

<b>730/830 SERIES</b>	10 kVDC	70,000 FT	-55° TO 125°C
<b>737 SERIES</b>	15 kVDC		
<b>720 SERIES</b>	20 kVDC		
<b>727 SERIES</b>	25 kVDC		

These high reliability (HI-REL) assemblies, which are intermateable with various LGH™ interfaces, are rated from 10 to 25 kVDC and will operate at altitudes up to 70,000 ft over a temperature range of -55°C to 125°C. In comparison to the C Series, this series has improved temperature range exposure at altitude operation due to incorporation of annular sealing rings on the plug insulator.

HI-REL plugs are offered in kit form when customers find it necessary to fabricate cable assemblies themselves. Customers should use the Teledyne Reynolds' recommended silicone rubber or silicone coated FEP wire part number that is listed for each plug kit. Fluorosilicone rubber insulators are available for applications where Coolanol® or other fluids that cause silicone rubber to swell may exist.

Plastic bodies are used in the HI-REL plug design to captivate the coupling nut and prevent tearing of silicone insulators from overtorque during mating.

This family of connectors have been widely used for more than 25 years in Military/Aerospace applications. Typical applications are:

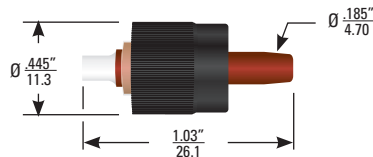
- Electronic Countermeasure Systems (ECM) • TWT connections • Lasers • Airborne high voltage power supplies

## PLUG KITS

(Dimensions shown as in/mm)

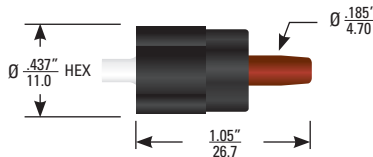
(• = Same value as above)

**730 Series**  
**10 kVDC**  
**LGH 1/2I**  
• Plastic Coupling Nut



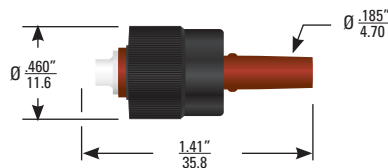
P/N	INSULATOR MATERIAL	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-9151	Silicone	Ø.080 / 2.03	FEP	167-9543
167-9274	Fluorosilicone	•	•	•
167-9219	Silicone	Ø.150 / 3.81	Silicone	167-9193

**830 Series**  
**10 kVDC**  
**LGH 1/2I**  
• Metal Coupling Nut



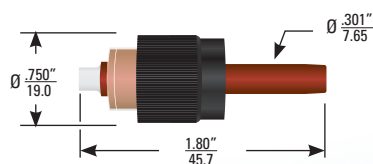
P/N	INSULATOR MATERIAL	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-8810	Silicone	Ø.080 / 2.03	FEP	167-9543
167-8782	Fluorosilicone	•	•	•
167-8811	Silicone	Ø.150 / 3.81	Silicone	167-9193

**737 Series**  
**15 kVDC**  
**LGH 1/2LI**  
• Plastic Coupling Nut



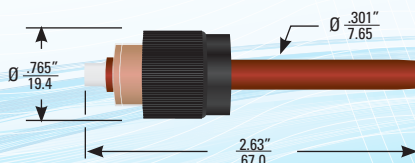
P/N	INSULATOR MATERIAL	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-8816	Silicone	Ø.080 / 2.03	FEP	167-9543
167-9391	•	Ø.150 / 3.81	Silicone	167-9193

**720 Series**  
**20 kVDC**  
**LGH LI**  
• Plastic Coupling Nut



P/N	INSULATOR MATERIAL	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
178-6152	Fluorosilicone	Ø.100 / 2.54	FEP	167-7628
167-6412	Silicone	Ø.110 / 2.79	Silicone Coated FEP	178-8781
167-9296	•	Ø.150 / 3.81	FEP	167-9610
167-9163	•	Ø.180 / 4.57	Silicone	167-9169
167-9149	•	Ø.280 / 7.11	•	167-9180

**727 Series**  
**25 kVDC**  
**LGH 1LI**  
• Plastic Coupling Nut



P/N	INSULATOR MATERIAL	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-9449	Silicone	Ø.180 / 4.57	FEP	167-9611
167-9330	•	Ø.280 / 7.11	Silicone	167-9180

**\*\*Cable Assembly Ordering Information:** All cable assembly cable lengths are to be specified in inches only. For example, to order part number 178-6027 with a cable length of 10 feet 8 inches the cable assembly part number would be specified as 178-6027-128N.

