



## Installation

### Factory cable assemblies and cable puller

It is often desirable to install fiber links fully manufactured in factory controlled conditions. The connector is locked to the central strength member of the cable and are pulled as completed assemblies through ducting. Use LEMO's SMPTE cable puller to protect exposed contacts and avoid dust and debris from entering. With an outside diameter of only 17.5mm this smooth pull-through tool also ensures

that the pulling force is applied directly to the central strength member of the cable, and protects the optical fibers and assembly.



Cable puller



### Fiber splicing option

#### Accessories and tooling for field repair

LEMO offers a wide range of high quality accessories and tooling for field repair of fiber optic connectors and cable assemblies. The most often used tools have also been arranged into a portable case.



Fusion splicer



Connector pigtail assembly



Splice box with pigtail and connectors

### Panels, wall box and rack units

A range of panels, wall box and rack units are available to suit each application. Connectors can be mounted on standard panels with splice terminations or with 45° down slope for better cable management. If space is at a premium at a wall box or OB truck tailboard, the Wall Unit integrates both panel and splice/termination tray into a simple compact unit. Alternatively a rack-mounted splicing/termination unit, with front panel access has been developed to fit into your 10" rack system, further simplifying installation.



Connector front panel



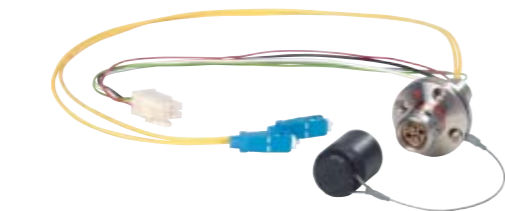
LEMO rack mounted splice unit



Wall box

### Connector pigtail assemblies

Connector pigtail assemblies can be manufactured to suit requirements and can either be provided with internal connectors to suit the junction box or with blunt ends ready for fusion splicing and wiring to a terminal block. Standard LEMO assemblies with internal connectors are available to suit the rack mounted splice unit.



## Repair and Tools

Where it is impossible to pull through unterminated cables, or where replacement of connectors is required on site, then consider fiber splicing. Unterminated cable can be installed separately and, at an appropriate time a factory-terminated FO pigtail assembly can be quickly spliced to the installed cable. The pigtail can either be hard wired and fusion spliced to the cable using a simple junction box, fitted with internal connectors to

connect to a connector junction box, or spliced directly on to the cable inside the LEMO SMPTE connector shell. Fusion splicing can repair clamped cable, or new cable installed in the building structure.

\*See Fusion Splice Technology Datasheet.



Pre-terminated F2 male contact



Pre-terminated F2 female contact



## Maintenance

As with all optical devices it is necessary to keep all fiber contacts clean and free from dirt. A regular weekly or monthly

inspection routine (or on return of OB units) is strongly recommended. Cleaning is quick and easy and will ensure high performance and long life.

### Inspection

#### Fiber optic diagnostic cleaning kit

Make sure your connector is ready to perform. Inspect it with a portable fiber optic viewer consisting of handset probe, LCD display and special ferrule tips for LEMO and other contacts. Capture the view with a USB capture device & software. Along with AC power supply the inspection scope comes in a rugged travel case.



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### Cleaning

An effective cleaning method uses cotton swabs and cleaning solution, available in packs ready to go. Some motorized cleaning accessories are also available for fast cleaning of contacts in the field.



#### Fiber optic ferrule cleaner

A motorized ferrule cleaner with replaceable cartridge for fast cleaning in the field. A pocket size disposable ferrule cleaner suitable for up to 500 cleaning cycles is also available.



#### Cotton swab packs

Handy cotton swabs, half soaked in alcohol, for cleaning of dirty contacts are an efficient solution.

#### Alignment device extraction tool

Double ended tool for removal and retention of the alignment sleeves in the SMPTE connector.

## Further Uses For HD Fiber Links – LEMO's Media Converters



#### MEERKAT™

SD triax to fiber converter. Provides a "plug & play" fiber link between SD triaxial cameras and their CCUs using SMPTE 311M Hybrid cable.

