ofs
A Furukawa Company

Your Optical Fiber Solutions Partner®

Industrial Networking Solutions
Easy to learn, quick to connect

Electrical Substation Automation

SC

Ethernet for Electrical Substation Automation and Control

The GiHCS® industrial cabling solution from OFS answers the call

New and improved! Industrial Cables, Crimp and Cleave SC Connectors, and Kits

Utilities across the world are facing increasing pressure to deliver reliable, high-quality electric power at affordable rates and with minimum environmental impact. The need for Ethernet-based automation processes in power generation, transmission, and distribution systems is rapidly increasing. OFS is committed to supporting substation automation with highly reliable fiber optic cable and connectivity with GiHCS high-bandwidth, strength-enhanced optical fibers and cables, and easy-to-use crimp/cleave SC connectivity. Optical fiber in substation automation come with a wide range of advantages, including:

- Immunity to EMI/RFI
- Lightning protection with all-dielectric fiber optic cables
- The ability to safely bridge high potential differences for applications where fumes or sparks exist
- Lighter and smaller than traditional copper cables
- More secure data communications
- Higher bandwidth that supports higher data rates over longer distances

GiHCS, LSZH/OFNR Riser Rated Industrial Cables:

- For Fast (100Mb/sec) and Gigabit Ethernet (1000 Mb/sec)
- Operating temperature: -20 to +80 °C
- For use indoors or outdoors
- High tensile strength
- Abrasion, vibration, and chemically resistant
- 2.5 mm Zipcord and Breakout Cables
- PVC-free design
- RoHS and REACH compliant

Crimp and Cleave SC Connectors and Kits:

- Compatible with GBIC transceivers
- No power, no epoxy, no gels, no polishing
- Easy to learn, quick to connect
- Optical fiber specialists not required

GiHCS® Optical Fiber Cables

GiHCS Graded-Index Hard Coat Silica*	Cable Construction	Part Number	Use	Outer Cable Diameter	Outer Jacket Color	Outer Jacket Material	Cable Weight	Min. Bend Radius Under Load	Min. Bend Radius Unloaded	Max. Installation Tensile Load	Max. Operating Tensile Load	Attenuation	Operating Temperature
GiHCS 50/200/230/500 µm	Zipcord 	**C26642**	Indoor	2.5 x 5.2 mm	Orange	LSZH	<11.0 kg/km	38 mm	25 mm	165 lbs (734 N)	85 lbs (378 N)	≤3.5 dB/km @850 nm ≤1.5 dB/km @1300 nm	-20 to +80 °C
	2-Fiber Waterblocked 	**C26644**	Indoor/ Outdoor	8.0 mm	Black	LSZH	<45.0 kg/km	120 mm	80 mm	310 lbs (1379 N)	155 lbs (689 N)		-20 to +80 °C
	4-Fiber Waterblocked 	**C26646**	Indoor/ Outdoor	8.0 mm	Black	LSZH	<45.0 kg/km	120 mm	80 mm	530 lbs (2358 N)	265 lbs (1179 N)		-20 to +80 °C
GiHCS 62.5/200/230/500 µm	Zipcord 	**C26643**	Indoor	2.5 x 5.2 mm	Orange	LSZH	<11.0 kg/km	38 mm	25 mm	165 lbs (734 N)	85 lbs (378 N)	≤4.0 dB/km @850 nm ≤2.0 dB/km @1300 nm	-20 to +80 °C
	2-Fiber Waterblocked 	**C26645**	Indoor/ Outdoor	8.0 mm	Black	LSZH	<45.0 kg/km	120 mm	80 mm	310 lbs (1379 N)	155 lbs (689 N)		-20 to +80 °C
	4-Fiber Waterblocked 	**C26647**	Indoor/ Outdoor	8.0 mm	Black	LSZH	<45.0 kg/km	120 mm	80 mm	530 lbs (2358 N)	265 lbs (1179 N)		-20 to +80 °C

Fire Safety

Qualified to the following US, Canadian and International Standards.
OFNR/FT-4 Riser, US and Canadian UL 1666, Flammability IEC 60332-3 (for zipcord, 2-Fiber & 4-Fiber cables), Smoke Density IEC 61034, Halogen Gas Emissions IEC 60745-1, Acid Gas Emissions IEC 60745-2

Crimp and Cleave SC Connectors

for GiHCS® Optical Fiber Cables

Connector Type	Part Number	Cable Type	Termination Kit Part #	Insertion Loss Kit Part #
Simplex	**P25561-BKS** (Black) **P25561-BGS** (Beige)	2.5 mm Zipcord and Breakout Cables	**DT03732-SC1**	**P10188-14**
Duplex	**P25561-BKD** (Black) **P25561-BGD** (Beige)			
SC-RJ	**P25561-BKRJ** (Black) **P25561-BGRJ** (Beige)			

SC Connector Insertion Loss (dB)

	850 nm		1300 nm	
	Typical	Maximum	Typical	Maximum
50/200/230 GiHCS	1.0	1.5	1.2	1.7
62.5/200/230 GiHCS	0.7	1.2	0.9	1.4
200/230 HCS®	0.7	1.0	-	-

GiHCS® Optical Fibers

Fiber*	Dimensions	Numerical Aperture	Bandwidth		Attenuation	
GiHCS 50 µm	50/200/230/500 µm	0.20 ± 0.02	>400 MHz-km @850 nm	>400 MHz-km @1300 nm	≤2.8 dB/km @850 nm	≤1.0 dB/km @1300 nm
GiHCS 62.5 µm	62.5/200/230/500 µm	0.275 ± 0.020	>200 MHz-km @850 nm	>500 MHz-km @1300 nm	≤3.5 dB/km @850 nm	≤1.2 dB/km @1300 nm