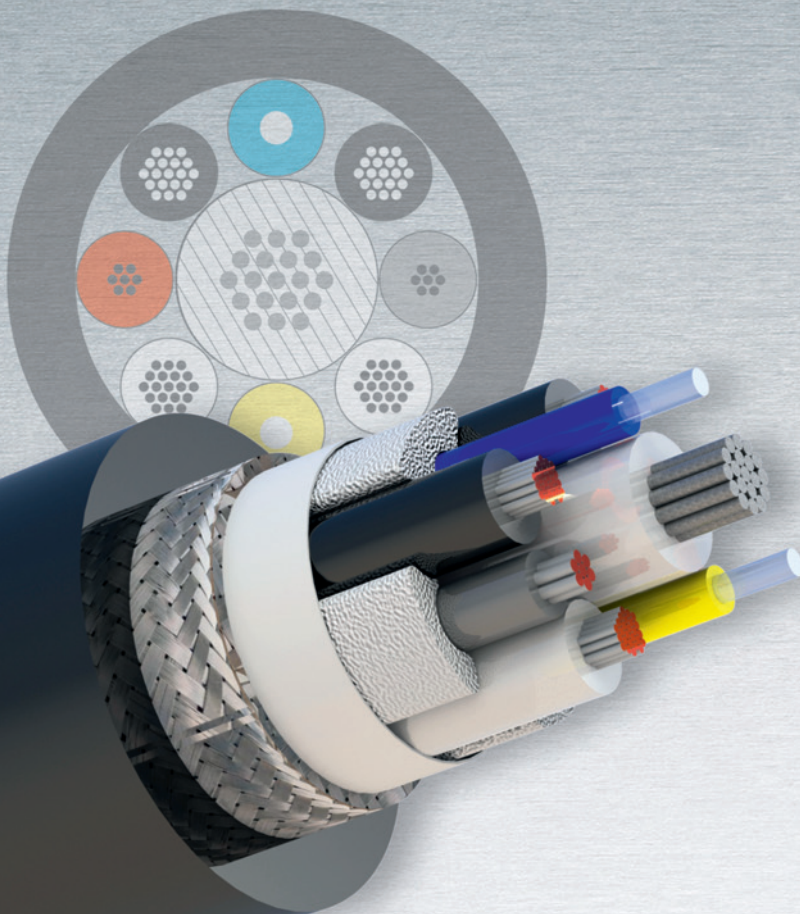


HYBRID SMPTE AND ARIB HDTV CABLES



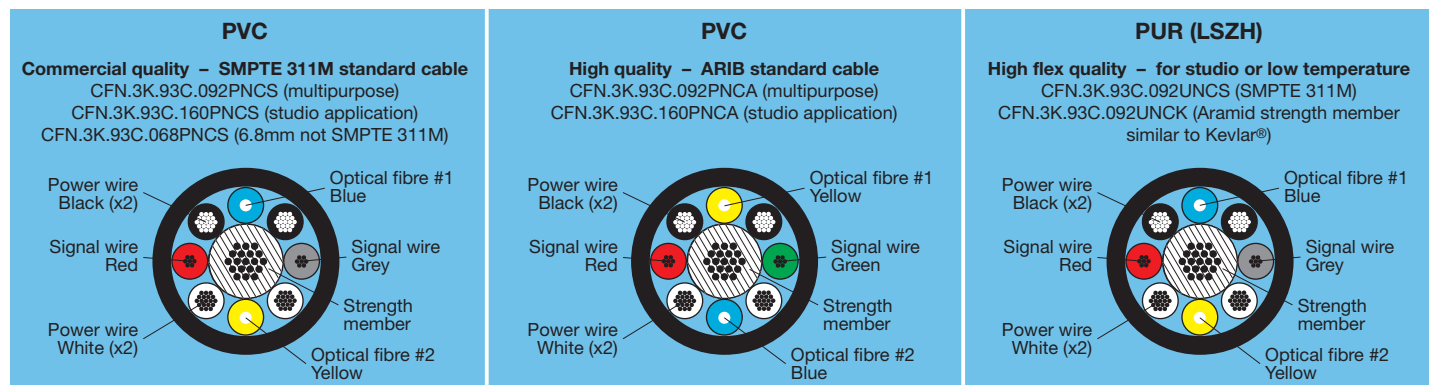
NORTHWIRE™ HDTV cables

NORTHWIRE hybrid camera cable according to SMPTE 311 and ARIB standards

This composite cable combines 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 specification