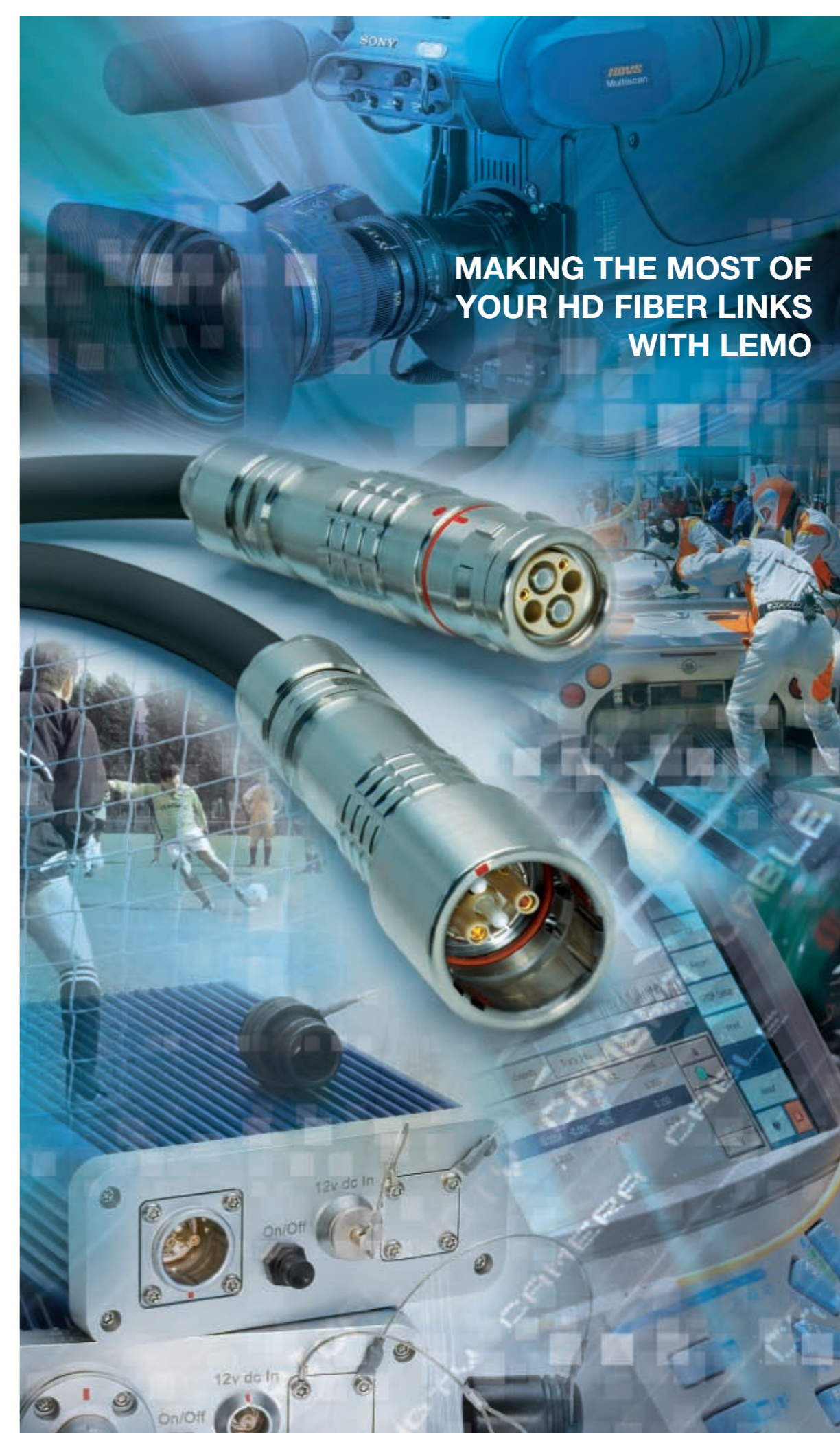
#### SERBAL™

4 channel multiplexer that makes HD/SD to fiber conversion possible. Up to 4 camera signals onto a single SMPTE 311M cable using the standard LEMO 3K.93C connector.

#### SHACK™

A conversion system from SMPTE connectors/cable to standard single-mode connectors.

LEMO USA, Inc.  
800-444-5366  
email: info@lemousa.com  
www.LEMO.com



# MAKING THE MOST OF YOUR HD FIBER LINKS WITH LEMO





## LEMO – The Global Standard In HD Fiber Optic Interconnection Systems

The LEMO 3K.93C connector system has proven itself in many HD applications in studio and stadium installations to OB van use. The LEMO system has increasingly been used at Olympic events worldwide. Other major installations include Madison Square Garden, LA Staples Arena, the Royal Opera House, Phoenix Spring Training Camp, NBC Fox 30, the Verizon Center, and sports arenas in Germany for the World Cup.

The use of fiber optics means that transmission of HD can be made over long distances from the camera to the base station.

