



PATTON & COOKE Fiber Optic Solutions



Modern mining processes and equipment are generating increasing volumes of data. While existing fiber optic technology offers support for the volume of data, available hardware and connectivity options were not designed for the unique demands of mining applications. To meet this need, Patton & Cooke have integrated fiber optic capabilities into our rugged and dependable mining cable couplers. Integrating fiber optic cable into mining cables provides suitable protection for the fiber elements, and Patton & Cooke's multichannel fiber connectors make connection and disconnection of the fiber quick and easy.

COUPLER FEATURES

- Enhanced entrance fitting combines strain relief and cable seal
- Solder, solderless, or crimp style contact stems
- Standard couplers supplied with two piece contacts for ease of maintenance
- Customizable contact arrangement
- Individually replaceable phase tubes
- Fully shielded phase conductors
- Optional one piece contacts for extreme vibration resistance
- Stainless steel quick flip coupling eye bolts
- Heat treated, cast aluminum body



FIBER FEATURES

- Patton & Cooke fiber optic components are designed to exceed military specifications
- Three times the crush resistance and twice the tensile strength of non-metallic fiber optic cables
- Communication is not impacted even if rolled over by a tank
- Completely rodent proof
- Contamination resistance - designed for field connection and disconnection
- High performance 2.5mm termini and a split ceramic alignment sleeve assures superior performance and low optical insertion loss even under high shock and vibration
- Aluminum body with durable anodized finish
- Stainless steel construction available
- Environmental sealing to IP68
- APC termini optional
- Singlemode and Multimode operation
- Configurable design supports from 2 -18 fiber channels per connector



High Voltage Equipment Solutions. Design and Manufacturing.



We make the connection.

FIBER CONNECTOR CHARACTERISTICS

Insertion Loss	Singlemode: Multimode:	0.15dB typical 0.20dB typical
Return Loss (UPC)	Singlemode	50dB typical
Return Loss (APC)	Singlemode	65dB typical
Temperature Range	-40°C to +85°C	(Per EIA/TIA 455-3A)
Durability	<0.1dB typical change, 500 matings	(Per EIA/TIA 455-21A)
Vibration	10-200Hz/15g	(Per EIA/TIA 455-11B)
Mechanical Shock	50g for 11ms	(Per EIA/TIA1-14A)
Impact	8 Impacts @ 8FT	(Per EIA/TIA 455-2B)
Corrosion Resistance	168 Hours @ 22°	(Per GR-326)
Groundwater Immersion	336 Hour Salt Spray	(Per EIA/TIA 455-16A)
Environmental Seals	20 PSI	(Per EIA/TIA 455-23A)

5/8 KV CLASS COUPLERS

Electrical Characteristics	
Nominal voltage	8 kV AC
a.c. withstand voltage	26 kV dry (1min)
Impulse a.c. withstand voltage	75 kV (10 pos, 10 neg)
Partial discharge (for high-voltage equipment)	<100pC @ 5.5 kV*
Nominal current	250/400 Amps
Short circuit rating	38 kA
Short time short-circuit withstand capacity	13.5 kA for .2 sec
Peak withstand	28 kA
Mechanical Characteristics	
Enclosure degree of protections	IP67H
Acceptable cable cross-sectional area	350 MCM/120 mm max.
Construction materials	Aluminum
Ambient temperature	-40°C to +45°C
Shock and vibration	IK10



15KV CLASS COUPLERS

Electrical Characteristics	
Nominal voltage	15 kV AC
a.c. withstand voltage	50 kV dry (1min)
Impulse a.c. withstand voltage	95 kV (10 pos, 10 neg)
Partial discharge (for high-voltage equipment)	<100pC @ 21.5 kV
Nominal current	500 Amps
Short circuit rating	38 kA
Short time short-circuit withstand capacity	13.5 kA for .2 sec
Peak withstand	28 kA
Mechanical Characteristics	
Enclosure degree of protections	IP67H
Acceptable cable cross-sectional area	500 MCM/240 mm max.
Construction materials	Aluminum
Ambient temperature	-40°C to +45°C
Shock and vibration	IK10

