



## Introduction

Magnum is a quality directed series of multi-pin, high voltage connectors and cable assemblies. This series signifies the large number of design solutions possible with this series of connectors because they are mechanical assemblies built-up from pre-tested, detail components, as contrasted to a conventional, one piece, molded-in-place cable assembly.

The Magnum construction allows the stress testing of details, such as plastic insulators and elastomeric dielectric interface seals, prior to final assembly which results in a much higher level of quality and reliability. It is also possible, in many cases, to replace damaged receptacle seals and the individual plug leads rather than discarding an entire cable assembly.

## Features

- Standard 6 pin configuration
- Rugged stainless steel shells which eliminate concern for plating flakes contaminating dielectric interfaces
- Bayonet coupling with a handle to ease mating in confined spaces
- A metal, right angle, shielded, cable strain relief
- Receptacle dielectric seal replacement
- Four polarizations available
- Optional receptacle configuration for potting, fluid or gas dielectric.
- Various cable and shielding options, including “loss” cable
- 12 KVDC rating at -55°C to +125°C at 70,000 feet altitude.
- High voltage “burn-in,” a 100% acceptance and confidence test conducted at simulated operating environments
- Optional corona testing categorized by customer specified partial discharge energy ranges
- Pre-formed cable bundles to eliminate over-stress on contacts and insulators





## General Specifications

### Contact-Female

Design: Split finger, closed entry  
Material: BeCu gold plated with CRES hood  
Solder Bucket: Accommodates 20 AWG max

### Contact-Male-Receptacle

Design: Pin with spherical radius. Size 22 (.030 Dia)  
Material: Plastic version: BeCu gold plated. Ceramic version: Kovar nickel plated.  
Solder Bucket: Accommodates 20 AWG Max.

### Insulator- Receptacle and Plug Bodies

Diallyl Phthalate

### Insulator Noses-Plug

Thermoplastic

### Insulator-Ceramic Receptacle

94% Alumina Oxide, min.  
Braze Material 99% pure copper

### Dielectric seals & “O” Rings-Plug & Receptacle

Silicone Rubber. Option: Coolanol compatible fluorsilicone rubber

### Shell-Plug & Plastic Receptacle

303 CRES Passivated

### Shell-Ceramic Receptacle

304 L (Weldable) CRES Passivated

### Bayonet Coupling Sleeve-Plug

303 CRES Passivated

### Jam Nut-Plastic Receptacle

303 CRES Passivated

### Panel Seal-Plastic Receptacle

Ethelene Propylene

### Cable Assemblies-Plugs

Standard: Overall shielded 6 conductor .090 diameter silicone coated FEP high voltage cable with right angle termination

