FMT

Medical Sensors, Cables and Accessories

Universal

LIGHT SOURCE CABLES

CE

EN ISO
9001:2008 / 13485:2012

REV.02 10.10.2016

UNIVERSAL LIGHT SOURCE CABLES

FMT light source cables are designed to deliver maximum light when coupled to a medical fiber optic light source. They are compatible with virtually all endoscopes, medical instruments, and microscopes. Cables can be used with Halogen, Xenon or LED based cold light sources.

Universal cables have threaded stainless steel ferrules at the both ends of the cable. Ferrules bear metric threads to accept various stainless steel adapters allowing versatile use of universal cable. Different adapter options make it possible to connect the universal cable to different brand light sources and the different instruments. Each end of the cable has to be fitted with a thread on adapter to properly function. This gives the versatility of creating a custom cable by simply changing the adapters on each end.

The silicone sheathed light cable with its rugged metal spiral core ensures high mechanical stability and reprocessing allowing long lifetimes in the medical environment.

The cables can be manufactured with bundle diameters ranging from 2.5 mm to 4.8 mm to match the bundle of the instrument being used to provide optimal lighting. All of light source cables are hermetically sealed and cables can be sterilized in autoclave at 134°C. Gas and chemical disinfection is also possible.

FMT light source cables have an active diameter of the cable on the light entry and light exit of Ø2.5, Ø 3.5 or Ø4.8 mm and a total length of 1800 mm (6 ft), 2300 mm (7.5 ft) or 3000 (10 ft) mm (variable special lengths up to 5000 mm (16.4 ft) upon request).

Features

- Biocompatible and durable silicone sheathing with stainless steel spiral enforcement enables high mechanical stability and repeated reprocessing for long term use
- Temperature resistant at the light input end and 20% higher light transmission (HP and EHP Series)
- Threaded light source side ferrule for connection to common light sources via connector ferrule
- Threaded instrument side ferrule enables connection to different endoscopes
- 120mm anti-kink protection silicon bend reliefs at the both ends
- Internal polyester braided sleeve to help prevent stretching
- Adaptors to suit almost all common light sources and instruments
- High white light transmission with low color shift
- Fully autoclavable
- Serial Numbered for traceability
- Features SCHOTT PURAVIS® fiber
- Warranted for 12 months

Technical Specifications

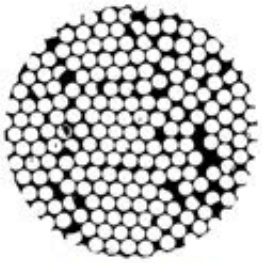
Material Properties	
Handle Sleeve:	PP TV 25 (Talcum reinforced Polypropylene)
Sheathing Cover:	Biocompatible Silicone , Color: Grey
Connector:	SUS 316 Grade Stainless Steel
Sheathing:	Silicone covered metal spiral sheathing with braided hose
Minimum Bending Radius:	50 mm
Optical Data	
Fiber Optical Material:	PURAVIS™ GOF 85 High Purity Optical Glass by Scott (without lead,arsenic, antimony Fully RoHS compliant)
Single Fiber Diameter:	Ø50 µm ±4 µm
Transmission of Light Cable:	> 60 % at 546 nm (typical > 65 %)
Effective Acceptance Angle (2α): *(Theoretical λ= 587 nm)*	≥ 70° (for V(λ) and 1m length)
Numerical Aperture: *(Theoretical value at 587nm wavelength)*	0.64
Structural Properties	
Active Diameter: *(Fiber Bundle Diameter)*	Ø2.5mm, Ø3.5 mm, Ø 4.8mm (Other diameters available upon request)
Working Length:	1800, 2500, 3000mm (Other lengths available upon request)
Operating Conditions	
Operational Temperature:	+10°C … +40°C
Maximum Allowed Temperature for Optical End Surface: *(Long term)*	350°C @ input end (Light source ferrule) (hot-fused End) 150°C @ input end (Light source ferrule) (epoxied End) 150°C @ output end (Endoscope ferrule) (epoxied End)
Re-processing	
Cleaning & Disinfection:	Manual Cleaning & Disinfection
Autoclaving:	@ 134°C, 3 bar, 10 min. > 100 cycles
Transportation and Storage:	- 20°C …+ 60°C

UNIVERSAL LIGHT SOURCE CABLES

Standard Light Source Cables (Bonded or Glued):

Optical fibers at the light source and instrument ends of the cable are bonded by high temperature epoxy. Standard cables are generally used with Halogen light sources. They are inappropriate for use with high energetic Xenon light sources which require the "High Performance" cable given the high light energy transmitted.

