



## HIGH RELIABILITY CIRCULAR CONNECTOR

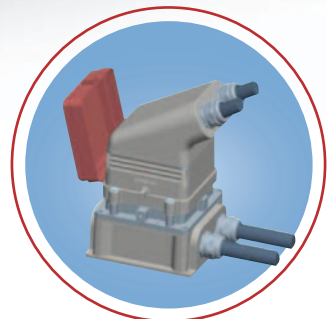
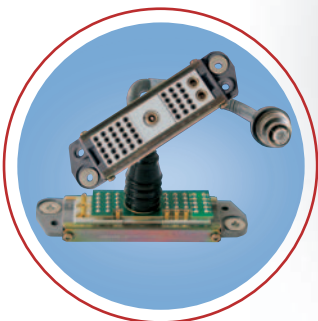
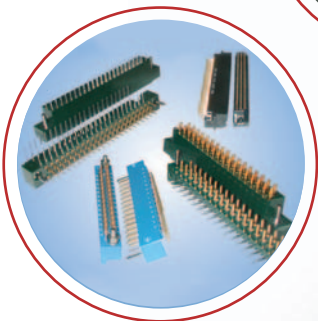
Based on VG95234, MIL-DTL-5015H

# A full range of products dedicated

**ON-BOARD EQUIPMENT**

**COMMUNICATIONS**

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# to the Rail Industry



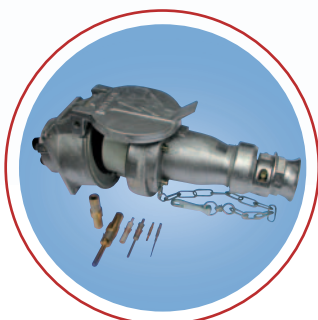
**OUTBOARD & BOGIES**



**SIGNALING**



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## Company Profile

Hypertac is a world leading provider of high reliability, high performance electrical connectors and interconnect solutions for the most demanding applications. The company offers a wide range of signal and power connectors, cable assemblies and integrated function systems for the rail traction and signaling market.

Hypertac has particular expertise in the rapid development of innovative interconnect solutions for high reliability applications in mass transit but also military, aerospace, industrial, test & measurement and medical electronics markets.

The Hypertac range includes printed circuit board connectors, modular, rectangular, circular connectors and couplers. High speed connectors and contacts (Fibre channel, Firewire, Fiber Optic, Ethernet) are also available.

Hypertac railway connectors are designed according to NF F 61-030, the French standard used by the rail equipment manufacturers for the SNCF and RATP.

Hypertac connectors achieve outstanding performance through the use of patented Hyperboloid contacts.

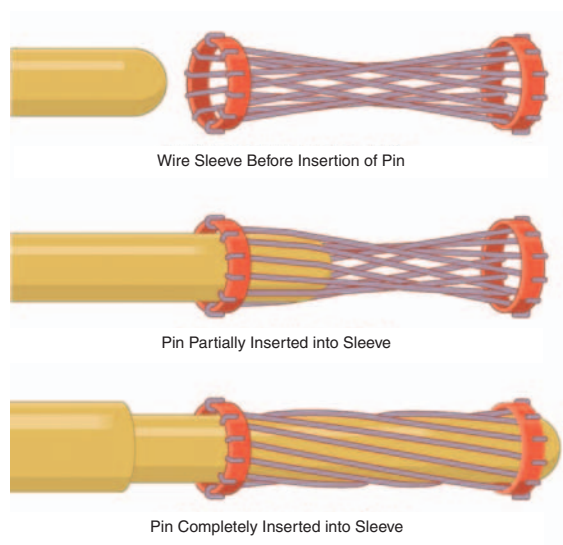


## Hypertac<sup>fi</sup> Contact Technology

Hypertac hyperboloid contact is an advanced design that satisfies the most demanding performance requirements. The shape of the contact sleeve is formed by wires strung at an angle to the socket axis. When the pin is inserted into the sleeve, the wires stretch around it, providing a number of linear contact paths.

This ensures high reliability, a high number of mating cycles, shock and vibration immunity, fretting corrosion resistance, low contact resistance and low insertion and extraction force. Hypertac sockets have been tested to 100,000 full insertion and withdrawal cycles and over 10 million fretting cycles of 1mm movement.

The unique combination of performances ensures the ultimate in reliability and low cost of ownership of equipment, making Hypertac solutions the natural choice for safety critical applications.