The performance of the interconnection is critical if this benefit of fiber is to be fully exploited. Features and benefits of the LEMO system help ensure full performance.

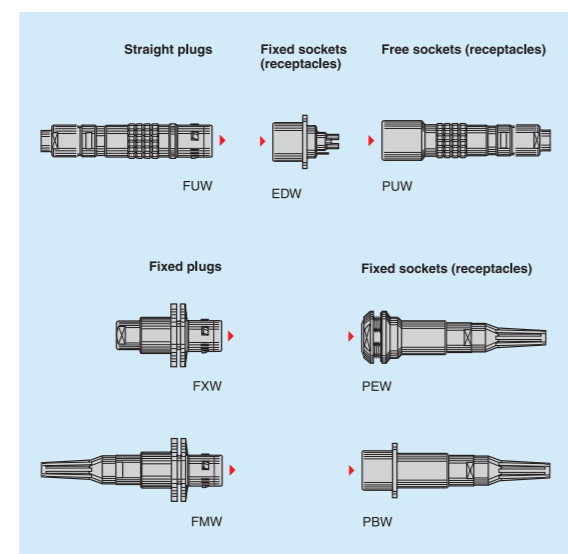
- Industry standard original HD camera connectors
- Meets SMPTE 304M and 311M ARIB and EBU standards
- Standard system provides 2 fibers, 2 power and 2 control signal contacts
- Low optical losses (<0.50dB) with constant repeatability at every connection
- Easy cleaning of fiber optic contacts
- Sealed environmental protection (IP68) for reliable outdoor use
- Unique 5 keys (code W) system allowing smooth and blind mating
- Plug and socket connectors and cable assembly for easy chaining of cables
- Worldwide product support

### Connectors

#### The global standard for HDTV fiber connectors

The LEMO 3K.93C HDTV Camera connectors use LEMO's "F2" type fiber optic contacts. These contacts employ ceramic technology to achieve a higher standard of optical performance. Precision polishing ensures physical contact of the fiber endfaces, and the same basic contact is used in all of the connector models.

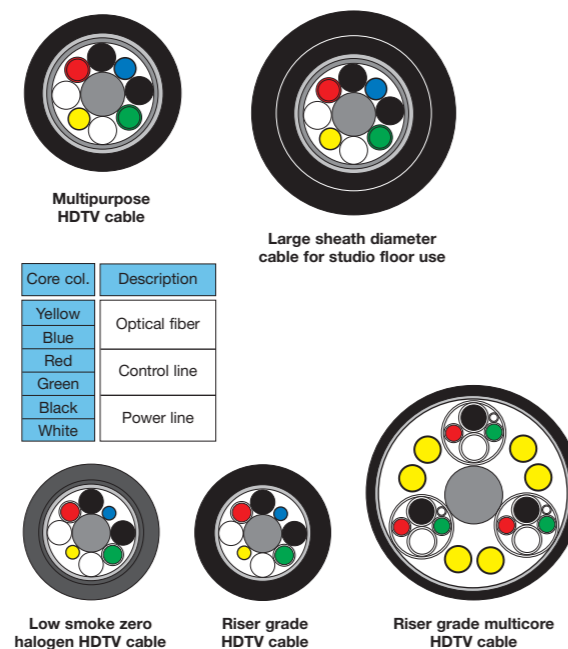
The precision fiber alignment device is simply snapped onto the front of the fiber optic contact to convert for the female contact and this alignment device can be easily removed in the field in order to clean the fiber endface. Multiple styles of plugs and receptacles are available to meet most applications.



