

94030-1 EEFCC F-16 POWER SUPPLY SPECIFICATIONS BEHLMAN PN 94030-1

1. INPUT POWER SPECIFICATIONS IAW MIL-STD-704F

Nominal Input Voltage: 115Vac Phase to Neutral, 4-wire Three Phase System (Three Phases + Neutral)

Input Voltage Range: 100Vac to 126Vac

Nominal Frequency: 400Hz

Frequency Range: 380Hz to 420Hz

Hold-up Time: 7ms min

2. INPUT CONTROL/STATUS

ON/OFF Control: +28Vdc (input signal)

End of In-rush event: Relay (output signal)

Lost Phase: SumPhase (input signal)



3. OUTPUT POWER SPECIFICATIONS

3.1 +5VDC Output

Nominal Output Voltage: 5V

Output Voltage Range: 4.8V to 5.4V

Output Current: 20A

Over Voltage Shutdown: 5.7V +/-0.3V

Over Current Protection: 25Amax

Short Circuit Protection

Ripple&Noise: 36mVrms max. at nominal load (20A)

Load and Line regulation should be within the output voltage range where the output voltage is measured close to the output connector.

3.2 +15VDC Output

Nominal Output Voltage: 15V

Output Voltage Range: 12.6V to 15.4V

Output Current: 0.15A

Over Voltage Shutdown: 18V +/-1V

Max Output Current: 3A

Short Circuit Protection

Ripple&Noise: 72mVrms max. at Nominal Load (0.15A)

Load and Line regulation should be within the output voltage range where the output voltage is measured close to the output connector.

3.3 -15VDC Output

Nominal Output Voltage: -15V

Output Voltage Range: -15.4V to -12.6V

Output Current: 0.15A

Over Voltage Shutdown: -18V +/-1V

Max Output Current: 3A
Short Circuit Protection
Ripple&Noise: 72mVrms max. at Nominal Load (0.15A)
Load and Line regulation should be within the output voltage range where the output voltage is measured close to the output connector.

3.4 –5VDC Output

Nominal Output Voltage: -5V
Output Voltage Range: -5.2 to -4.8V
Nominal Output Current: 0.01A
Max Output Current: 0.1A
Short Circuit Protection
Ripple&Noise: 10mVrms
Load&Line regulation: 2% (No load to full load, measured close to the output connector)

3.5 +5VS Output – wired from +5VDC, max output current 0.01A

3.6 +12VDC Output

Nominal Output Voltage: 12V
Output Voltage Range: 11.5V to 12.5V
Nominal Output Current: 0.01A
Max Output Current: 0.1A
Short Circuit Protection
Ripple&Noise: 10mVrms
Load&Line regulation: 2% (No load to full load, measured close to the output connector)

3.7 6VAC/400Hz Output

Nominal Output Voltage: 5.75Vac +/-0.4Vac at Nominal Input Voltage 115Vac
Output Voltage Range: 4.5Vac to 6.5Vac (proportional to the Input Voltage)
Nominal Output Current: 0.05A
Output Voltage has to be in phase with Phase A – N voltage within 5deg.

4. OUTPUT CONTROL/STATUS

PN (Power normal) output signal:
Logic High: +4.8V +/-0.6V
Logic Low: <=1V

5. Basic Operation Description

Power Converter Assembly (PCA) Behlman PN 94030-1, referred as “the unit” is powered through Power Input Module (PIM) which contains In-rush relay K1, Main power relay K2, resistor network providing SumPhase signal.

+28VDC signal is used to power up the unit or to shut it down. +28VDC energizes the K1 and its contact provides a path for Phase A to charge the unit’s input capacitors to peak DC voltage through 16.9ohm resistor. It also provides +28V to one of the terminals of K2, where the other terminal is connected to the Relay line. Once certain DC voltage is reached on the input capacitors, Relay signal is tied to Neutral/+28V Return line and thus the Main power relay is energized connecting all three phases to the unit. After a delay the DC/DC module is

switched ON powering all the outputs. The PN signal goes Logic high after 50 to 105ms from the time the main +5VDC reaches 4.5V.

The SumPhase signal monitors any unbalance on the input three phase voltage system or missing phase event. In this case the Relay signal disconnected from the Neutral/+28V Return line and the main relay on PIM opens disconnecting the input power from the unit.

Disconnecting +28VDC signal turns off the unit. The PN signal goes to Logic low at least 7ms before the main +5VDC falls below 4.5V.

6. Environmental

Operating Temperature – 40° C to +71° C

Storage Temperature –54° C to +95° C

Altitude per MIL-STD-810F, Method 500.4 Procedure I / II /III

Humidity per MIL-STD-810F, Method 507.4 (5 cycles)

Acceleration per MIL-STD-810F, Method 513.5 Procedure I

Vibration per MIL-STD-810F, Method 514.5 Cat 15

Shock per MIL-STD-810F, Method 516.5 Procedure I

7. EMI

Designed to meet MIL STD D-461E: CE102, RE102, CS101, CS114, CS115, CS116 and RS103 when encased in EEFCC LRU.

8. See SCD 94030 for dimensions, weight and pin outs.

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