

FIBRE Ex CONNECTOR

..... *For Harsh & Hazardous Environments*



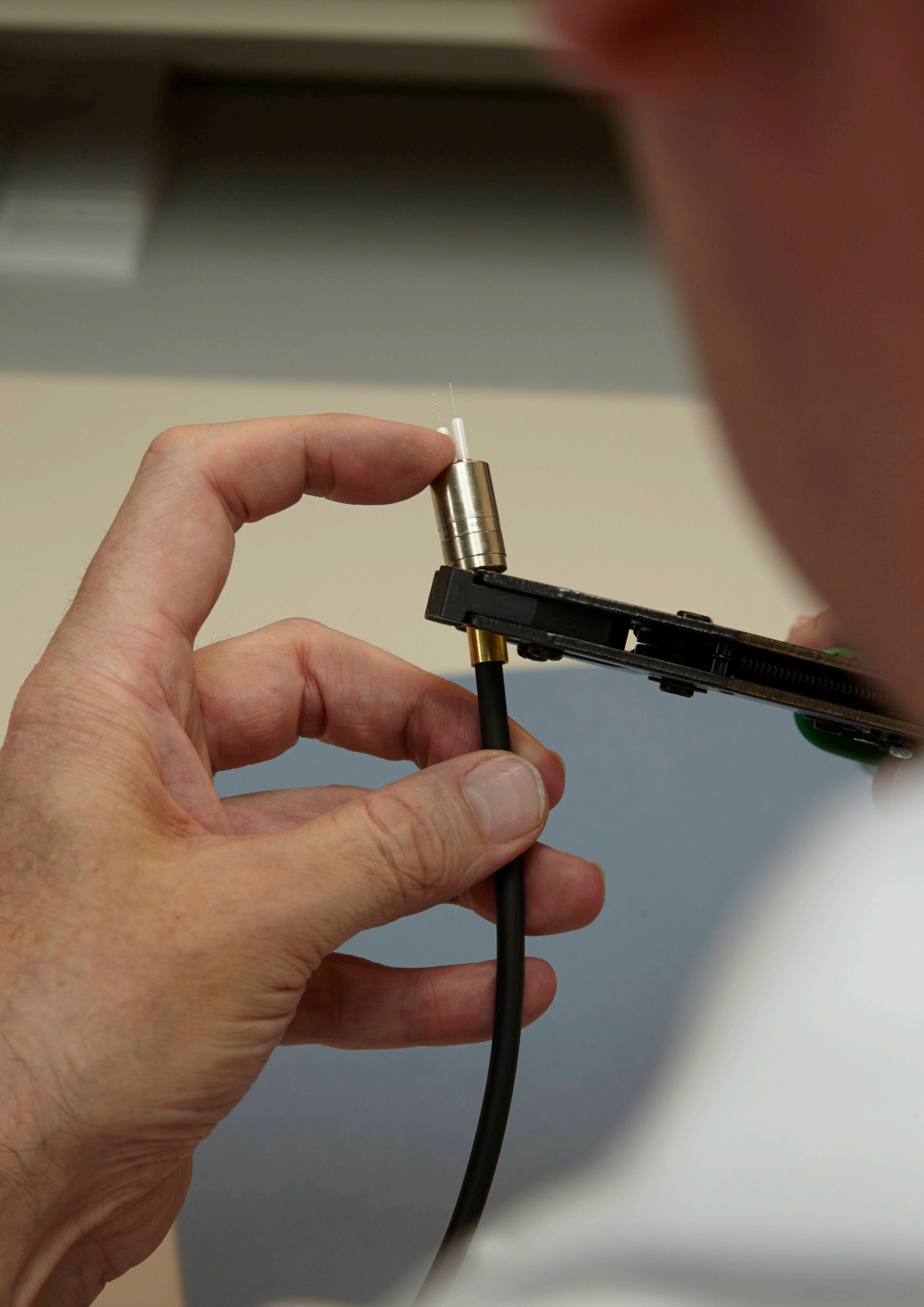
In partnership with

acal | bfi

www.ehawke.com



Harsh & Hazardous





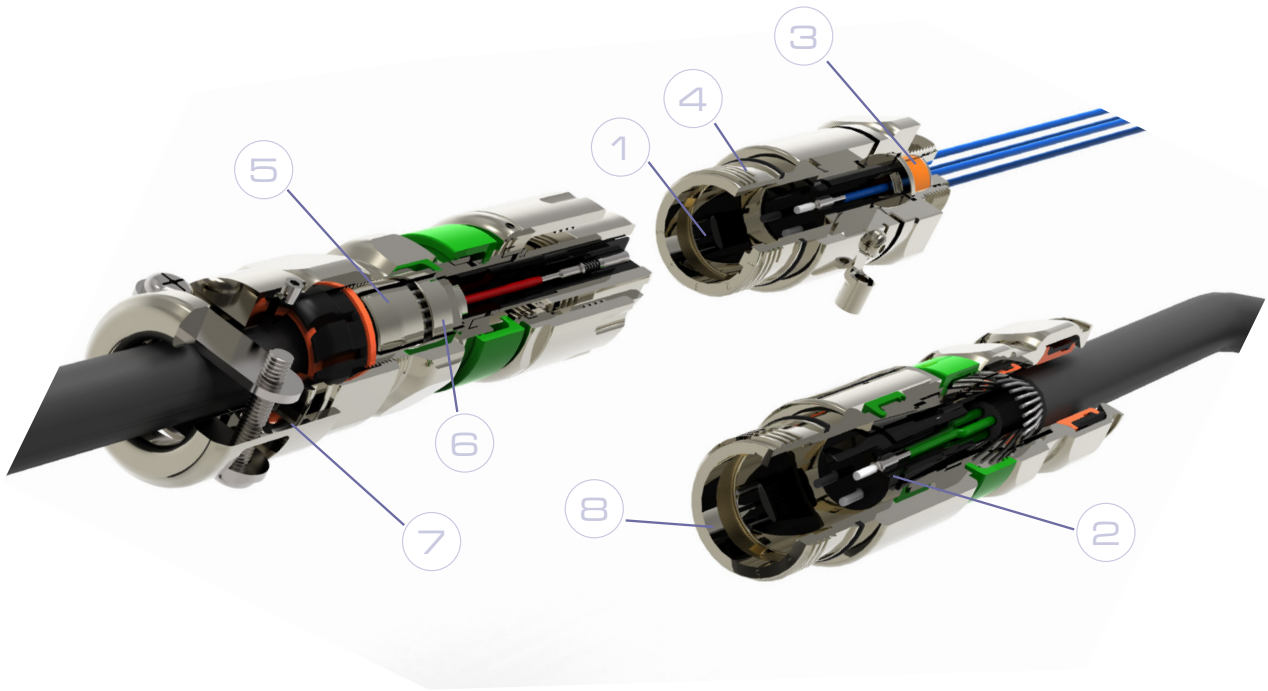
Connecting you through innovation

In today's constantly changing world, we are committed to always staying one step ahead.

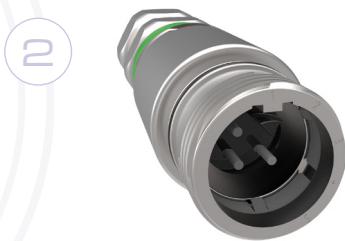
Ex environments demand the advantages of larger bandwidths in a smaller footprint the fibre optic technology can offer. We consider it our responsibility to provide connection and termination solutions that allow our customers to utilise this technology safely. That's why we've created a connector that combines the strength of our market-leading connection range with latest in Ex Fibre Optic specifications. Designed to meet the latest BS EN 60079-28:2015 standard for protection of equipment using fibre optics in explosive atmospheres; the FibreEx offers an easy-to-install solution that will keep your network running, even in the world's most arduous environments.

A Complete Termination Solution

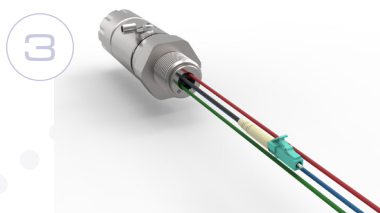
We're dedicated to providing our customers with complete solutions. That's why we've united with one of the most prominent Fibre Termination services in the world, Acal BFi. Acal will provide a custom cable jumper termination service, with our FibreEx connectors, so that you can install the FibreEx without the need for costly fibre termination engineers.



- **Keyed Positions** - A secondary keying guide on the insert body of the FibreEx connector guarantees correct alignment, every time. This prevents pin damage in the short term, and expands the FibreEx's lifespan in the long term for lowest lifetime costs.



- **Integral Keying** - Our machined keys and insert keyway ensures perfect connector alignment without damage to pins or contacts for fast installation and a longer product lifespan. The 5 positions for OP-PR and a unique 6th position for OP-IS prevents cross-mating between two protection concepts.