## Bayonet Coupling Circular Connector



- Metal shell circular connector
- Derived from VG95234 and MIL-DTL-5015H
- Reverse bayonet coupling
- Thermoplastic removable insulator
- Featuring hyperboloid socket technology for higher performances
- Removable crimp contacts
- Conforms to NF F 61-030 including smoke and toxicity regulation
- User repositionable insulator depending on the chosen orientation
- Free plug assembly with EMI/RFI grounding

### Technical Characteristics

#### Standard Materials & Finishes

Shell	Aluminium alloy, cadmium free plating, black passivation
Insulators	Low fire hazard thermoplastic (NF F 16-101 & 16-102)
Contacts	Copper alloy, gold plated

#### Mechanical Features

Coupling	Three pin bayonet
Polarisation	Shell key and keyway in removable insulator
Contact type	Crimp, rear insertion, front release, rear removable
Contact arrangements	7 to 60 contacts

#### Electrical data

Current rating	10 Amps to 42 Amps max
Voltage rating	Working 700V to 1250V DC/AC Peak
Contact resistance	5 milliohms max
Temperature rating	-55°C to +125°C

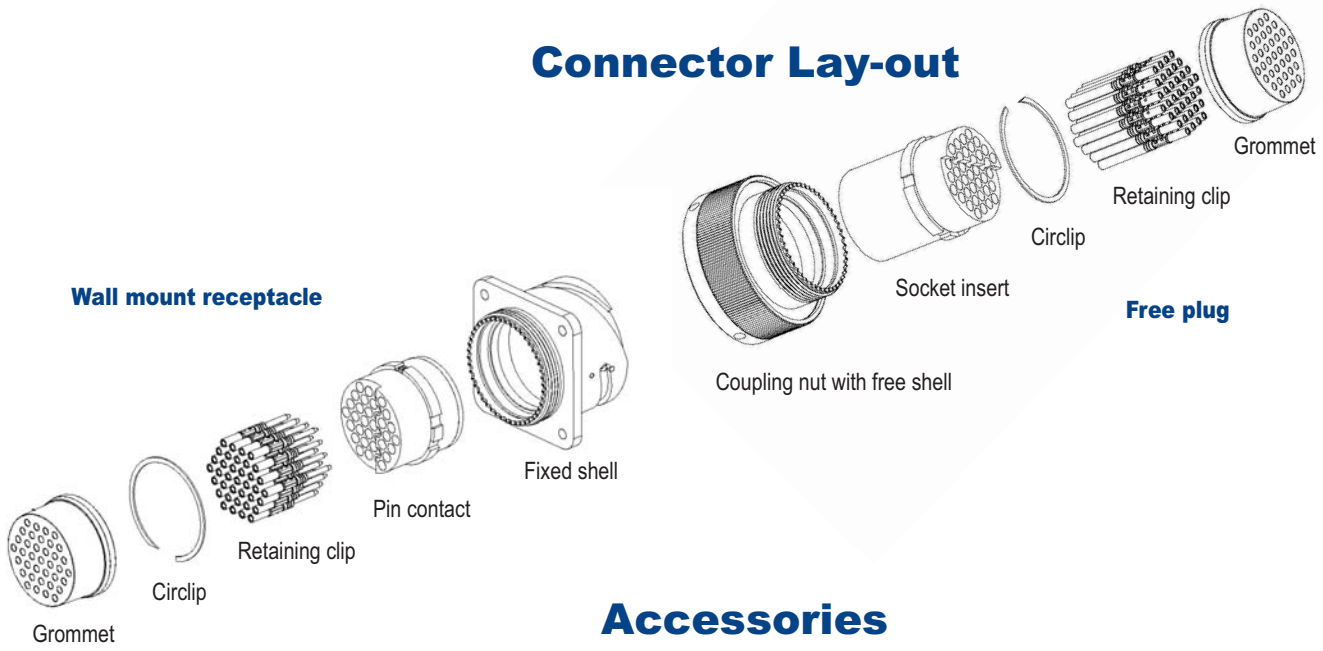
### Contact Arrangements

Contact Arrangement	18-19	20-15	22-14	24-10	28-21
Contact x size	10 x # 16	7 x # 12	19 x # 16	7 x # 8	37 x # 16

Contact Arrangement	32-A13	36-A22	40-A35	40-A60
Contact x size	13 x # 12	22 x # 12	35 x # 12	60 x # 16



