

Product Specification

Universal Input Switchers

Key Product Features

- 75% efficiency
- FCC class B EMI filter
- Up to 4 outputs
- 5" x 3.2" x 1.5" size
- CSA and CE approved
- Optional Cover
- Available with 24 VDC, or 48VDC outputs



US70 Series

70 Watt



Description

The US70 series are economical, open frame switchers that deliver up to 70W of continuous or 75W peak power from one to four outputs. The 90-264VAC universal input allows them to be used worldwide.

The US70 is one of the *flexibility* series. In addition to the popular models listed on this sheet, thousands of potential other modified standard models are available that include full safety agency approval and do not require any non-recurring engineering (NRE) charge. Prototype delivery is typically just a few weeks.

Flexibility options include cover, power good signal, and an isolated V4 output. Output voltage options are given in the table below. Fully custom models are also available. Please contact the factory for details.

All US70 models are also available with 24VDC, or 48VDC input. Please see the DP70 data sheet for details.

Modeling

| A cXY ¹ Bi a VYf | Ci hdi h | Ci hdi hJ c ² W[Y | A p ¹ | A UI ² | A UI ³ | DYU ⁴ |
|--|----------|------------------------------|------------------|-------------------|-------------------|------------------|
| US70-105 | V1 | +5V | 0.1A | 8.0A | 10.0A | 10.0A |
| US70-112 | V1 | +12V | 0.1A | 4.0A | 5.0A | 6.0A |
| US70-124 | V1 | +24V | 0.1A | 2.0A | 2.7A | 2.9A |
| US70-201 | V1 | +5V | 0.1A | 5.0A | 7.0A | 10.0A |
| | V2 | +12V | 0A | 3.0A | 4.0A | 5.0A |
| US70-301 | V1 | +5V | 0.1A | 5.0A | 8.0A | 10.0A |
| | V2 | +12V | 0A | 3.0A | 4.0A | 5.0A |
| | V3 | -12V | 0A | 1.0A | 2.0A | 2.0A |
| US70-303 | V1 | +5V | 0.1A | 5.0A | 7.0A | 10.0A |
| | V2 | +15V | 0A | 2.5A | 4.0A | 5.0A |
| | V3 | -15V | 0A | 1.0A | 1.0A | 2.0A |
| US70-401 | V1 | +5V | 0.1A | 5.0A | 7.0A | 7.0A |
| | V2 | +12V | 0A | 3.0A | 4.0A | 5.0A |
| | V3 | -12V | 0A | 1.0A | 2.0A | 2.0A |
| | V4 | -5V | 0A | 1.0A | 2.0A | 2.0A |
| Modified standard | V1 | ±3.3V to ±48V ⁶ | 0.1A | | 10.0A | |
| <i>flexibility</i> output options ⁵ | V2 | ±2.0V to ±48V ⁷ | 0A | | 4.0A | |
| | V3 | ±2.0V to ±48V ⁷ | 0A | | 2.0A | |
| | V4 | ±2.0V to ±48V ⁷ | 0A | | 1.0A | |

1- At least 20% of max output current is required to maintain stated regulation

2- Convection cooling

3- Forced air cooling

4- Peak output, 30 sec max

5- The US70 series allows very fast flexible modified standard designs within these parameters without non-recurring engineering charge and while retaining safety agency approval. Please contact factory for details

6- Can be specified in 0.1V increments

7- Can be specified in 0.75V increments

Note: Specifications are typical at 25°C unless otherwise stated

Specifications

Input

| | |
|---------------------|-------------------------------------|
| Input Voltage Range | 90-264VAC |
| Input Frequency | 47 to 440Hz |
| Input Surge Current | 25A max, cold start |
| Efficiency | 75% typ at nominal line, full power |