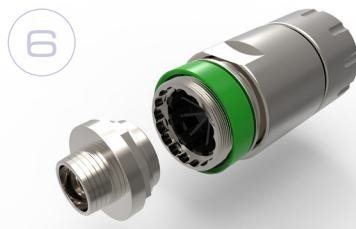
- **Pre-Terminated** - All BR connectors are supplied pre-terminated with encapsulated tails to suit your requirements. Whether for use in industrial, Exd, Exe or other applications, the versatile FibreEx will provide a solution to support your project's unique needs. CP and CR connectors are also available pre-terminated.



- **Quick Connect** - Our unique 4 start ACME thread offers a smooth and quick fully mating action in less than two turns, for fast and simple installation. Earth continuity is achieved via a 360° contact clip.



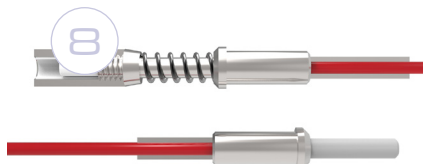
- **The Original Reversible Armour Clamp -** Invented nearly 20 years ago our, industry-leading, RAC clamping system provides a fully inspecatable method of accommodating a variety of different armour or braided cable types, with zero cable damage. Trusted by some of the industry's leading names, the FibreEx incorporates this patented technology for easy installation and inspection.



- **Anti Rotation -** The FibreEx's profiled spigot and connector body prevent cable rotation to eliminate cable damage for an increased product lifespan.

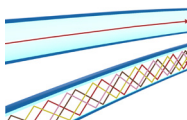


- **Cable Clamp -** A cable clamp, in the same material selected will be supplied with every CP and CR to reduce cable damage during installation and improve lifespan.



- **Contacts -** The M29504 series Pin and socket termini utilizes proven, harsh environment ceramic ferrule technology and a ceramic alignment sleeve to reduce insertion (signal) loss in some of the world's most arduous environments.

More Benefits



- **Market Leading Fibre Technology** - Available in both single and multimode option, in 4 and 8 way configurations.

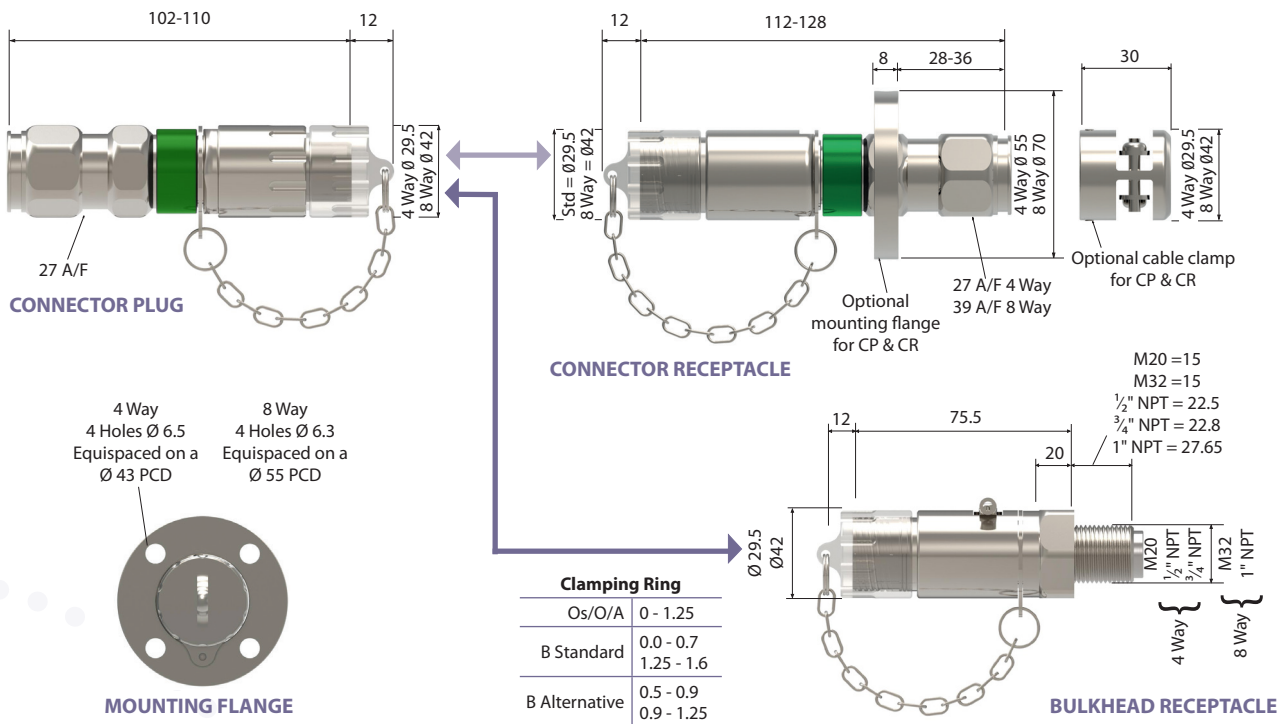


- **Termination Service Included** - Hawke have united with one of the most prominent Fibre termination services in the world, Acal BFi to offer you a complete solution. Acal will provide a custom cable jumper termination service for our FibreEx Connector so that you can install our leading-edge connector without the need for expensive fibre termination engineers.