### Cable Assemblies-Receptacles

Standard: .090 dia. silicone coated FEP high voltage cable

### Electrical

Test Voltages (Mated): 150% of rated voltage  
Rated Voltage: 12 KVDC

### Temperature

Storage: -65°C to +125°C Operating: -55°C to +125°C



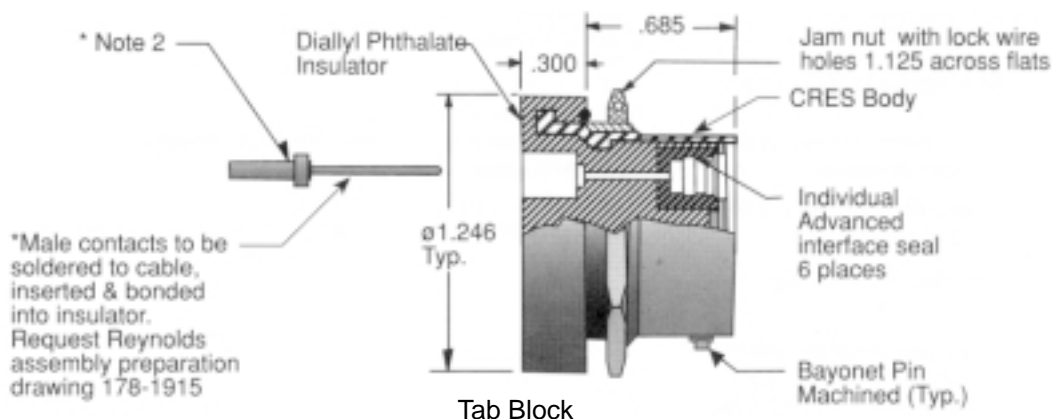
ADVANCED  
GROUP

Magnum Series  
12 KVDC

6 Pin Receptacles

**P/N 178-8960**  
Panel Connector for Potting

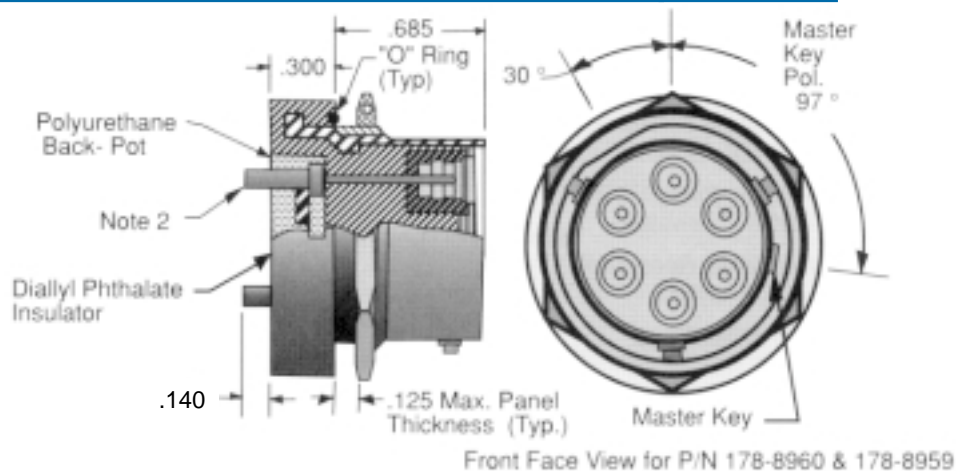
Mating  
See Note 1



Receptacle	Polarization (Ref.)
P/N 178-8960-1	97° CW
P/N 178-8960-2	112° CW
P/N 178-8960-3	128° CW
P/N 178-8960-4	143° CW

**P/N 178-8959**  
Panel Connector for Fluid or Gas Dielectric Immersion (see note 3)

Mating  
See Note 1



Receptacle	Polarization (Ref.)
P/N 178-8959-1	97° CW
P/N 178-8959-2	112° CW
P/N 178-8959-3	128° CW
P/N 178-8959-4	143° CW

NOTES: 1. Mates all Magnum series plug cable assemblies with compatible polarization. See pages 36 & 37  
2. Solder cup ø.046 Min. Use SN60 solder. Do not exceed 400°F  
3. Helium leak rate  $1 \times 10^{-6}$  cc/sec. at one atmosphere differential pressure (178-8959 only)



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Magnum Series  
12 KVDC

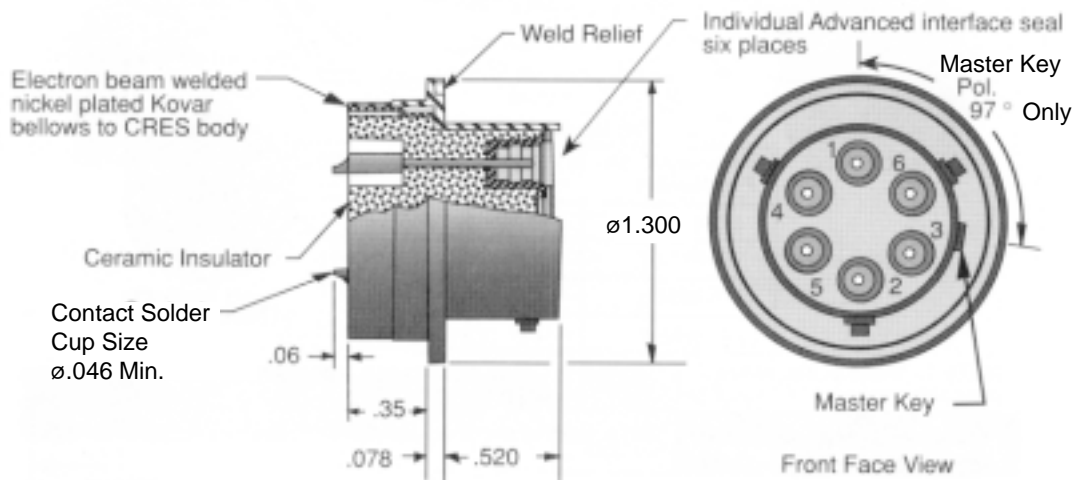
6 Pin Ceramic Receptacle

P/N 467-7040

Panel Connector for High Reliability Leak-Tight Requirements (ceramic insulator)

Mating

See Note 1



NOTES: 1. Mates all Magnum series plug cable assemblies with 97° polarization. See pages 36 & 37  
2. Helium leak rate  $1 \times 10^{-8}$  cc/sec. at one atmosphere differential pressure



