



Howard Industries, Inc.
ISO-9001 Certified



Molded Low-Voltage Bushings For Pad-Mounted Distribution Transformers

Howard Industries molded low-voltage bushings are designed for use on fluid-filled pad-mounted distribution transformers, where bushings are mounted indoors or inside a terminal enclosure. They are compatible with commonly used transformer fluids, including mineral oil, R-Temp[®], silicone, and seed-based oils.

The bushings are provided with an internal copper spade for connection to low-voltage coil leads and an external threaded copper stud that will mate with industry standard low-voltage connectors. The three-hole mounting configuration is designed for external attachment and allows interchangeability with similarly designed bushings used on many types of pad-mounted transformers.

The bushing design incorporates several improvements intended to prevent fluid leaks at the tank wall and at the copper-to-polymer interface. The tank wall gasket system features a piloted design to prevent misalignment during installation and a positive stop that provides consistent gasket compression and prevents overcompression. An internal gasket seals against leaks at the copper-to-polymer interface. Both gaskets are made of a proprietary compound specifically suited for transformer use.

Dupont Zytel[®] HTN high temperature nylon was chosen as the molding compound because of its exceptional mechanical and electrical stability over a wide range of temperature, humidity, and

environmental extremes. It also exhibits good flexibility, allowing it to conform to the tank wall during internal pressure changes.

Table 1: Electrical Characteristics

Description	Rating
Voltage class	1.2 kV
Basic impulse level (BIL)	30 kV
60 Hz one-minute withstand voltage	10 kV
Max. current, 5/8-inch stud bushing	600 A.
Max. current, 1-inch stud bushing	1500 A.

