Amphenol SOCAPEX

PS SERIES
PSD270V8CBPC-X
8 CHANNELS, 80A, HIGH VOLTAGE POWER DISTRIBUTION UNIT

PSD270V8CBPC-X an 8-channel power distribution unit designed for 270 and 600 DC voltage. Every output is overload and short-circuit protected providing the best solution for high reliability systems. This is a pure solid-state device resulting in a sparkless switching for explosive atmosphere applications.

Standard Models List (for other options – consult factory)

Part Number	Input Voltage	Outputs Configuration	Other Features
PSD270V8CBPC -0	150V – 400V	8 x 10A	Altitude operation up to 70kft Enable & Trip signal per output
PSD270V8CBPC -1	400V – 800V	8 x 10A	Altitude operation up to 50kft Enable & Trip signal per output

Markets & Applications

Military, Ruggedized

Telecom, Industrial

The main features of the PDU270V8CBPC-X Series are:

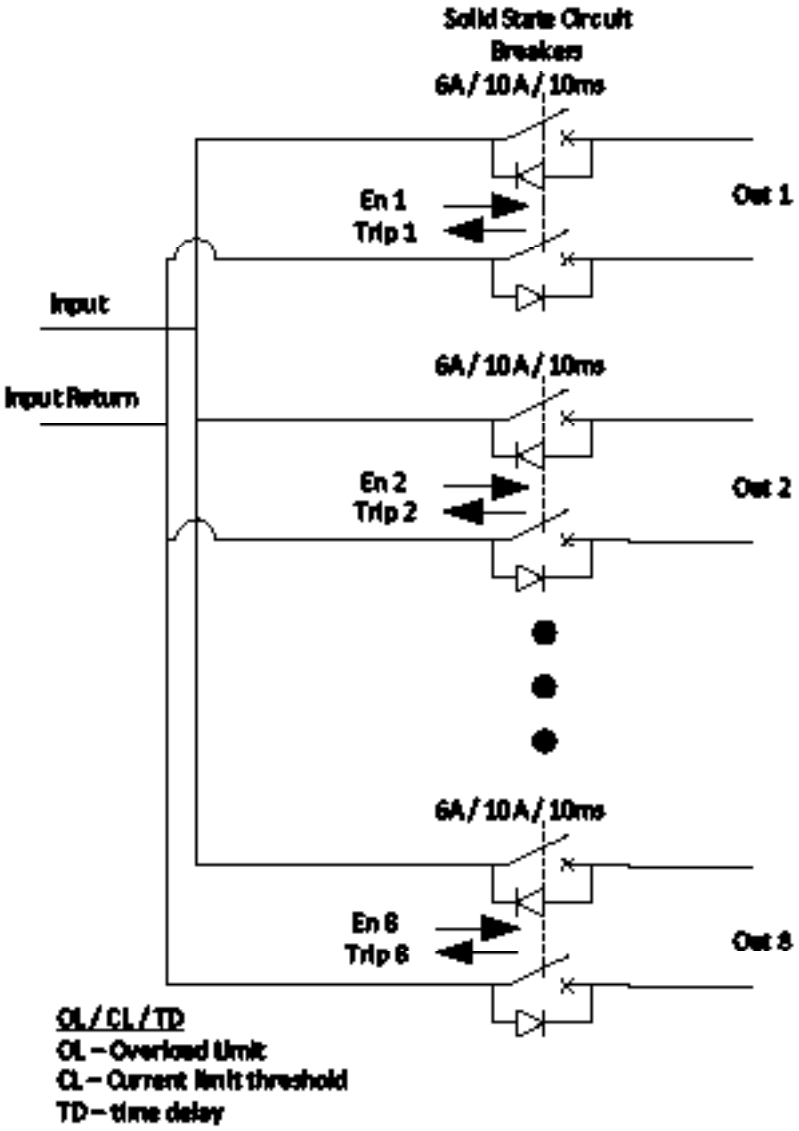
- 8 separate outputs controlled with discrete inputs.
- Each output controls the positive side and return.
- 8 trip outputs to notify of a failure. Outputs can be paralleled.
- Two main configurations:
  - 270VDC input per MIL-STD-704F for airborne applications and up to 70kft altitude.
- 600VDC input per MIL-PRF-GCS600A for ground applications and up to 50kft altitude.
- Factory calibrated overload protection per channel.
- Factory calibrated short-circuit protection per channel.
- Interface and control:
  - Main On/Off to enable device operation.
  - Enable control per output.
  - Open collector trip indication per output.