Standard cables must not be processed with thermolabile sterilization processes (plasma sterilization).

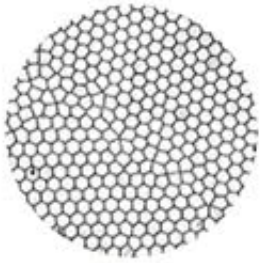


Bonded/Glued

High Performance Light Source Cables (Hot Fused):

Optical fibers at the light source end of the cable are terminated by a process combining heat with pressure. Fibers made of multi component glass are welded and embedded into a stainless steel ferrule. Fibers fused at the light source end increase the cable's ability to withstand high temperatures and light intensities which standard epoxy-bonded cables simply cannot tolerate. The fused glass fibers on the light source end provide 20% more light transmission.

The high temperature resistance of the hot fused light source end enables usage with high intensity Xenon light sources.



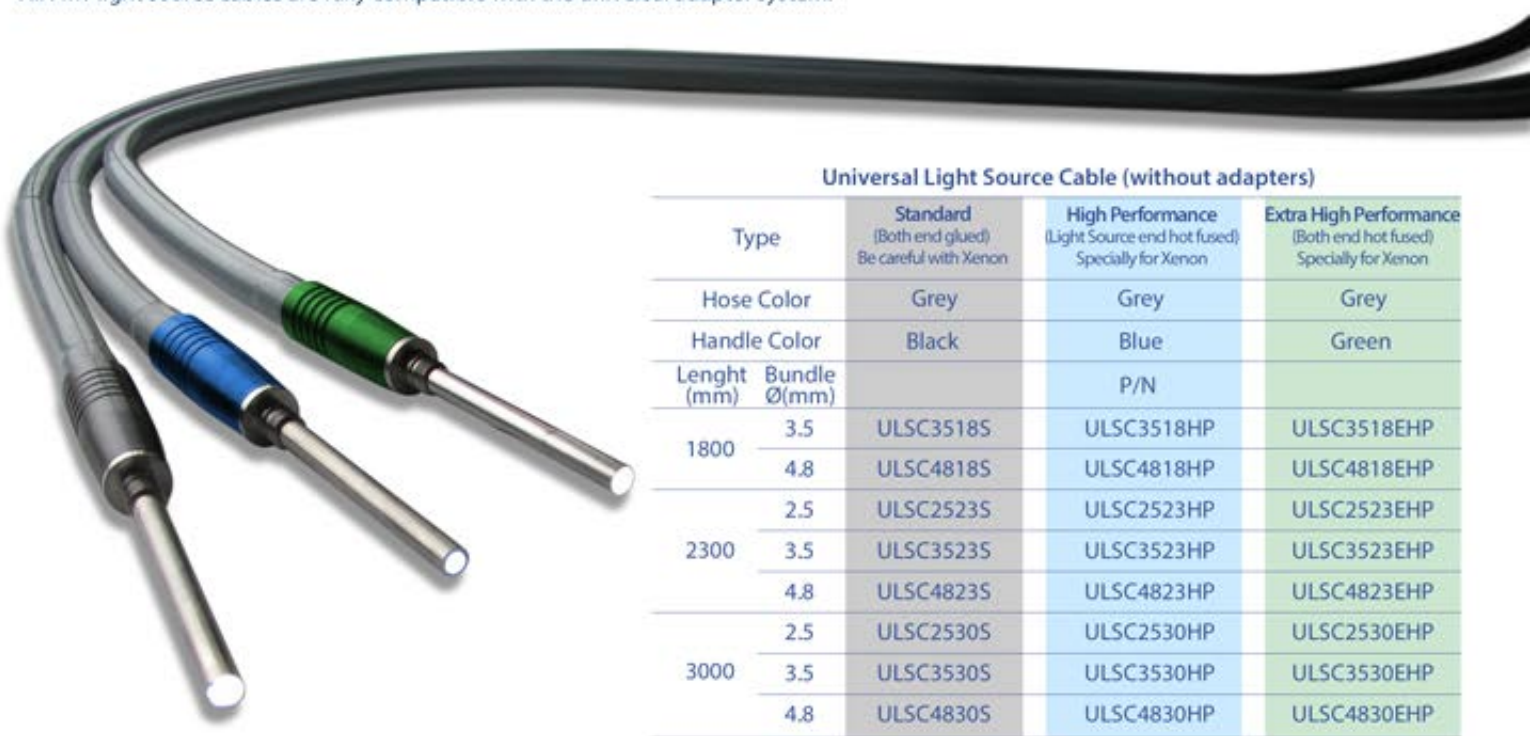
Hot fused

Extra High Performance Light Source Cables (Hot Fused):