Core type	Power (Aux)	Control (Signal)	Optic fibre	Strength member
Nb of cores	4	2	2	1
Conductor sizes - AWG	20	24	–	–
Conductor construction - Nb/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/m7	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°) $\text{M}\Omega/\text{km}$	10'000	10'000	–	–
UL Listing	AWM STYLE 21971			
Allowable tension	700N			
Temperature range (PUR version)	-40°C / +80°C			

Optical fibre

Item	Wavelength	Characteristics	Conversion condition (km)	Conversion formula
Transmission loss	$\lambda = 1.31 \mu\text{m}$	Less than .8 dB/km	up to ≥ 0.4	$0.5 \times \text{LdB} \geq$
	$\lambda = 1.31 \mu\text{m}$	Less than .8 dB/km	$L < 0.4$	$0.5 \times 0.4 \text{dB} \geq$

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Cable assembly

Part Number Example

Cable

M F P . 3 K . 9 3 C . A M 0 2 5 N S

Model 1 (table 1)

Model 2 (table 1)

Sheath ø & material
(table 2)

Length unit & gaiters
(table 3)

S = SMPTE 311M
A = ARIB
K = Aramid strength
member similar
to Kevlar®

Cable supplier
& sheath color
(table 4)

Cable length

MFP.3K.93C.AM025NS = 1 FUW plug and 1 PUW socket (key W), 3K.93C series, on a SMPTE 311M screened cable, 25 m length, sheath ø 9.2 mm, black RAL 9005 jacket color, with GMF/GMP bend relief with cap.

Table 1
Model

Model 1 & 2	Code
FUW	F
FMW	M
PUW	P
PEW	E
PBW	B

Table 2
Sheath ø
& material

Sheath ø (mm)	Code	
	PVC	PUR
9.2	A	R
4.2	B	S
6.8	C	T
12.0	D	U
16.0	E	V

Table 3
Length unit
& gaiters

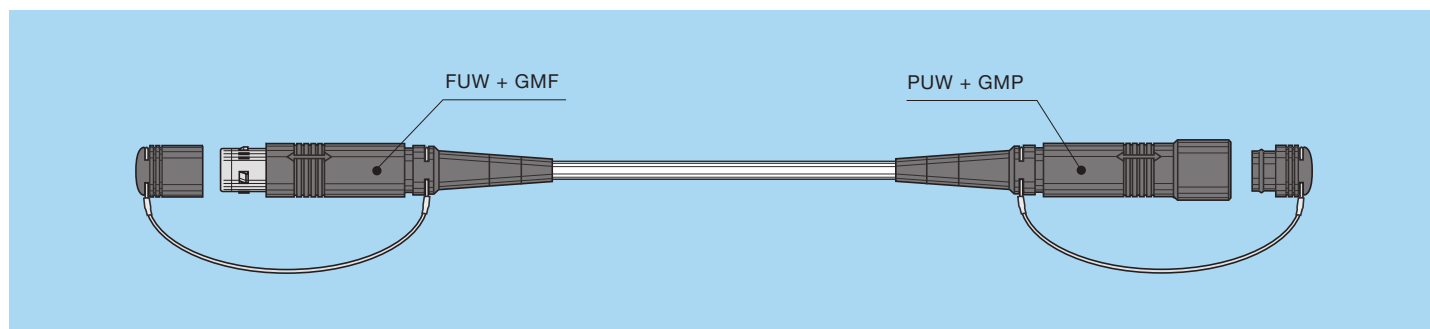
	No Gaiter	Red gaiter free socket Green gaiter plug	2 black gaiters	2 yellow gaiters
cm	C	E		
dm	D	F		
m	M	G	N	J
km	K	L		
inch	I			
feet	T			

