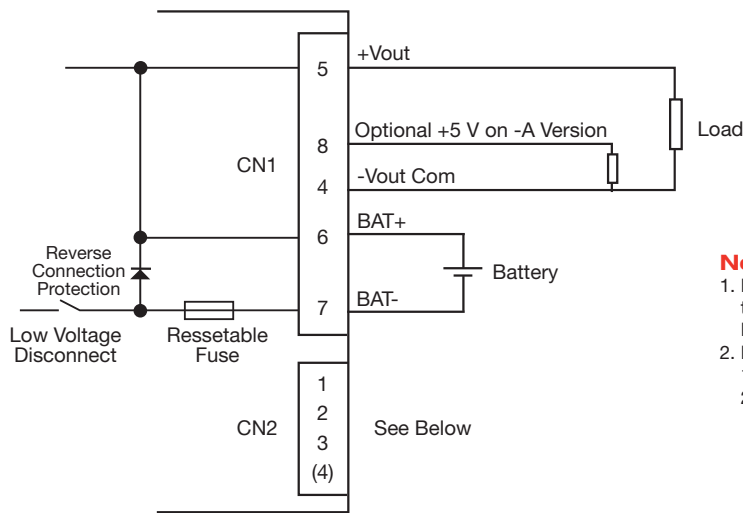
**Notes**

- All dimensions in inches (mm).
- BCS-C CN2 Mating Part JST XHP-3 housing, SXH-001 T-P0.6 crimps or equivalent.
- BCS-CA CN2 mating part JST XHP-4 housing, SXH-001 T-P0.6 crimps or equivalent.
- For correct operation of the internal battery fuse, the BAT- terminal should not be connected to earth or -Vout Com.

## Derating Curves



Connection Diagram

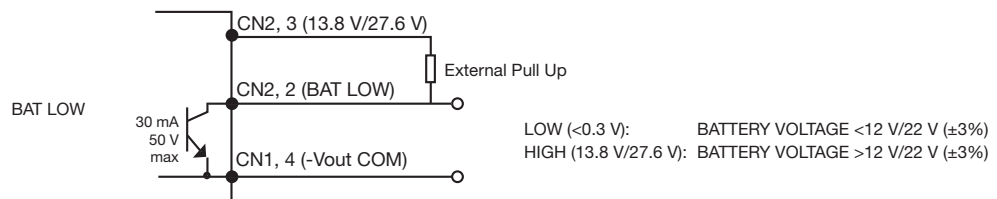
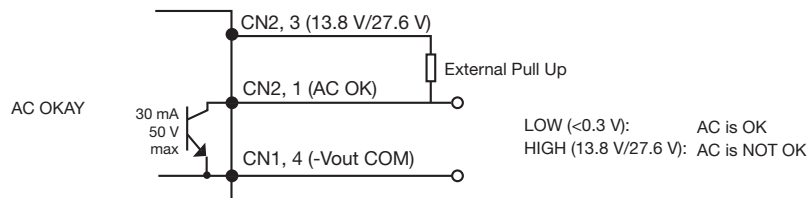


Notes

1. For correct operation of the internal battery fuse, the BAT- terminal should not be connected to Earth or -Vout COM.
2. Low Voltage Disconnect operates at 10 V ±4% for S13 models or 20 V ±5% for S27 models.

Alarm Connections

BCS, BCS-C Models



BCS-A, BCS-CA Models