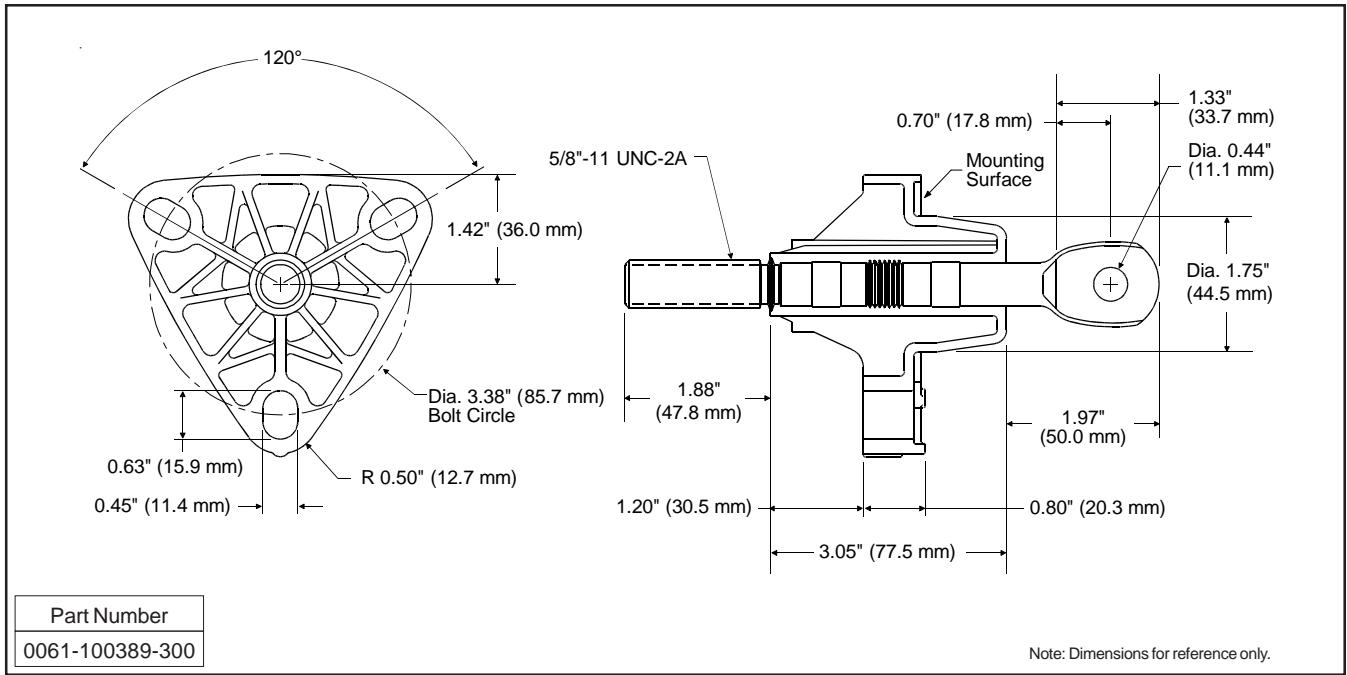


Figure 1: 5/8-inch diameter stud with internal spade (pictured on page 1)

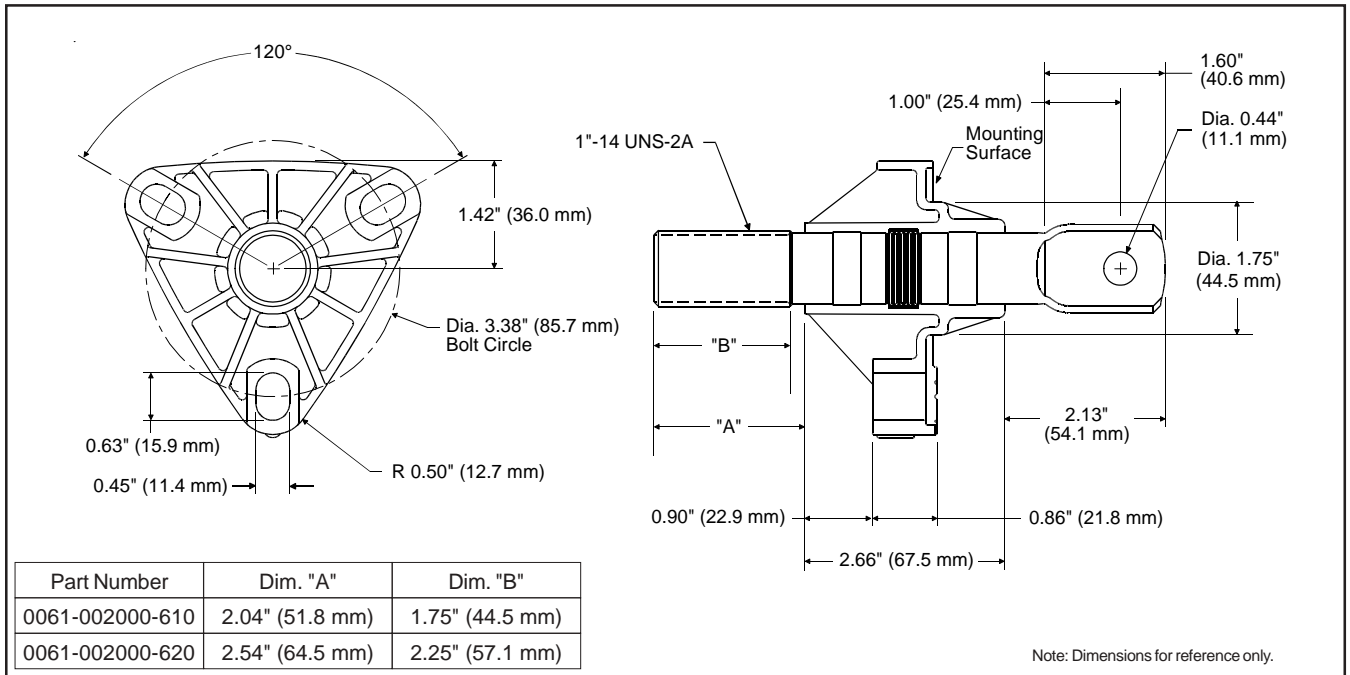


Figure 2: 1-inch diameter stud with internal spade

Notes:

1. Tank wall gasket included with bushing.
2. Internal thread available upon request.
3. Leads should be connected to both sides of the internal spade for applications requiring currents of 420 to 600 Amperes for the 5/8-inch stud or 835 to 1500 Amperes for the 1-inch stud.
4. Dimensions are for reference only.