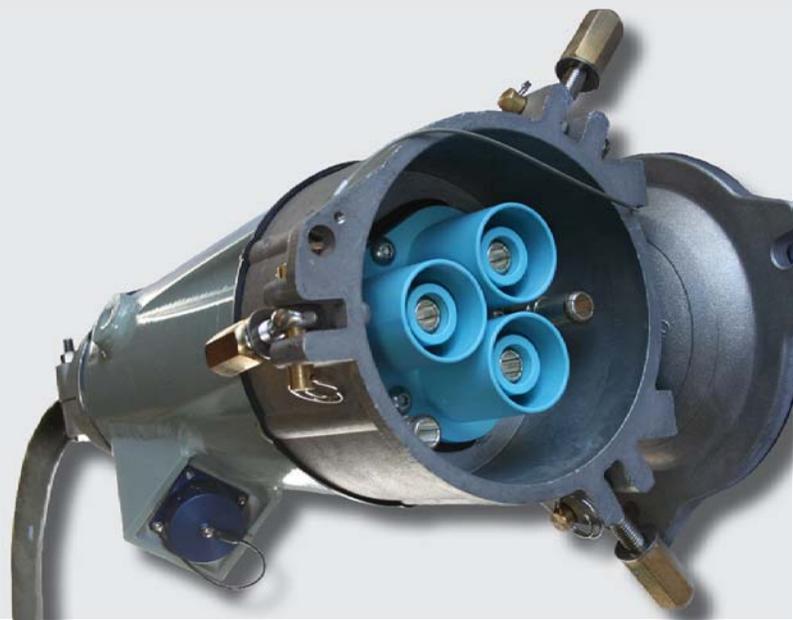
25KV CLASS COUPLERS

Electrical Characteristics	
Nominal voltage	25 kV AC
a.c. withstand voltage	50 kV dry (1min)
Impulse a.c. withstand voltage	125 kV (10 pos, 10 neg)
Partial discharge (for high-voltage equipment)	<100pC @ 21.5 kV
Nominal current	400 Amps
Short time short-circuit withstand capacity	13.5 kA for .2 sec
Peak withstand	28.5 kA
Mechanical Characteristics	
Enclosure degree of protections	IP66H
Acceptable cable cross-sectional area	250 MCM/120 mm max.
Construction materials	Aluminum
Ambient temperature	-40°C to +45°C
Shock and vibration	IK10

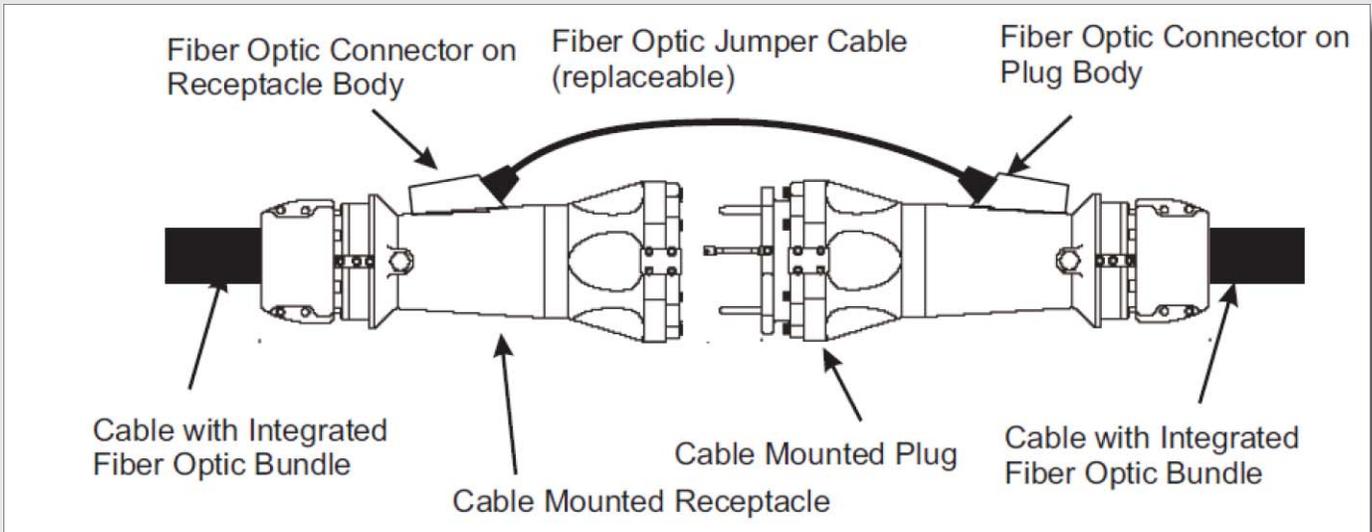
* <100pC was the test value prescribed by CSA22.2 No.31-M89 Sec 8.6.1.6 (1989) at the time of testing.

