

High Power Laser Delivery Fiber Optic Cable Sets

Air-Gap technique, cleaving and laser polish for maximum safety

LDH... series cable sets have been designed for use in safe delivery of high power laser energy. Most important issue is the dissipation of thermal energy at fiber end and prevention of catastrophic system breakdown. Our LDH cable sets address this main concern by using an 'air-gap' design where the fiber end is in free space and using polishing techniques like cleaving and laser polish. We can provide cable sets as per your asked wavelengths, lengths, Numerical aperture, CW and Peak power requirements and in small quantities.



FEATURES

- Connector choices include HP-SMA and FC
- Fiber types include silica in various versions, common type is silica/silica with nylon buffer
- Incorporate a HP-SMA connector in which the fiber end is held in an air-gap so that any thermal energy is dissipated without burning the surrounding epoxy
- Versions with laser polished fiber ends available
- Different fiber end-face polishes available like standard, air-gap, air-gap with laser polish
- Core diameters from 2 ~ 1500 micron. Sizes include 100u, 200u, 300u, 400u, 600u, 1000u, 1500u
- Stainless steel armouring for protection

APPLICATIONS

- LIBS: Laser induced breakdown spectroscopy
 - Nuclear fusion
- Laser counter measures in defense
 - High Power Lasers in defense
- LIDAR: Laser range finders in military
 - Interferometer techniques
- Laser cooling to slow down ions
 - Medical Laser applications
 - Industrial Laser applications

Core Diameter	Silica 2 ~ 1500um (common sized are 100, 200, 400, 600, 1000, 1500um)
Cladding	typically Fused Silica
Numerical Aperture	0.22 or 0.12
Jacket	Stainless Steel Coil (others on request)
Fiber Connectors	FC or HP-SMA (others on request)
Laser Types	Visible, UV and IR

Connectors for High Power Laser Cables



IMPORTANT CONSIDERATIONS FOR SELECTION

- **Laser power levels:** The fiber has to be selected carefully as per the laser power level. Customer needs to discuss the laser power (CW or pulsed) with us at the time of ordering. Our cable sets can usually deliver 1.2 KW/mm² for CW lasers and 5MW/mm² for pulsed lasers
- **Input Numerical Aperture:** Beam N.A is recommended to be between 0.3 ~ 0.9 of the fiber N.A
- **Input Spot Diameter:** usually around 0.7x of the fiber core diameter. The spot should be aligned to the center of the core of fiber.
- **Connector Choices:** FC or HP-SMA
- **End-Face Polish:** Cleave or angle polish or laser polish

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Ordering Codes Description

(Length) (Connectors) (Core) (Wavelength) (N.A)
 LDH - □ □ □ - □ □ □ - □ □ □ - □ □ □ - □ □ □ - □ □ □
L L U C C C C C C F F F W W N N S S

LL	Length	0.5 = 0.5 ; 1 = 1.0 ; 2 = 2.0
U	Unit of Length	M = Meter ; F = Feet ; I = Inch
CCC	Connector Series	FC = FC ; HP-SMA = HPSMA
FFF	Fiber Core Diameter	100u = 100, 200u = 200, 300u = 300, 400u = 400, 1500u = 1500
WW	Wavelength	UV - VIS = UVVIS; VIS-IR = VISIR
NN	Numerical Aperture	0.22 = 0.22; 0.12 = 0.12
SS	Special Comments	Any special comments for polish, fiber etc

Cable Set Ordering Codes

Ordering Code	Length	Conn 1	Conn 2	Wavelength	Numerical Aperture	Fiber
100um Fiber, HPSMA-HPSMA High Power Fiber Optic Cable Sets						
LDH-1.0M-HPSMA-HPSMA-100-UVVIS-0.22	1m	HPSMA	HPSMA	UV-VIS	0.22	100um
LDH-2.0M-HPSMA-HPSMA-100-UVVIS-0.22	2m	HPSMA	HPSMA	UV-VIS	0.22	100um
LDH-3.0M-HPSMA-HPSMA-100-UVVIS-0.22	3m	HPSMA	HPSMA	UV-VIS	0.22	100um
LDH-5.0M-HPSMA-HPSMA-100-UVVIS-0.22	5m	HPSMA	HPSMA	UV-VIS	0.22	100um
LDH-10M-HPSMA-HPSMA-100-UVVIS-0.22	10m	HPSMA	HPSMA	UV-VIS	0.22	100um
200um Fiber, HPSMA-HPSMA High Power Fiber Optic Cable Sets						
LDH-1.0M-HPSMA-HPSMA-200-UVVIS-0.22	1m	HPSMA	HPSMA	UV-VIS	0.22	200um
LDH-2.0M-HPSMA-HPSMA-200-UVVIS-0.22	2m	HPSMA	HPSMA	UV-VIS	0.22	200um
LDH-3.0M-HPSMA-HPSMA-200-UVVIS-0.22	3m	HPSMA	HPSMA	UV-VIS	0.22	200um
LDH-5.0M-HPSMA-HPSMA-200-UVVIS-0.22	5m	HPSMA	HPSMA	UV-VIS	0.22	200um
LDH-10M-HPSMA-HPSMA-200-UVVIS-0.22	10m	HPSMA	HPSMA	UV-VIS	0.22	200um
100um Fiber, FC-FC High Power Fiber Optic Cable Sets						
LDH-1.0M-FC-FC-100-UVVIS-0.22	1m	FC	FC	UV-VIS	0.22	100um
LDH-2.0M-FC-FC-100-UVVIS-0.22	2m	FC	FC	UV-VIS	0.22	100um
LDH-3.0M-FC-FC-100-UVVIS-0.22	3m	FC	FC	UV-VIS	0.22	100um
LDH-5.0M-FC-FC-100-UVVIS-0.22	5m	FC	FC	UV-VIS	0.22	100um
LDH-10M-FC-FC-100-UVVIS-0.22	10m	FC	FC	UV-VIS	0.22	100um
200um Fiber, FC-FC High Power Fiber Optic Cable Sets						
LDH-1.0M-FC-FC-200-UVVIS-0.22	1m	FC	FC	UV-VIS	0.22	200um
LDH-2.0M-FC-FC-200-UVVIS-0.22	2m	FC	FC	UV-VIS	0.22	200um
LDH-3.0M-FC-FC-200-UVVIS-0.22	3m	FC	FC	UV-VIS	0.22	200um
LDH-5.0M-FC-FC-200-UVVIS-0.22	5m	FC	FC	UV-VIS	0.22	200um
LDH-10M-FC-FC-200-UVVIS-0.22	10m	FC	FC	UV-VIS	0.22	200um

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