• **Note:** Product numbers and specs subject to change without notice. • Products listed represent only a small selection of Teledyne Reynolds' products please visit [www.teledynereynolds.com](http://www.teledynereynolds.com) for the most up to date product information. • Contact Teledyne Reynolds' Engineering to discuss custom designs. • LGH is a trademark of Tyco Amp, Inc. and Coolanol is a registered trademark of Exxon Mobil Corporation. **WARNING:** Connectors should **NEVER** be handled mated or unmated when voltage is applied.

**730/830 SERIES** | 10 kVDC  
**737 SERIES** | 15 kVDC  
**720 SERIES** | 20 kVDC  
**727 SERIES** | 25 kVDC

70,000 FT

-55° TO 125°C

**RECEPTACLES**

(Dimensions shown as in/mm)

**Sealed, Front Mount**

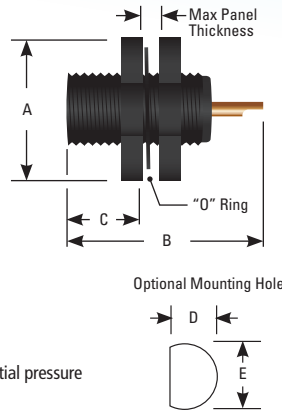
**730/830 • 10 kVDC**  
**LGH 1/2I**  
**167-9158** - Silicone Seals  
**167-9275** - Fluorosilicone Seals

**Max. Leak Rate:** 1x10<sup>-6</sup> cc/s He @1ATM differential pressure  
**Panel Mounting Torque:** 5 to 6 in-lbs

**720 • 20 kVDC**  
**LGH LI**

**167-9157** - Silicone Seals  
**167-9263** - Fluorosilicone Seals

Sealed for 1 ATM differential pressure  
**Max. Leak Rate:** 1x10<sup>-6</sup> cc/s He @1 ATM differential pressure  
**Panel Mounting Torque:** 23 to 28 in-lbs  
**Mounting:** See optional "D" hole



SERIES	"A"	"B"	"C"	MAX PANEL THICKNESS
730/830	.625 / 15.9	.850 / 21.6	.375 / 9.53	.188 / 4.78
720	.960 / 24.4	1.195 / 30.4	.575 / 14.6	.250 / 6.35

**Optional Mounting Hole**

SERIES	"D"	"E"
730/830	.295 / 7.49	.323 / 8.20
720	.480 / 12.2	.508 / 12.9

**Right Angle, Sealed, Front Mount**

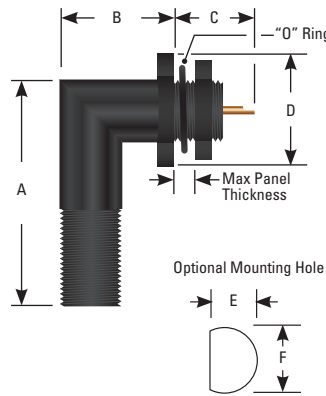
**730/830 • 10 kVDC**  
**LGH 1/2I**  
**167-9228** - Silicone Seals  
**167-9294** - Fluorosilicone Seals

**Panel Mounting Torque:** 5 to 6 in-lbs

**720 • 20 kVDC**  
**LGH LI**

**167-9227** - Silicone Seals  
**167-9293** - Fluorosilicone Seals

Sealed for 1 ATM differential pressure  
**Max. Leak Rate:** 1x10<sup>-6</sup> cc/s He @1 ATM differential pressure  
**Panel Mounting Torque:** 23 to 28 in-lbs  
**Mounting:** See optional "D" hole



SERIES	"A"	"B"	"C"	"D"	MAX PANEL THICKNESS
730/830	.846 / 21.5	.475 / 12.1	.490 / 12.5	.625 / 15.9	.188 / 4.78
720	1.36 / 34.5	.630 / 17.4	.635 / 16.1	.960 / 24.4	.250 / 6.35

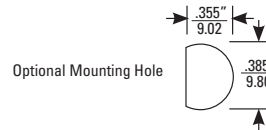
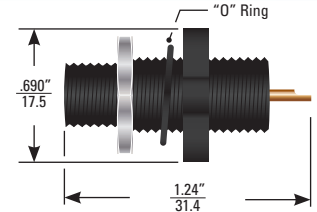
**Optional Mounting Hole**

