



Series 970 Connectors and Accessories Introduction

LouverBand Contact System, Current Rating

About the PowerTrip Contact System

Series 970 contacts are precision-machined using high conductivity copper alloy. A stamped and formed spring ("louverband") is installed into the socket contact. The spring is made from 6 mil beryllium copper (BeCu). Testing has demonstrated that this contact system outperforms conventional aerospace-grade contact systems. The louverband spring provides many points of electrical contact with the mating pin, as opposed to a few "high spots" on a conventional four-finger contact as shown in *Fig. 2*. The size #8 Powertrip socket contact has a total of 18 louvers. The #4 has 27 louvers, and the #1/0 has 42 louvers. The louverband design offers lower voltage drop for reduced temperature rise and higher current carrying capacity. In addition to its electrical advantages, the louverband also is mechanically superior to four-finger contacts. The louverband spring has consistent, stable normal force, even when subjected to thousands of mating cycles and temperature extremes.

About "Last-Mate, First-Break" Capability

PowerTrip connectors should be mated and demated only after the circuit has been de-energized. The Powertrip contact arrangements include layouts with size #12 and #16 contacts. These contacts are designed to mate only after the larger power contacts are mated. When uncoupled, the size #12 and #16 contacts separate before the power contacts are disengaged. These smaller contacts are typically used for safety interlock circuits.

About Current Rating

PowerTrip connector current carrying capacity and maximum contact resistance are in accordance with AS39029 specifications for conventional contacts. Testing of Powertrip contacts has shown the contact resistance (voltage drop) to be up to 60% lower than the allowable voltage drops of AS39029. Temperature -Rise tests have also demonstrated the Powertrip contact to generate less heat under load than conventional contacts. However, the maximum safe current load is dependent on a number of application-specific variables. The maximum safe current load is the combination of the electrical load and ambient conditions that do not exceed a maximum connector internal hot-spot temperature of +200° C, which is the maximum recommended operating temperature.

Contact Resistance after 1000 Mating Cycles

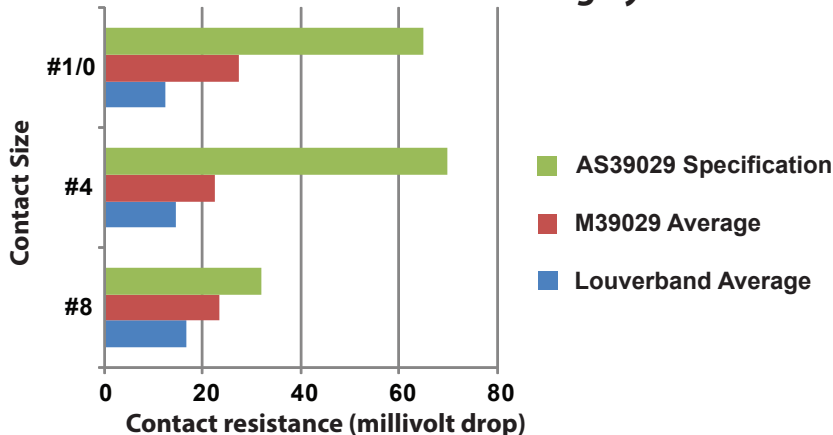


Figure 1
LouverBand Socket Contact



Figure 2
Conventional Contact on the Left, LouverBand Contact on the Right

CURRENT RATING	
Contact Size	Copper Alloy
16	13
12	23
8	60
4	100
1/0	175