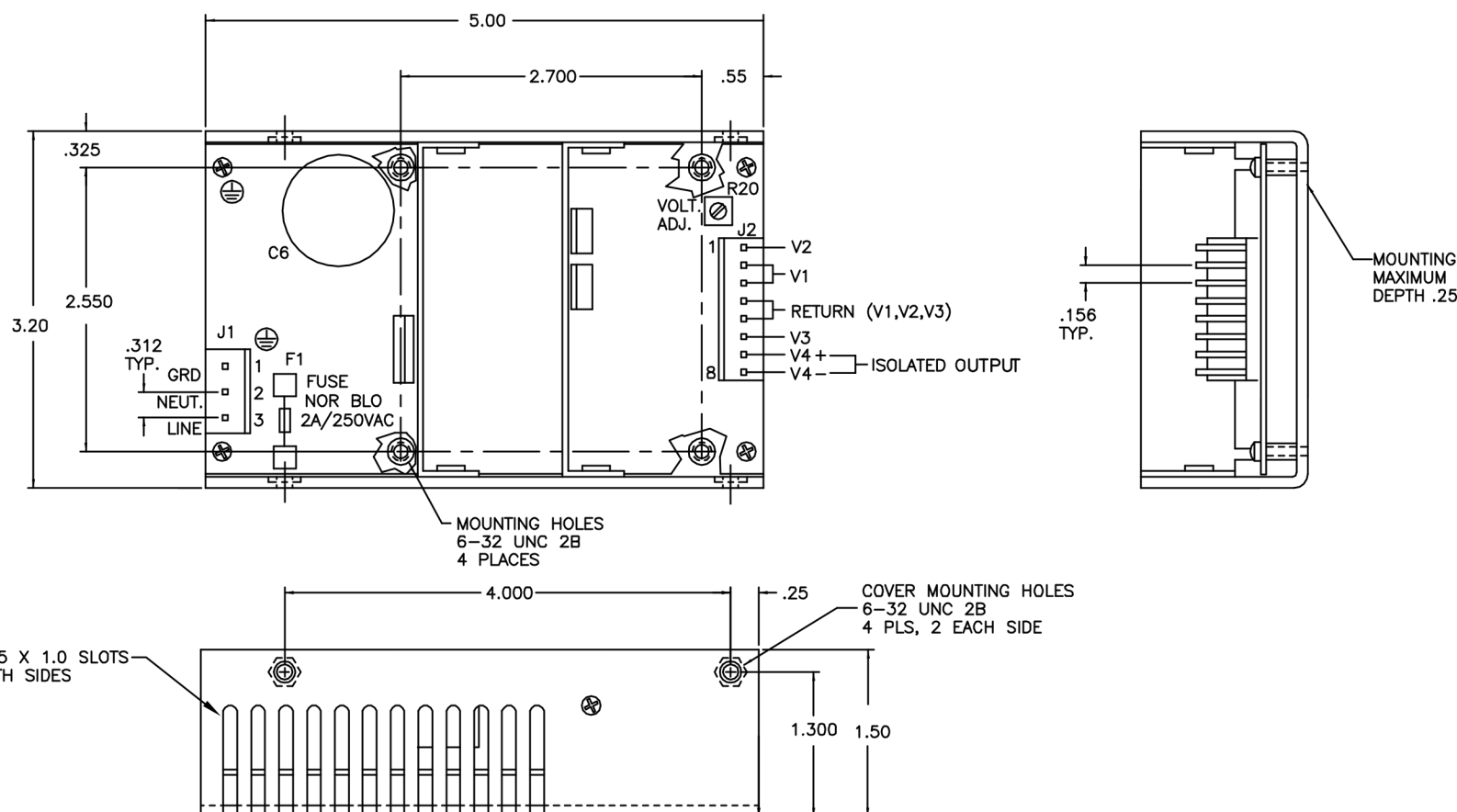
Output

| | |
|----------------------------------|---|
| Output Power | 65W, 28 CFM forced air ; 70W peak |
| Line Regulation | $\pm 0.2\%$, V_{in} (min) to V_{in} (max) |
| Load Regulation | $\pm 3\%$ (V_1 , 20% to 100% I_0) ; $\pm 5\%$ (V_2 - V_4 , 20% to 100% I_0) |
| Cross Regulation | $\pm 0.5\%$ (V_1 , 20% to 100% I_0 on V_2 - V_4) ; $\pm 5\%$ (V_2 - V_4 , 50% to 100% I_0 on V_1) |
| Noise and Ripple | 25mV max RMS, 50mV max P-P on V_1 with full load (5V only) ; 0.5% max RMS, 1% max P-P on V_2 - V_4 with full load |
| Overshoot | 5% max, all outputs |
| Transient Response | for 25% to 75% I_0 change, 5% max deviation, with recovery to 1% within 250 μ S |
| Hold-Up Time | 16mS, 115VAC input, full output power |
| Overvoltage Protection Threshold | 130% V_0 , all outputs |
| Power Foldback Point | 120% of max rated power |

Environment

| | |
|--|---|
| Operating Temperature Range (full power) | 0°C to 50°C |
| Operating Temperature Range (extended range) | 0°C to 70°C Derate linearly from full power at 50°C to half power at 70°C |
| Storage Temperature Range | -25°C to +85°C |
| Relative Humidity | 5% to 95%, non-condensing |
| Vibration | 0.75G peak, 5Hz to 500 Hz. Test three orthogonal axes at 1 octave/min, 5 min dwell at four major resonances |
| MTBF | 160,000 hours calculated per MIL-Std217E, 25°C ambient |

Mechanical Drawing



MATING CONNECTORS DIGITAL POWER #
J1 CONNECTOR=MOLEX INC.41671 SERIES
P/N:26-48-1055
(MATING CONNECTOR=MOLEX INC.6442 SERIES (OR 41695 SERIES)
J2 CONNECTOR=MOLEX INC. 41671 SERIES
P/N:26-48-1085
(MATING CONNECTOR=MOLEX INC.6442 SERIES (OR 41695 SERIES)
P/N:26-03-4081 (OR 09-50-8081)
(MATING CRIMP TERMINALS=MOLEX INC.6838 SERIES, P/N:08-52-0113 OR
08-52-0112)