APPLICATIONS

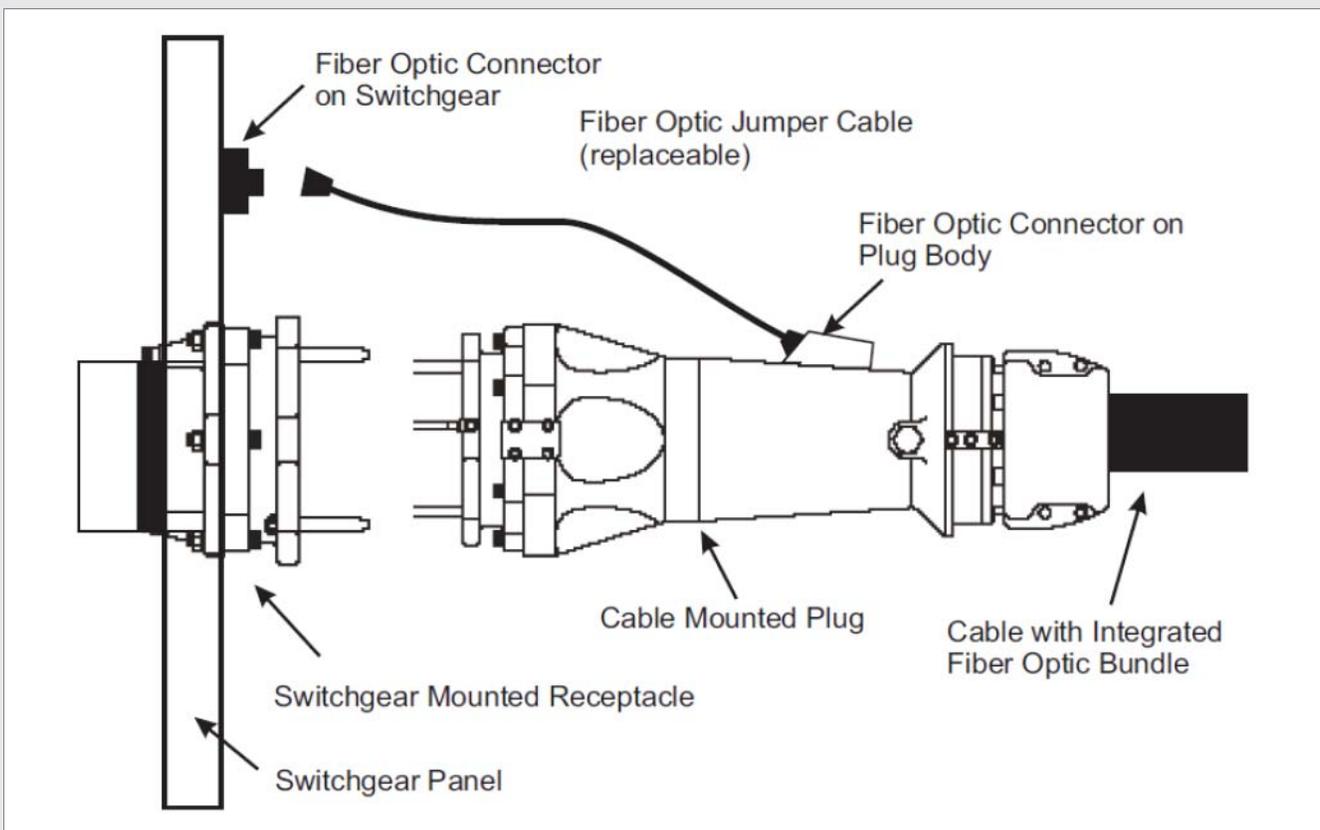
- Mine power distribution
- Shaft sinking/drilling
- Quay/harbour cranes
- Tunneling
- Shore to ship power



CONNECTOR ARRANGEMENT - CABLE TO CABLE



CONNECTOR ARRANGEMENT - CABLE TO SWITCHGEAR



Patton & Cooke have been developing low and medium voltage connectors for use in mining and industrial applications since 1961. We have developed our reputation as a high quality manufacturer capable of providing industry standard or custom designed products. We work with International Certification Organizations including the IEC, ISO, IEEE, CSA, and UL to develop and promote standards for cable coupler design and testing. Patton & Cooke headquarters is located in Vancouver BC with Authorized Representatives in over 20 Countries.

For more information visit us online www.pattonandcooke.com