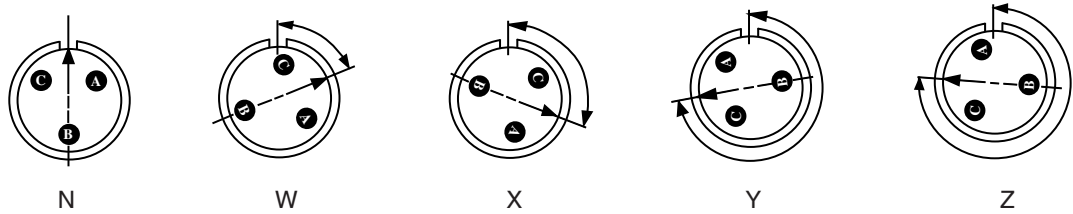
## Connector Lay-out



## Accessories

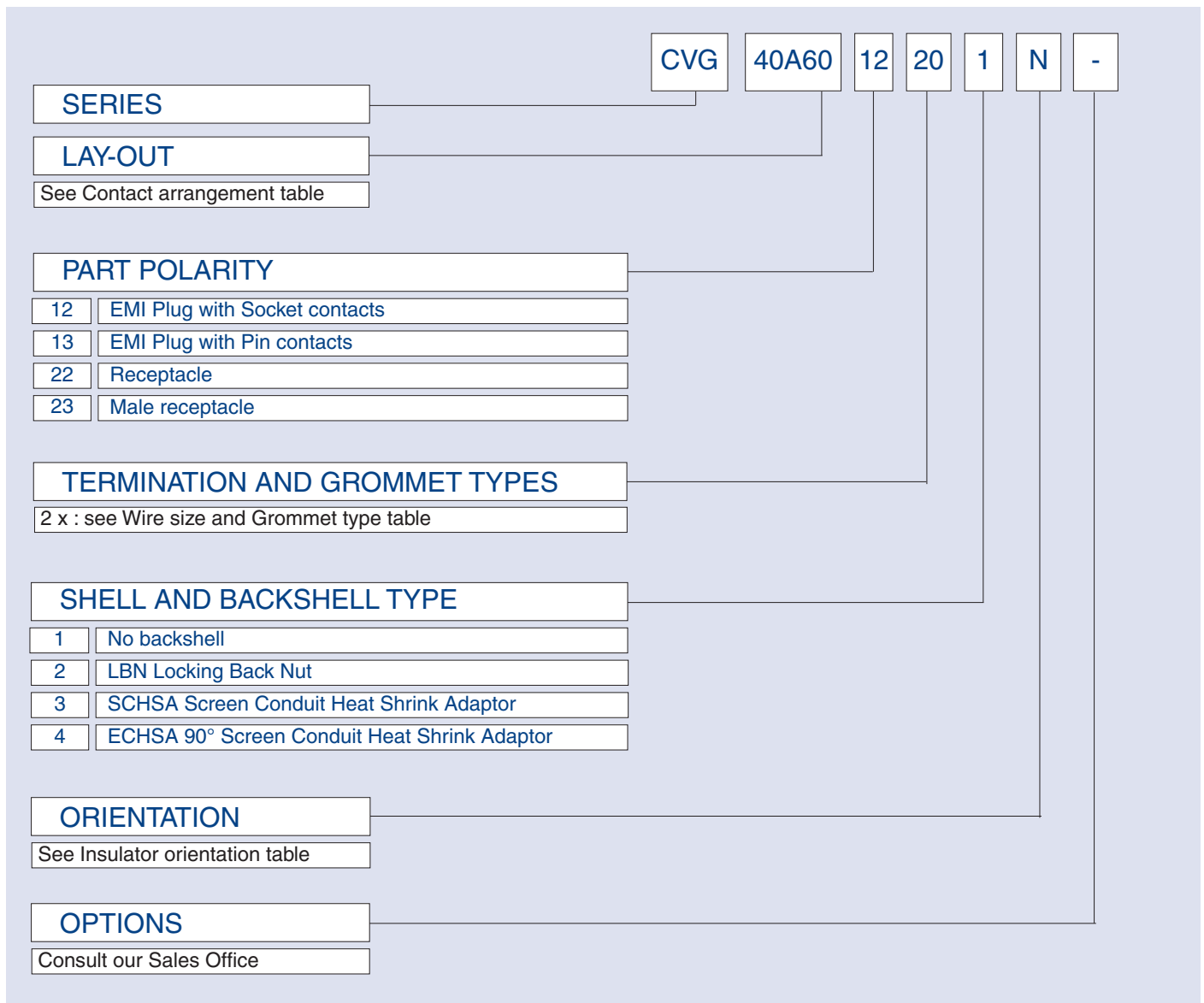
Description	Locking Back-Nut - LBN	Screen / Conduit / Heat Shrink Adaptor - SCHSA	90° Screen / Conduit / Heat Shrink Adaptor - ECHSA
Features	<ul style="list-style-type: none"> <li>• Provides uniform compression of the wire seal grommet.</li> <li>• The backshell body locks onto the connector serrations which prevents rotation and deformation of the wire seal grommet.</li> <li>• 'Spinning' knurled locking nut prevents grommet twist when tightening.</li> </ul>		
	<ul style="list-style-type: none"> <li>• Does not loosen through the effects of age.</li> </ul>	<ul style="list-style-type: none"> <li>• Thread suitable for grounding band application.                             <ul style="list-style-type: none"> <li>• Accepts standard accessories.</li> </ul> </li> <li>• Machined recess to accept heat shrink boot lip.</li> </ul>	
	<ul style="list-style-type: none"> <li>• Allows multi-angle cable positioning.</li> </ul>		