- **Free Contact Cleaner** - A custom one click, fibre optic cleaner pen is provided with every cable assembly to allow for quick and easy onsite cleaning prior to interface.

Dimensions & Technical Specifications



Technical Data			
Fibre Ex			
Attenuation/Insertion Loss	0.45 typical (measured with 62.5/125mm fiber @ 1310nm)	Mating Durability	500 cycles
Back Reflection	Better than -40dB - PC polish	Ingress Protection	IP66/67
Fibre Types	Singlemode 9/125µm Multimode 50/125µm Multimode 62.5/ 125 standard Other options available on request	Contact Technology	Low loss ceramic PC technology in both multimode and singlemode
Termination Method	Anaerobic as standard	Materials	Nickel Plated or Stainless Steel
Termination Range	-40°C to + 60°C	T Ratings at different power	T6 + 60
Certification	Ex II 2GD Ex op pr IIC T6 Gb, Ex tb IIIC T85°C Db (Tamb 0 -40°C to +60°C) IP66/67 Ex [dbe] op pr IIC T6 Gb - for bulkhead/box mount version Ex [op is] IIC T* Ga - with separately certified 'op is' source		

Testing Data & In-Depth Product Features

Testing Data

QFCI NEK TS 606 (62.5/125)			
Fibre Ex			
Tensile Strength (OEC 6074-1-21, E1)		Fire and Smoke Classifications	
Max tensile load during installation	1500N	IEC 60331-25 (750°C, 90 minutes)	<1.0 dB excess loss
Max tensile load during operation	500N	Upgraded IEC 60331-25 (1000°C, 3 hours)	<1.5 dB excess loss
Crush (IEC 60794-1-21, E3)	3000 N/10cm	IEC 60331-1 (830°C, 120 minutes incl. hammer shock, flowed by water jet acc. to BS 8491:2008)	<1.5 dB excess loss
Impact (IEC 60794-1-21, E4)	30J	IEC 6033102 (830°C, 90 minutes incl. hammer shock) followed by water spray acc. to EN50200	<1.5 dB excess loss
Torsion (IEC 60794-1-21, E17)	±1 turn/1m	IEC 60331-2 (830°C, 90 minutes incl. hammer shock)	<1.5 dB excess loss
Cable Bending		IEC 61034	
Minimum bending diameter	~250mm	IEC 60332-3-22 (Cat A)	
Cable Bend (IEC 60794-1-21, E11)	<0.1dB/+5 turn	IEC 60332-3-24 (Cat C)	
Temperature window (IEC 60794-21-22, F1)		IEC 60754-1	
Operation	-40°C to +70°C	IEC 60754-2	
Installation	-10°C to +70°C		
Storage	-40°C to +70°C	Chemical Resistance	
		Mineral oils IIR 902 (IEC60811-404)	7 days/23°C 4 hours/70°C
		Diesel - IIR 903 (IEC60811-404)	7 days/23°C 4 hours/70°C

In-Depth Product Features

Take a more in-depth look at some of the leading-edge features of the FibreEx range.

Pin and Socket



Our Pin and Socket has been designed to incorporate the latest in fibre technology and precision engineering to provide an easy-to-install, reliable and cutting edge solution that exceeds your expectations.

Take a closer look, below.

- Precision fiber optic ceramic ferrules
- Pre-radius ferrule design
- Precision “press fit” stainless steel design
- Accurate ferrule alignment system
- Solid reliable connectivity through a wide range of harsh environmental conditions
- Fast termination and polish time
- Reliable, repeatable and durable connections
- Easy to clean

Cleaning Stick



A 1.6mm ferrule cleaning device will be supplied with each order. This device is used to maintain a clean dust/dirt free surface on the polished end of the contact. To ensure that this surface is kept in optimum condition please use the cleaning stick before every engage and after

each disengage. When the connector pair are not mated it is imperative that the protective cap is used to maintain the IP rating of the connector. Not fitting the cap will render the contact useless if left unprotected. The cap must only be removed before engagement.

