



SMPTE Fiber Camera Cable

Partners in Broadcast, Telecom & Satellite Solutions

Featuring LEMO Cable & LEMO Connectors

SMPTE 311M Fiber Camera Cable

This composite cable integrates power line for TV camera, control line and optical fiber for video and audio transmission. The cable is standardized by SMPTE as a cable for TV camera.



Quality Built

- Test results supplied with each cable
- Epoxy and Polish Lemo F2 fiber contacts
- Connectors include bend relief & blanking cap (where applicable)

Highest Performance with LEMO F2 Fiber Contact

The advantage of using epoxy and polish contacts is the reliability of the termination and longevity of the connector to assure a quality signal transmission. These contacts are very robust and can withstand wide outdoor temperature variations.



Model Number

ASF - - - - -

Cable End A

FUW	FUW.3K.93C.TLKC96
PUW	PUW.3K.93C.TLKC96
FMW	FMW.3K.93C.TLKC96Z
PBW	PBW.3K.93C.TLKC96Z

Cable End B

FUW	FUW.3K.93C.TLKC96
PUW	PUW.3K.93C.TLKC96
FMW	FMW.3K.93C.TLKC96Z
PBW	PBW.3K.93C.TLKC96Z

Cable Length

xxxM	Length in Metres
xxxF	Length in Feet

Cable Type: *specifications pages 2 & 3*

1L	LEMO CFN.3K.93C.092PNCS, <i>see page 2</i>
2L	LEMO CFN.3K.93C.092UNCS, <i>see page 2</i>
1F	Furukawa TV-OM-AMS, <i>see page 3</i>



FUW
Straight Cable Plug / Male



FMW
Panel-mount Plug, round flange / Male



PUW
Straight Cable Jack / Female



PBW
Panel-mount Receptacle, square flange / Female

*For requirements not shown, contact AVP

In the interest of improved design and performance, AVP reserves the right to make changes in its specifications without prior notice. Copyright © 2016 AVP MFG & Supply Inc.



AVP MFG & SUPPLY INC

toll free: 1-800-481-2493 USA & Canada
tel: 519-740-7966 • fax: 519-740-0131 • email: sales@jackfields.com

Audio / Video / Digital Jackfields • www.jackfields.com



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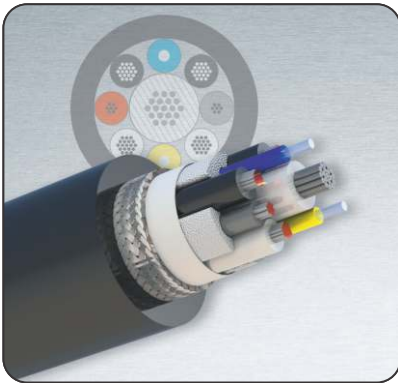
Featuring LEMO Cable

LEMO™ Northwire™ hybrid camera cable according to SMPTE 311 standards

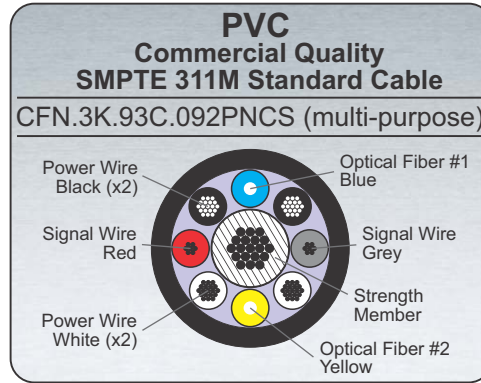
These composite cables combine power conductors for TV camera, control wires, and optical fibres for video and audio transmission in a single cable. Specially designed to cope with the heavy demands of outside broadcast. The cable fully meets the requirements of the SMPTE 311M standard for camera cables.

Primary features and benefits of this cable are:

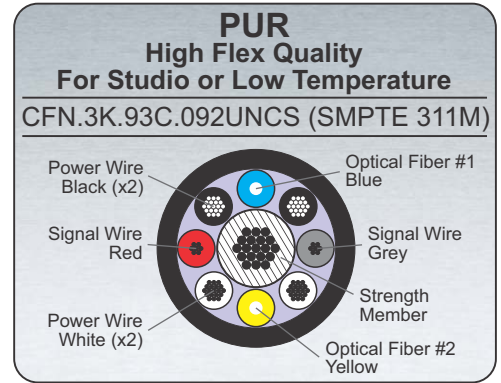
- High durability construction
- Excellent flexing and twist capability coping with rough handling by rigging crews
- Superior load bearing capabilities – can be driven over by trucks whilst in operation
- High tensile strength