SERIES	"E"	"F"
730/830	.295 / 7.49	.323 / 8.20
720	.480 / 12.2	.508 / 12.9

**Sealed, Front or Rear Mount**

**737 • 15 kVDC**  
**LGH 1/2 LI**  
**167-8721**

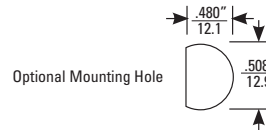
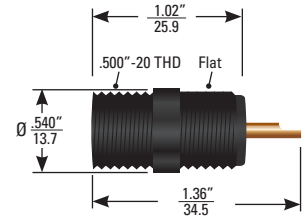
Sealed for 1 ATM differential pressure  
**Max. Leak Rate:** 1x10<sup>-6</sup> cc/s He @1ATM differential pressure  
**Panel Mounting Torque:** 5 to 6 in-lbs  
**Mounting:** See optional "D" hole



**In-Line, Non-Sealed**

**720 • 20 kVDC**  
**LGH LI**

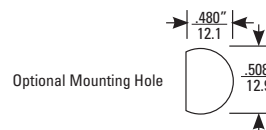
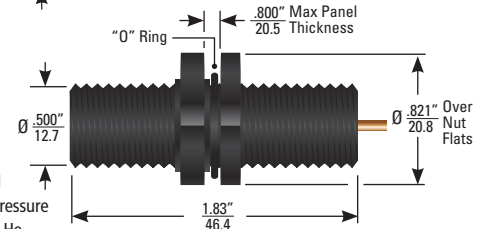
**167-8603** - Silicone Seal  
 Sealed for 1 ATM differential pressure  
**Max. Leak Rate:** 1x10<sup>-6</sup> cc/s He @1ATM differential pressure  
**Mounting:** See optional "D" hole



**Sealed, Front Mount**

**727 • 25 kVDC**  
**LGH 1LI**

**167-9336** - Silicone Seal  
**167-9337** - Fluorosilicone Seal  
 Sealed for 1 ATM differential pressure  
**Max. Leak Rate:** 1x10<sup>-6</sup> cc/s He @1ATM differential pressure  
**Mounting:** See optional "D" hole

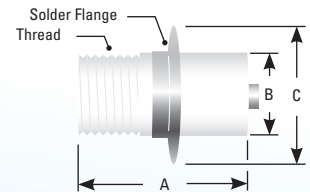


**Ceramic-to-Metal, Brazed Hermetic**

**730/830 • 10 kVDC**  
**LGH 1/2I**  
**167-8626**

**720 • 20 kVDC**  
**LGH LI**  
**167-9803**

Sealed for 1 ATM differential pressure  
**Max. Leak Rate:** 1x10<sup>-8</sup> cc/s He @1 ATM differential pressure  
**Flange material:** Iron nickel alloy with nickel plating  
**Mounting:** Solder flange



SERIES	THREAD	"A"	"B"	"C"
730/830	312"-32 UNEF-2A	.655 / 16.6	Ø.310 / 7.87	Ø.500 / 12.7
720	.500"-20 UNF-1A	1.03 / 26.0	Ø.498 / 12.7	Ø.812 / 20.6

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**727 SERIES** | 25 kVDC

70,000 FT

-55° TO 125°C

**CABLE ASSEMBLIES**

**730**

LGH 1/2I

Single-Ended



Double-Ended



(\* = Same value as above)

SINGLE-ENDED	DOUBLE-ENDED	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-9876	167-9872	.080 / 2.03	FEP	167-9543
167-9879*	167-9875*	.150 / 38.1	Silicone	167-9193
167-9213	167-9210	•	•	•

\*Fluorosilicone rubber insulators.

**830**

LGH 1/2I

Single-Ended



Double-Ended



SINGLE-ENDED	DOUBLE-ENDED	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-8812	167-8813	.080 / 2.03	FEP	167-9543
167-8854*	167-8855*	.150 / 38.1	Silicone	167-9193
167-8814	167-8815	•	•	•

\*Fluorosilicone rubber insulators.