Specifications:

DC Input	*Voltage for 600V devices*	400V to 800V operation per MIL-PRF-GCS600A
	Voltage for 270V devices	150V to 400V operation per MIL-STD-704F
	Spikes	TBD
	Inrush Current	Internally limited such that the peak current is less than 10A
	Isolation	Power is galvanically isolated from control and chassis (> 20MΩ at 1,500 V_{DC}).
DC Output	*Rating*	10A per output.
	Drop Voltage	0.6V maximum at rated current.
	Short Circuit Protection	The remote sense lines, when connected to the desired POR (typically at the load) will compensate for up to 2 V_{DC} drop on the output cable.
	Short Circuit Protection	Less than ±5% overfunder shoot with recover time of less than 2 ms for any 20 Amp step within the range of 10 Amp to 40 Amp.
	Over Temperature Protection	200 mVAC (0.25%) maximum, for all operating and environment conditions. At light loads (below 2 Amp) it may rise but will not exceed 1% (0.8 VAC).
Control & Indication	*Discrete Inputs*	A short to the 80VDC RTN line (V<1.2 V @ 5 mA) inhibits the DC Output. Open (I < 0.1 mA @ 5V) enables the DC Output.
	Discrete Output	Isolated open-collector transistor of an Opto-coupler. Low (V < 0.5 V_{DC} @ 2 mA): DC Output is enabled, and no failure detected. Open (I<0.1 mA @ 20 V_{DC} max): disabled or failed DC output.
	Measurements	Indicates that DC Output is presents on the Output connector.
Environment	*Ambient Temperature*	Non-operating ambient : -55°C to +125°C Operating baseplate: -51°C to + 85°C.
	Humidity	Up to 95% RH, Per MIL-STD-810F, Method 507.4
	Salt-fog	Per MIL-STD-810F, Method 509.4
	Altitude	MIL-STD-810H Method 500.6, Procedure I & II. See selection table.
	Mechanical Shock	Saw-tooth, 40 g peak, 11 ms.
	Vibration	MIL-STD-810H Method 514.8 Category 7: Aircraft – Jet, IAW figure C-6, 13.7grams, 1 hour per axis. Category 24: Minimum integrity, IAW figure E-3, 7.7grams, 1 hour per axis
EMI	*MIL-STD-461G*	CE101, CE102, CS101 CS114 (10 kHz to 400 MHz, Curve #5), CS115, CS116, RE101, RE102 (Fixed wing external), RS101 and RS103 (2 MHz to 18 GHz 50 V/m). All tests are at full load and in accordance with the provisions of MIL-STD-461G – with shielded signals.
MTBF	100,000 hours, calculated per MIL-STD-217F N2 at +85 °C at baseplate, Ground Fixed	

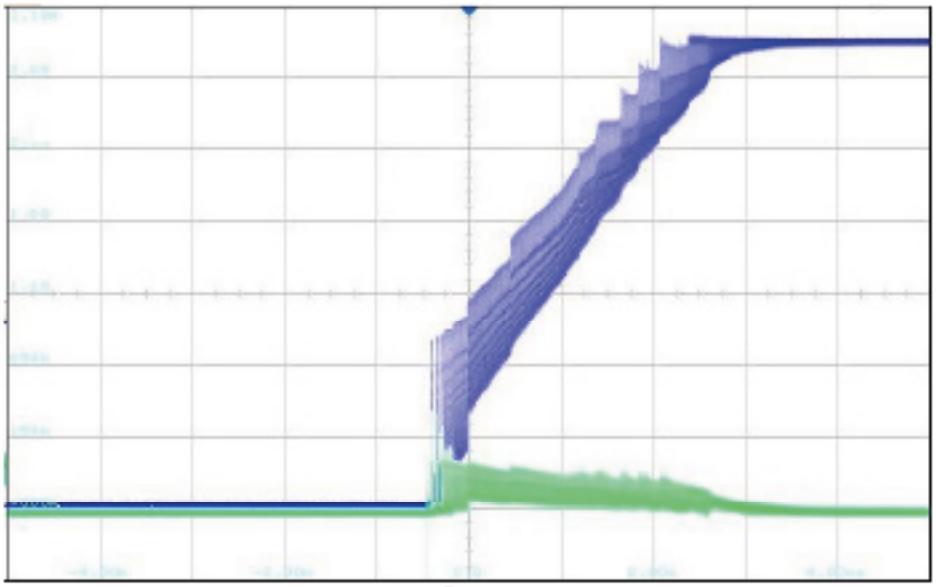
Weight	TBG (Goal 1.5 Kg)
Connectors	Input: TBD Output: TBD Signals: TBD

Block Diagram:



