

Specification for Allectra Series Sub-D Feedthroughs and Sockets

Specification	
Pin pattern:	Sub-D standard as DIN41652 & MIL-C-24308
Pin gender:	Air and Vacuum side, male pins
Pin diameter:	1mm
Available sizes:	9,15,25,37 & 50 way as IEC standard 48B
Contacts:	Ni-Fe base, gold plated, special versions with WCu-pins
Flange:	Stainless steel, non-magnetic (316LN) and Titanium versions available
Seal:	Glass Ceramic
Test voltage:	500V pin to ground, 900V on request
Working voltage:	60V ~
Current rating:	5A max./ 2.5A continuous (20°C all pins loaded)
Isolation resistance:	>1GΩ (pin to ground)
Working temperature:	200°C to +125°C , max. temperature gradient 25°C per minute
Bakeout temperature:	230°C max. Max. temperature gradient 25°C per minute
Leak Rate:	<1x10 ⁻⁹ mbar-l/s for weld and KF types <5x10 ⁻¹⁰ mbar-l/s for UHV versions on CF flanges (all individually leak tested with He leak detector)
Fastening Screws:	4-40 UNC on air and vacuum sides



The current loading capacity of the feedthroughs was tested in the following way. The measurements were made by mounting together a PEEK socket (211-FS25-PK), a standard air side socket (211-FS25-AIR) standard crimp pins (212-PINF-25) and 0.6mm Kapton wire (311-KAPM-060) on a vacuum chamber. The temperature measurements were made on the vacuum side of the Feedthrough after the Socket came to steady temperature (approx. 2 hours). The room temperature was 21°C. 24 pins were used.

Current per pin	Total current	Temperature
2.0 A	48 A	29°C
2.5 A	60 A	35°C
2.8 A	67 A	38°C
3.0 A	72 A	41°C

With a current of 5A on each pin, the whole Feedthrough reached a temperature of 100°C in approx. 5 minutes. (The total current was 125A.)

The maximum allowed temperature was in each case found on the air side connector. The maximum allowed temperature for the standard air side connector is 80°C. Higher temperature versions which can withstand 125°C would permit higher currents. Should higher currents be required, good condition contacts are necessary on the air side

socket. The standard air side socket is only recommended for 50 use cycles of plugging and unplugging.

Sub-D sockets are only designed for 5A per pin on the vacuum and air sides. Cables can be made with any desired current rating.

Please note that the typical standard ready made cables are not in general rated for 5A current.

In addition to the Standard Cable and Feedthrough ranges, Allectra offers a custom built service. According to customer's requirements, Feedthroughs can be mounted on various flanges including custom types and special cables made to customers specification.