## Insulator Orientations



Contact Arrangement	Angular displacement of insert				
	N Yellow	W Blue	X Green	Y Purple	Z White
18-19	0	-	120	240	-
20-15	0	80	-	-	280
22-14	0	80	110	250	280
24-10	0	80	-	-	280
28-21	0	80	110	250	280
32-A13	0	65	130	230	295
36-A22	0	80	110	250	280
40-A35	0	70	130	230	290
40-A60	0	80	110	250	280

## Ordering Information



## Wire Sizes and Grommet Types

2 x	Contact Size	Wire size (AWG)	Outside diameter of the cable jacket
20	16	gauge 24-14 (0,2 <sup>2</sup> -1,91 <sup>2</sup> )	0,80-2,30
21	16	gauge 24-14 (0,2 <sup>2</sup> -1,91 <sup>2</sup> )	1,50-3,30
22	12	gauge 20-12 (0,6 <sup>2</sup> -3 <sup>2</sup> )	0,80-2,30
23	12	gauge 20-12 (0,6 <sup>2</sup> -3 <sup>2</sup> )	2,30-5,20
24	12	gauge 10 (3 <sup>2</sup> -5,53 <sup>2</sup> )	0,80-2,30
25	12	gauge 10 (3 <sup>2</sup> -5,53 <sup>2</sup> )	2,30-5,20
26	8	gauge 18-12 (1 <sup>2</sup> -3,18 <sup>2</sup> )	1,80-4,90
28	8	gauge 18-12 (1 <sup>2</sup> -3,18 <sup>2</sup> )	2,50-7,20
27	8	gauge 8 (10 <sup>2</sup> )	1,80-4,90
29	8	gauge 8 (10 <sup>2</sup> )	2,50-7,20

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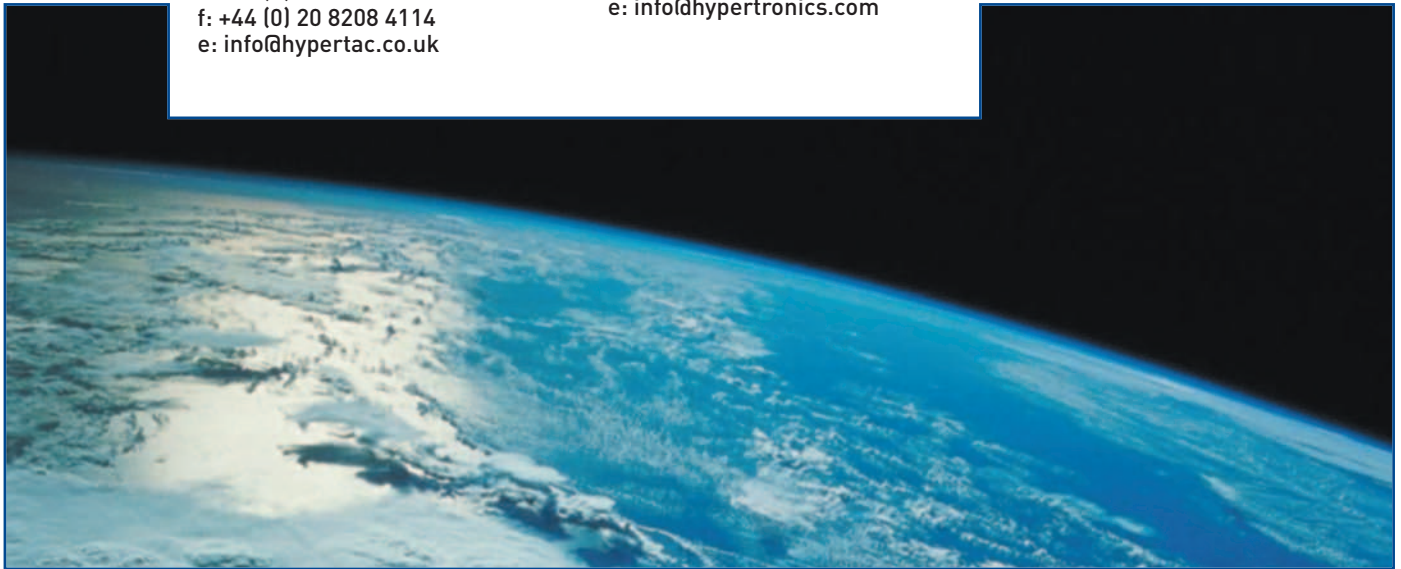
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