Optical fibers at the light source and instrument ends of the cable are terminated by a process combining heat with pressure. Fibers made of multi component glass are welded and embedded into a stainless steel ferrule. No epoxy or glue is used for compacting the optical fibers. The fused glass fibers on the light source and instrument ends provide more than 20% light transmission.

High Performance and Extra High Performance cables can be processed with low temperature plasma sterilization.

All FMT light source cables are fully compatible with the universal adapter system.



Universal Light Source Cable (without adapters)

Type		Standard (Both end glued) Be careful with Xenon	High Performance (Light Source end hot fused) Specially for Xenon	Extra High Performance (Both end hot fused) Specially for Xenon
Hose Color		Grey	Grey	Grey
Handle Color		Black	Blue	Green
Lenght (mm)	Bundle Ø(mm)		P/N	
1800	3.5	ULSC3518S	ULSC3518HP	ULSC3518EHP
	4.8	ULSC4818S	ULSC4818HP	ULSC4818EHP
2300	2.5	ULSC2523S	ULSC2523HP	ULSC2523EHP
	3.5	ULSC3523S	ULSC3523HP	ULSC3523EHP
	4.8	ULSC4823S	ULSC4823HP	ULSC4823EHP
3000	2.5	ULSC2530S	ULSC2530HP	ULSC2530EHP
	3.5	ULSC3530S	ULSC3530HP	ULSC3530EHP
	4.8	ULSC4830S	ULSC4830HP	ULSC4830EHP

Universal light source cables ends require adaptors to fit standard light source ports or instruments. In case of needs of cables with adapters, required adapters must be selected and added to do part number to complete the order code. Please see the below example.

ULSC 35 23 HP / LA201 - LA102

- 35: 3.5 mm Bundle Diameter
- 23: 2.3m Lenght
- HP: High Performance (Light Source Side Hot Fused)
- LA201: Light Source Side Adapter for Wolf Ø9.0mm
- LA102: Instrument Side Adapter for Wolf (Clip) Ø9.0mm

UNIVERSAL LIGHT SOURCE CABLES

Adapters for light cables

▼ Light Source End / Light Input

LA200		Karl Storz, Aesculap, Wisap, RFQ
LA201		Wolf, HSW, Medicon, Dyonics Ø9.0 mm
LA202		Olympus, ACMI
LA203		ACMI, British Standard, Welch Allyn, Codman, Stryker Ø7.5 mm
LA204		Olympus High Intensity
LA205		Fuji
LA206		Pentax
LA207		Machida
LA208		Schott, Zeiss
LA209		Heine
LA210		Volpi, Schölly

Instrument End / Light Output ▼

Karl Storz, Aesculap, RFQ, Olympus		LA100
Wolf, HSW, Medicon Dyonics (Snap) Ø9.0 mm		LA101
Wolf, HSW, Medicon Dyonics (Clip) Ø9.0 mm		LA102
ACMI, British Standard, Welch Allyn, Stryker (Snap) Ø7.5 mm		LA103
Olympus new WA		LA104
ACMI, British Standard Welch Allyn (Clip) Ø7.5 mm		LA105
Storz, Olympus Heatshield		LA106
Stryker Headlamp		LA107

Light Source Cables adapters can be purchased separately.

METKO

Medical Engineering Trade Company

Your solution provider for Medical Cables, Sensors & Accessories

HEADQUARTER & FACTORY

İvedik O.S.B. Ağaç İşleri Sanayi Sit.
1354. Cad. 1358.Sok. No:9
06378 Yenimahalle

ANKARA / TÜRKİYE

Tel (pbx) : +90 312 387 12 46
Fax : +90 312 387 12 51

BRANCH

Atatürk Mah. Sedef Cad. 38 Ada
Ata Plaza 3-5 Blokları Kat:2 No:57
34758 Ataşehir

İSTANBUL / TÜRKİYE

Tel (pbx) : +90 216 455 91 21
Fax : +90 216 455 48 24

INTERNET

http://www.metkoltd.com
metko@metkoltd.com