### Cables

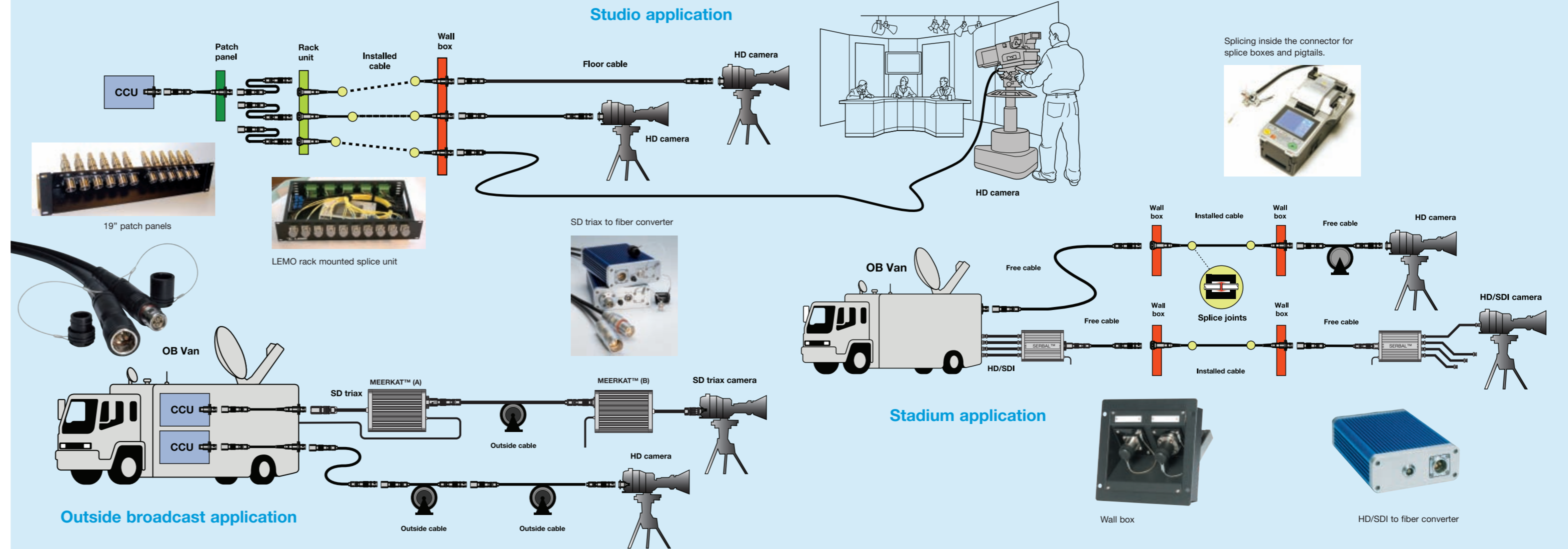
#### Rugged multi-fiber & multi-core HDTV camera cable

Cables in broadcast need to be able to withstand considerable flexing and twisting, which can be a challenge for fragile fiber optic cables. In response to such a requirement LEMO USA now offers highly focused and vertically integrated, custom product design and manufacturing services. LEMO only recommends cable that has passed strict evaluation and testing. Ask for "LEMO certified" cable for the best cable assemblies.



## Making the most of your HD fiber links with LEMO

- Connectors
- Cables
- Cable assemblies
- Handling
- Installation
- Maintenance
- Repair
- Accessories and tooling



### Cable Assemblies

The following list includes cable assemblies that are stocked at LEMO USA. All LEMO cable assemblies consist of stainless steel LEMO connectors mounted to the cable of your choice and are fully tested to the highest standards to ensure reliable connectivity and dependable operation in the field for rugged conditions.

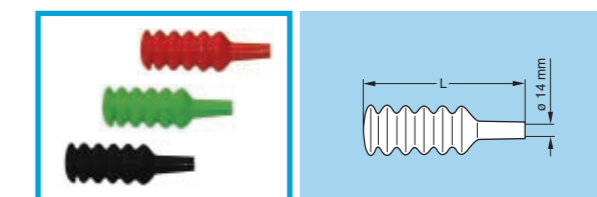
Part Number	Description
USCF01653.100M	FUW-PUW3K93C 100M
USCF01653.10M	FUW-PUW3K93C 10M
USCF01653.150M	FUW-PUW3K93C 150M
USCF01653.25M	FUW-PUW3K93C 25M
USCF01653.300M	FUW-PUW3K93C 300M
USCF01653.50M	FUW-PUW3K93C 50M
USCF01654.100FT	FUW-PUW3K93C 100FT
USCF01654.10FT	FUW-PUW3K93C 10FT
USCF01654.150FT	FUW-PUW3K93C 150FT
USCF01654.25FT	FUW-PUW3K93C 25FT
USCF01654.300FT	FUW-PUW3K93C 300FT
USCF01654.50FT	FUW-PUW3K93C 50FT

Other lengths available on request.

### Handling

Cables are supplied on wooden drums (except short lengths which are coiled) unless otherwise requested. Various reel sizes, drums and stands are also available, details available upon request.

Gaiters for additional protection are available for in-line plug (male) and receptacle (female) connectors. Various colors are available to help track cables.



Part Number	Color	Dimension L (mm)	For connector model
GMP3K.140.165PER	red	165	PUW
GMP3K.140.165PEN	black	165	PUW
GMP3K.140.156PEV	green	156	FUW
GMP3K.140.156PEN	black	156	FUW

Material: PVC