Typical Characteristics

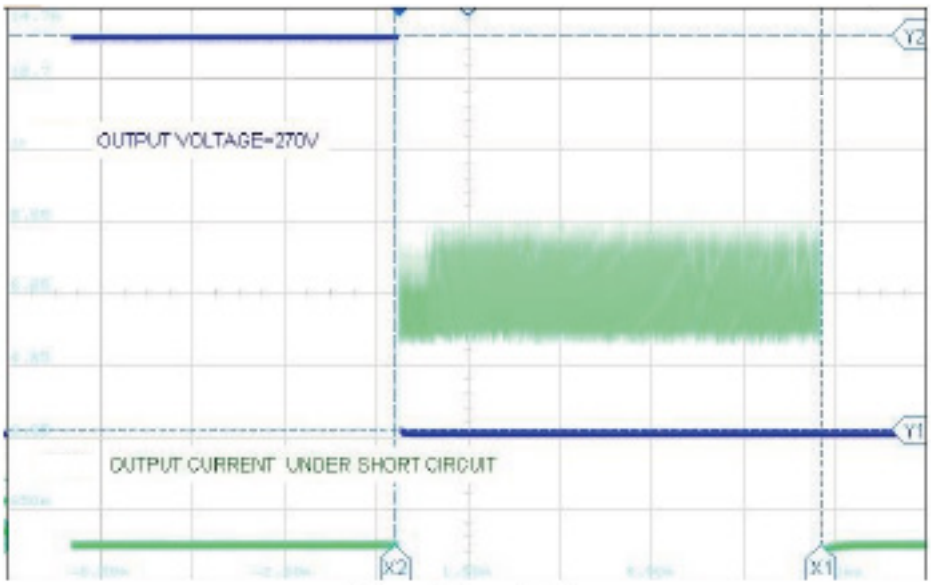
Output Soft Startup



Time [1 ms/Div]

Blue – Ouput voltage [50V/Div]
Green – Input Current [0.5A/Div]

Output Short Circuit

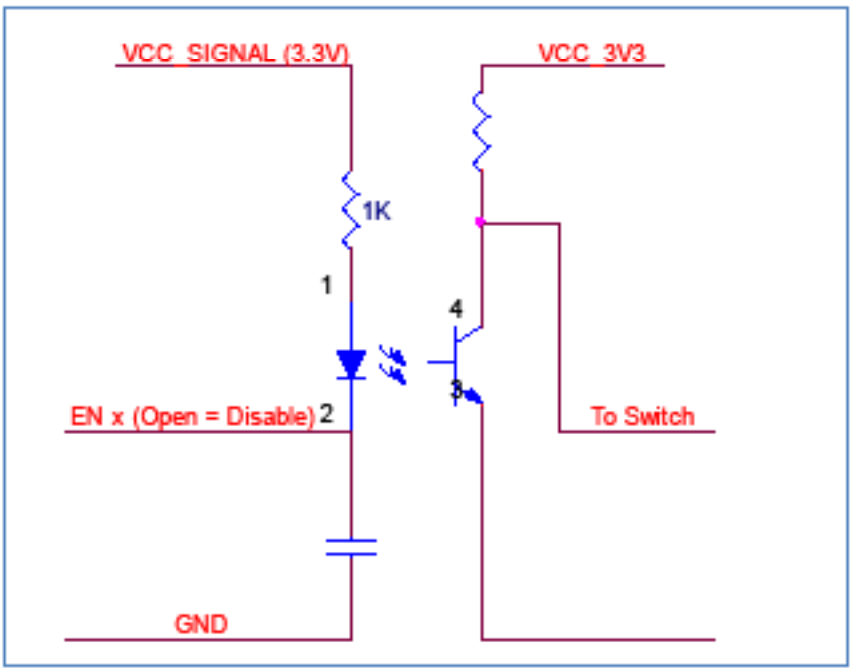


Time [2 ms/Div]

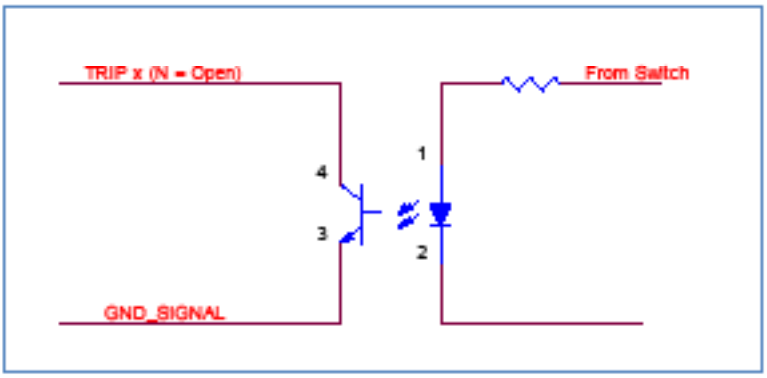
Blue – Ouput voltage [50V/Div]
Green – Input Current [2A/Div]

Typical Signals interface:

En x:



Trip x:



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