Order Codes		
Fibre Optic Connector		
Protection Concept	Protected Radiation	PR
	Inherently Safe	IS*
Number of Contact / Shell Size	4 Way	4
	8 Way	8
Material	Nickel Plated	N
	Stainless Steel	S
Connector Style IS versions for Bulkhead receptacle will only be available in keyway position 6 ** for PR cetified CP/CR please state the key postion. i.e. CP1 etc.	Connector Plug	CP**
	Connector Receptacle	CR**
	Flanged Receptacle	FR**
	Bulkhead Receptacle Position 1	BR1
	Bulkhead Receptacle Position 2	BR2
	Bulkhead Receptacle Position 3	BR3
	Bulkhead Receptacle Position 4	BR4
	Bulkhead Receptacle Position 5	BR5
	Bulkhead Receptacle Position 6 (IS* only)	BR6
Bulkhead Entry Thread Only applicable for BRs	Metric - M20 4 way, M32 8 way	M
	NPT - 1/2" 4 way, 1" 8 way	N
	NPT - 3/4" 4 way, 1 1/4" 8 way	R
	NA for CP and CR	X
Contact Type	Pin	P
	Socket	S
Bulkhead connector type Only applicable for BRs	LC	1
	SC	2
	ST	3
	Flying Leads	4
	Custom	C
	NA for CP and CR	X
Cable Type	Singlemode	S
	Multimode	M
Cable length	Per metre	100
	N/A Non factory terminated CP & CR	X
Connector specification for opposite end of cable - connector to connector jumper cable.	Connector Plug with Pins	1
	Connector Plug with Sockets	2
	Connector Receptacle with Pins	3
	Connector Receptacle with Sockets	4
	None	5
	N/A for Bulkhead Receptacle and Non factory terminated CP & CR	X
Contacts terminated	All	A
	Customer Specific. Drawings needed	C
	N/A Non factory terminated CP & CR	X
Certification	ATEX/IECEX	A

*IS protection concepthas a std rating of T6, this is limited to 15mW radiated power and 5mW/mm2 Irradiance.
Other options available on request.



Harsh & Hazardous

Hubbell Harsh & Hazardous

Extreme environments demand superior performance, which is why you will find Hubbell products and systems installed in some of the most arduous and safety critical locations worldwide.

The Hubbell Harsh & Hazardous group combines dedicated, market leading brands within the Hubbell portfolio to provide a complete package for companies operating in some of the toughest environments on the planet.

We are committed to providing quality products and services that will meet and exceed your expectations. Our principal activities include the design and manufacture of rugged and hard wearing products. These include telephones and communication products, lighting, control gear and electrical connection products, all designed to operate primarily in extreme outdoor, hazardous and corrosive areas.

Our Brands

All of our brands are long established and well respected businesses within each of their industries, our primary industry sectors include:

Oil & Gas, Petrochemical, Industrial, Marine, Military, Transport and Commercial.



Corporate Information

Hubbell Incorporated HQ is based in Connecticut, U.S.A. and you can find out more information about the Hubbell Group on our corporate website at www.hubbell.com

www.harshandhazardous.com

Contact Details

United Kingdom

Hawke International Oxford Street West Ashton-under-Lyne Lancashire OL7 0NA
Tel: +44 (0) 161 830 6695 Fax: +44 (0) 161 830 6698 Email: sales@ehawke.com

Hubbell Scotland 388 Hillington Road Glasgow G52 4BL
Tel: +44 (0) 141 882 9029 Fax: +44 (0) 141 883 3704 Email: info@hubbell-scotland.com

U.S.A.

Hawke International U.S.A. 4140 World Houston Parkway Suite 130 Houston TX 77032
Tel: +1 (281) 445 7400 Fax: +1 (281) 445 7404 E-mail: america@ehawke.com

Middle East

Building No. 5EA Office No. G03 Dubai Airport Free Zone (DAFZ) PO Box 23529 Dubai UAE
Tel: +974 6612 0728 Email: middle-east@ehawke.com

Asia Pacific

130 Joo Seng Road #03-02 Singapore 368357
Tel: +65 6282 2242 Fax: +65 6284 4244 Email: asia@ehawke.com

Korea

512 Hyosung Intellian 681-3 Deungchon Dong Kangseo-Gu Seoul 157-030 Korea
Tel: +82 2 2063 3719 Fax: +82 2 2603 7386 Mob: +82 10 9977 6349 Email: yyu@hubbell.com.sg

China

Room H/I 18F No. 728 Pudong Avenue
Shanghai International Ocean and Finance Building Shanghai 200120 P.R. China
Tel: +86 (21) 3392 6550 ext. 317 Fax: +86 (21) 3392 6551 Mob: +86 139 1829 4175 Email: weiyi@hubbell.com.cn