

INSTALLATION INSTRUCTION

PSK/PSS Series

Positive Switching Regulators / Up to 720 W DC-DC Converters

OPERATION RANGE

Refer to product rating label for input and output ratings.

INSTALLATION

Connection to the system shall be made via the female connector H15 (standard) or H15S4; see Accessories datasheet: [Cassette Style Mating Connectors](#). Other installation methods may not meet the safety requirements.

The input pins 30/32 (Vi+) are connected via a built-in fuse, which is designed to protect in the case of a converter failure. An additional external fuse, suitable for the application, might be necessary in the wiring to the other input 26/28 (Vi-) or even to pins 30/32, particularly if:

- Local requirements demand an individual fuse in each source line
- Earth impedance is high or undefined

Notes:

- Do not open the converters, or warranty will be invalidated.
- Due to high current values, the converters provide two internally parallel contacts for certain paths (pins 4/6, 8/10, 26/28 and 30/32). It is recommended to connect both female connector pins of each path, to keep the voltage drop low and avoid excessive connector currents.

For more details refer to [Product datasheet](#) / Accessories datasheets (application notes) at belfuse.com/power-solutions and go to the respective product or family part number listing.

PROTECTION DEGREE AND CLEANING LIQUIDS

Condition: Female connector fitted to the converter.

- IP 30: All models except those with option P including a potentiometer.
- IP 20: All models fitted with option P with potentiometer.

In order to avoid damage, any penetration of cleaning fluids has to be prevented, since the power supplies are not hermetically sealed.

SENSE LINES

This feature enables compensation of the voltage drop across the connector contacts and the load lines. If the sense lines are connected at the load rather than directly at the connector, the user must ensure that $V_o \text{ max}$ (between V_{o+} and G_{o-}) is not exceeded.

For more details refer to [Product datasheet](#) / Accessories datasheets (application notes) at belfuse.com/power-solutions and go to the respective product or family part number listing.

CAUTIONS

The converters are components intended exclusively for inclusion within other equipment by an industrial assembly operation or by professional installers. Installation must strictly follow the national safety regulations in compliance with the enclosure, mounting, creepage, clearance, casualty, markings, and segregation requirements of the end-use application.

This is a Class A product. In a residential environment this product may cause radio interference in which case the user may be required to take adequate measures.

SAFETY OF OPERATOR-ACCESSIBLE OUTPUT CIRCUITS

The input and the output circuits are not separated. The negative path is internally interconnected. The regulators should be connected to a secondary circuit. Check for hazardous voltages before connecting. Make sure that a regulator failure (e.g. by an internal short-circuit) does not result in a hazardous condition.

For more information see datasheet and for PSL see also Accessories datasheet: [Cassette Style Mating Connectors](#).

ISOLATION AND PROTECTIVE EARTHING

PSK/PSS Positive switching regulators do not use input to output isolation - can provided by an external front end only (e.g., a transformer with rectifier). For protective-earth connection use Pin no. 24 (⊕) – Class I. The resistance between earth connection and case ($<0.1 \Omega$) is tested as well.

FUSING

A fuse mounted inside the converter protects against fatal defects.

Fuse Specification:

| Model | Fuse type | Reference | Rating |
|---|--------------|------------|--------------|
| PSK5A20, PSK1220, PSK2420, PSK3620 | fast-blow 1 | Littlefuse | 25 A / 250 V |
| PSK1216, PSK2416, PSK2418, PSK3620 | fast-blow 1 | Littlefuse | 20 A / 250 V |
| PSS1212, PSK1212, PSS212, PSK2412, PSS3612, PSK3612, PSK3616, PSK4812 | fast -blow 1 | Littlefuse | 15 A / 250V |
| PSS 129, PSS249 | fast -blow 1 | Littlefuse | 10 A / 250 V |

¹ Fuse size 6.3 × 32 mm

SERVICING

The product(s) must be returned to the Authorized Bel Service Center for repair with a pre-assigned RMA number.

LIMITED WARRANTY

For models with -9 and RoHS (suffix G) the company warrants each power supply of its manufacture for a period of five years from the date of original shipment. This warranty applies to defects in materials and workmanship that result in non-performance to published specifications. The product(s) must be returned to the Authorized Service Center for repair with a pre-assigned RMA number.

The company assumes no liabilities for consequential damages of any kind through the use or misuse of its products by any user. No other obligations are expressed or implied.

Please note that the specifications, terms, and conditions stated are subject to change without notice.

INPUT AND OUTPUT CONNECTOR DETAILS

Refer to [Product datasheet](#) at belfuse.com/power-solutions.

MECHANICAL DIMENSIONS AND MOUNTING REQUIREMENTS

Refer to [Product datasheet](#) at belfuse.com/power-solutions.

ALLOWED MOUNTING POSITION

Make sure that there is a sufficient airflow available for convection cooling and verify it by measuring the case temperature T_c , when the converter is installed and operated in the end-use application; see Thermal Considerations in [Product datasheet](#) at belfuse.com/power-solutions

NUCLEAR AND MEDICAL APPLICATIONS

These products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS

The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.