**737**

LGH 1/2LI

Single-Ended



Double-Ended



SINGLE-ENDED	DOUBLE-ENDED	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-8818	167-8817	.080 / 2.03	FEP	167-9543
167-9917	167-9916	.150 / 38.1	Silicone	167-9193

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70,000 FT

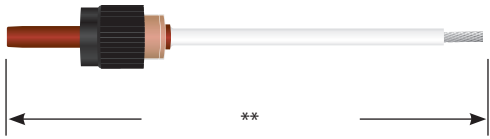
-55° TO 125°C

## CABLE ASSEMBLIES

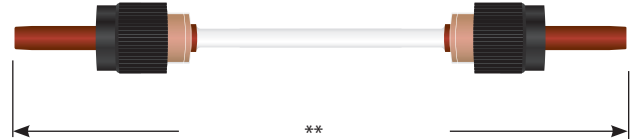
### 720

#### LGH LI

##### Single-Ended



##### Double-Ended



(\* = Same value as above)

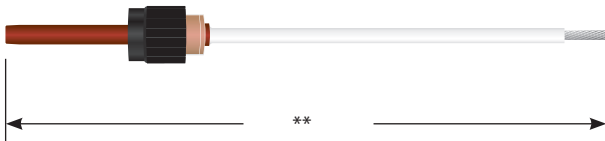
SINGLE-ENDED	DOUBLE-ENDED	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-6154*	178-6153*	.100 / 2.54	FEP	167-7628
178-6144	178-6143	.110 / 2.79	Silicone Coated FEP	178-8781
167-9957	167-8798	.150 / 38.1	FEP	167-9610
167-9164	167-9201	.180 / 4.57	Silicone	167-9169
167-9150	167-9203	.280 / 7.11	•	167-9180

\*Fluorosilicone rubber insulators.

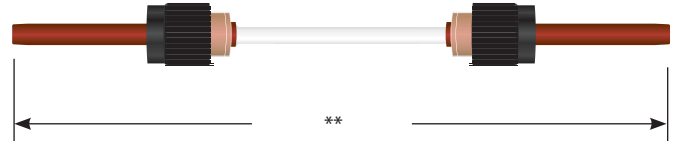
### 727

#### LGH 1LI

##### Single-Ended



##### Double-Ended



SINGLE-ENDED	DOUBLE-ENDED	WIRE DIA. (in./mm)	WIRE TYPE	WIRE P/N
167-8805	167-8804	.180 / 4.57	FEP	167-9611
167-9332	167-9333	.280 / 7.11	Silicone	167-9180

## SERIES SPECIFICATIONS

(\* = Same value as above)

Series	Voltage Rating (kVDC)	Altitude Rating (ft)	Operating Temp. (°C)	Current Rating (Amp)†	Receptacle Insulator Material	Plug Insulator Material	Coupling Style	Coupling Nut Material/Finish	Plug Contact Material/Finish (Socket)	Recept. Contact Material/Finish (Pin)	Wire Type	Wire Insulation	Braid Termination	Test Voltage @ 70,000 ft	Test Voltage @ Sea Level
730	10	70,000	-55 to 125	4 or 6	Plastic or Ceramic	Silicone or Fluorosilicone	Threaded	Plastic	BeCu/Au with CRES hood	Brass/Au or Kovar™	Non-Shielded	FEP or Silicone	N/A	15	N/A
830	•	•	•	•	Plastic	•	•	Al/Anodized	•	Brass/Au	•	•	•	•	•
737	15	•	•	•	•	•	•	Plastic	•	•	•	•	•	18	•
720	20	•	•	10, 4 or 6	Plastic or Ceramic	•	•	•	•	Brass/Au or Kovar™	•	•	•	25	•
727	25	•	•	10 or 2.5	Plastic	•	•	•	•	Brass/Au	•	•	•	35	•

## WIRE SPECIFICATIONS

Part #	Operating Voltage (kVDC)	Conductor			Insulation		Shielding			Jacket		Impedance Ω	Attenuation dB/100 ft @ 400mhz	Capacitance pF/FT (Nom.) @1k HZ
		AWG	Strands	Plating	Material	ø in./mm	AWG	Plating	ø in./mm	Material	ø in./mm			
167-9193	17	18	19/30	SPC	Silicone	0.150 / 3.81	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
167-9169	20	16	19/29	•	•	0.180 / 4.57	•	•	•	•	•	•	•	•
167-9180	•	•	19/30	•	•	0.280 / 7.11	•	•	•	•	•	•	•	•
167-9543	22	20	19/32	TPC	FEP	0.080 / 2.03	•	•	•	•	•	•	•	•
167-8781	30	•	•	SPC	Silicone Coated FEP	0.110 / 2.79	•	•	•	•	•	•	•	•
167-9611	•	16	19/29	•	FEP	0.180 / 4.57	•	•	•	•	•	•	•	•
167-7628	•	20	19/32	•	•	0.100 / 2.54	•	•	•	•	•	•	•	•
167-9610	37	•	•	TPC	•	0.150 / 3.81	•	•	•	•	•	•	•	•

†Current Rating value depending on the wire that is selected.

Kovar is a registered trademark of the Carpenter Technology Corporation.