Cable Type: 1L



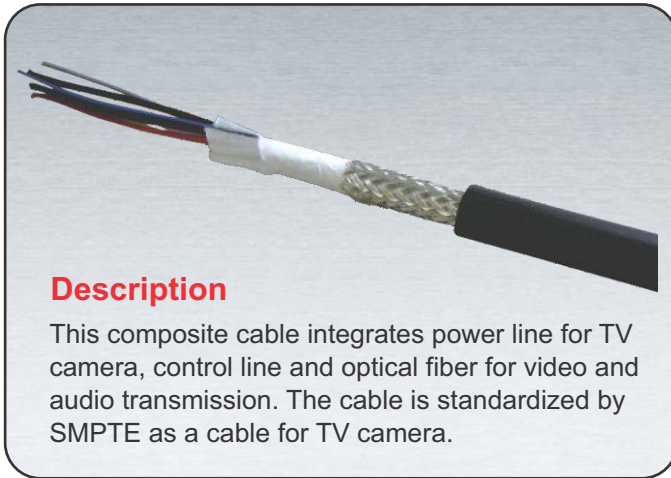
Cable Type: 2L



Core Type	Power (Aux)	Control (Signal)	Optic Fibre	Strength Member
Number of cores	4	2	2	1
Conductor sizes - AWG	20	24	–	–
Conductor construction - Number/mm	19/0.185	7/0.193	–	19/0.330
Mode field diameter - μm	–	–	8.9 ± 0.8 at 1310	–
Cladding diameter - μm	–	–	$125 \pm 1 \mu\text{m}$	–
Approx. diameter of conductor - mm	0.88	0.58	–	1.75
Nominal insulation thickness - mm	0.41	0.30	–	0.38
Approx. core diameter - mm	1.72	1.22	0.9	2.51
Approx. thickness of tin-coated annealed copper braid - mm	0.127			
Nominal thickness of jacket - mm	1.14			
Approx. overall diameter - mm	9.2			
Approx. net weight - g/m ⁷	137			
Max. conductor resistance - (20°C) Ω/km	43	184 (SMPTE)	–	–
AC withstanding voltage - Vrms at 60 Hz, 1 min	1750	1750 (SMPTE)	–	–
Min. insulation resistance - (20°) M Ω/km	10'000	10'000	–	–
UL Listing	AWM STYLE 21971			
Allowable tension	700N			
Temperature range (PUR version)	-40°C / +80°C			

Item	Wavelength	Characteristics	Conversion Condition (km)	Conversion Formula
Optical Fibre	$\lambda = 1.31 \mu\text{m}$	Less than .8 dB/km	up to ≥ 0.4	$0.5 \times L \text{ dB} \geq$
Transmission Loss	$\lambda = 1.31 \mu\text{m}$	Less than .8 dB/km	$L < 0.4$	$0.5 \times 0.4 \text{ dB} \geq$

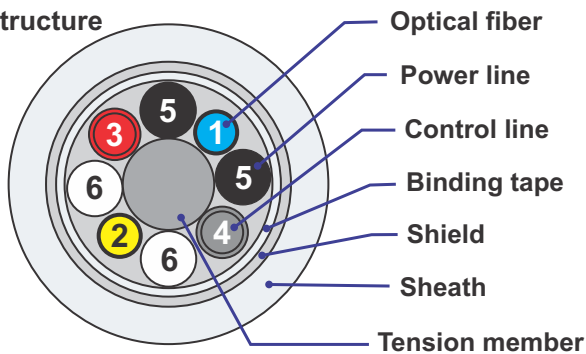
Cable Type: 1F Furukawa TV-OM-AMS



Description

This composite cable integrates power line for TV camera, control line and optical fiber for video and audio transmission. The cable is standardized by SMPTE as a cable for TV camera.

Structure



Applications

Multi-purpose cable: TV-OM-AMS

This cable is suitable for wide applications, such as fixed installation in facilities, relay cable, handy camera cable and patch cable.

Core Number	Core Name	Core Color
1	Optical Fiber	Blue
2		Yellow
3	Control Line	Red
4		Gray
5	Power Line	Black
6		White

*These cables meet SMPTE 311M.
(TV-OM-AMS: AWM21480)



Optical Fiber

Item	Condition	Characteristics	Conversion	
			Condition (km)	Formula
Transmission Loss	$\lambda=1.3\mu\text{m}$	0.5dB/km \geq	$L\geq 0.4$	$0.5 \times L \text{dB} \geq$
			$L\leq 0.4$	$0.5 \times 0.4 \text{dB} \geq$

Item	Description
Type of Fiber	Single-mode silica fiber
Mode Field Diameter	9.5 \pm 1 μm
Clad Diameter	125 \pm 3 μm
Amount of Eccentricity	1 μm or less
Cutoff Wavelength	1.10~1.35 μm
Coated Outside Diameter	0.9 \pm 0.1mm

Power Line

Item	Characteristics
Conductor Resistance	37.5 Ω /km
Insulation Resistance	10,000M Ω ·km
Withstand Voltage	AC2,000V/1min.

Control Line

Item	Characteristics
Conductor Resistance	113 Ω /km
Insulation Resistance	10,000M Ω ·km
Withstand Voltage	AC2,000V/1min.

Cable (integrated)

Item	Type	2SM-9.2-37.5
Optical Fiber Core		See table on left
Power Line	Conductor	Tin-plated soft copper wire strand (21 wire/0.18mm)
	Insulation Thickness	0.4mm nominal
Control Line	Conductor	Tin-plated soft copper wire strand (21 wire/0.18mm)
	Insulation Thickness	0.3mm nominal
Tension Member		Sheathed steel wire, 1.8mm nominal in outside diameter
Core Stranding		Two cores of optical fiber, four cores of power line and two cores of control line are stranded around a tension member
Shield		Tin-plated soft copper wire braid
Sheath (Pb-free)		Abrasion-resistant sheath
Finished Outside Diameter		9.2 \pm 0.3mm nominal
Approximate Mass		120kg/km nominal

Mechanical Characteristics

Item	Characteristics
Allowable Tension	700N
Allowable Bending Radius	Six times the cable outside diameter or larger