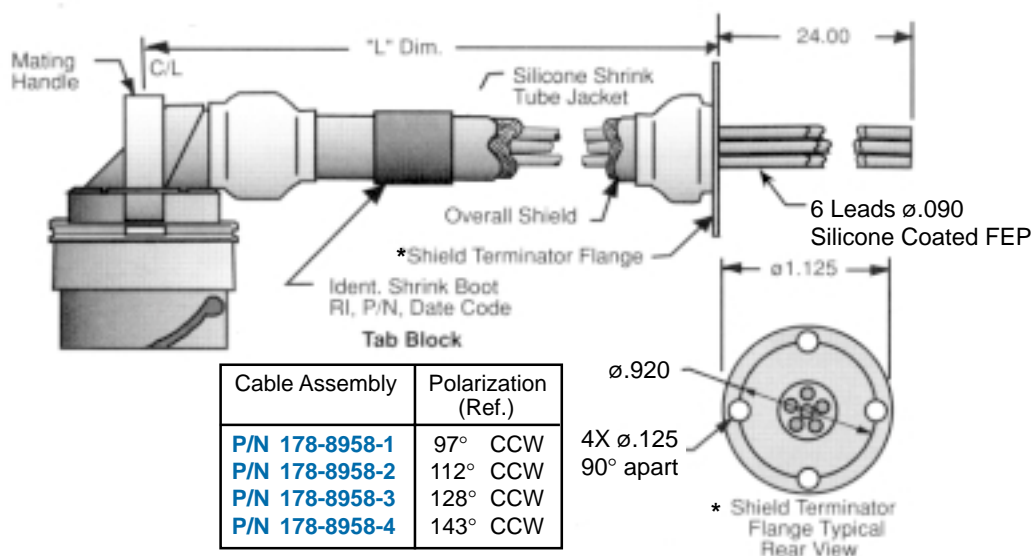
ADVANCED  
GROUP

## Magnum Series 12 KVDC

6 Pin Cable Assemblies

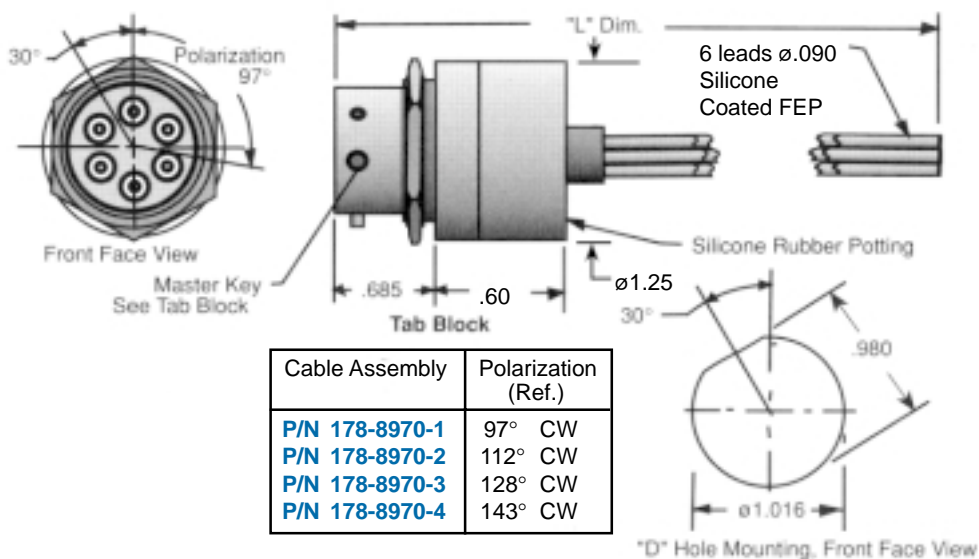
**P/N 178-8958**  
Plug Cable Assembly

Mating  
See Note 1



**P/N 178-8970**  
Receptacle Cable Assembly

Mating  
See Note 2



- NOTES: 1. Mates all Magnum series receptacles and receptacle cable assemblies with compatible polarization. See P/N 178-8970 on this page and pages 34 & 35.
2. Mates all Magnum series plug cable assemblies with compatible polarization. See P/N 178-8958 on this page and page 37.

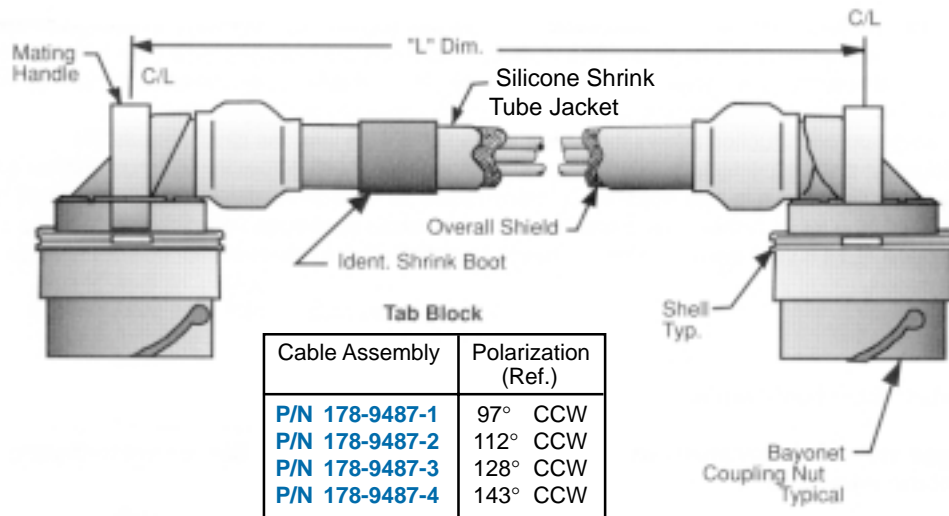


**P/N 178-9487**

Double Ended Right Angle Plug Cable Assembly

Mating

See Note 1



NOTE:1. Mates all Magnum series receptacles and receptacle cable assemblies with compatible polarization. See pages 34, 35 & 36