Table 4
Cable supplier
& sheath color

Code	Cable supplier & sheath color
N	Northwire Black
G	Northwire Grey
A	Northwire Blue
F	Furukawa Black
B	Belden Black

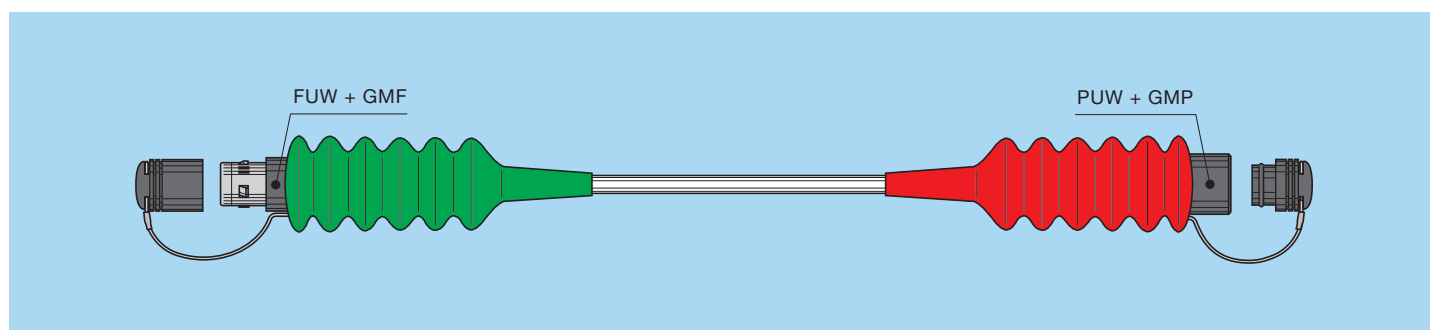
MFP Outside broadcast cable assembly

Assembly cable with one straight plug (FUW) and one straight socket (receptacle) (PUW), both complete with GMF/GMP bend relief with cap.



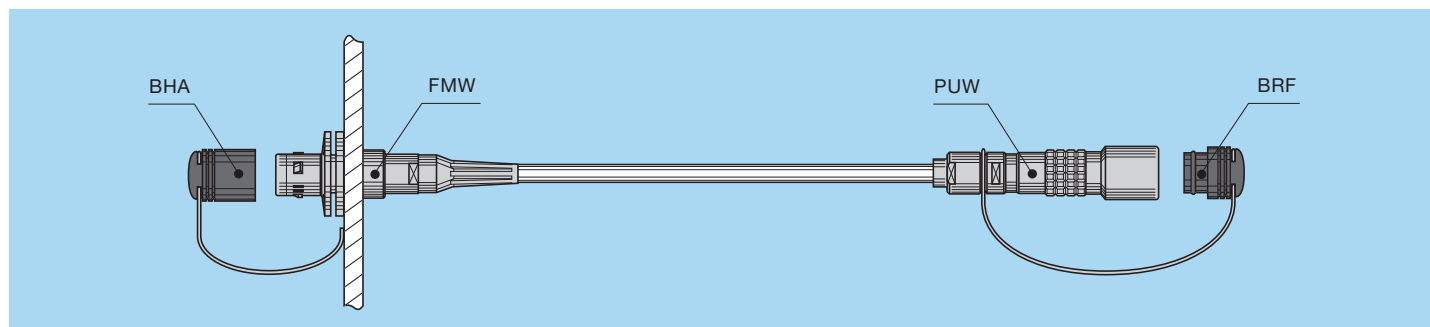
MFP Outside broadcast cable assembly

Assembly cable with one straight plug (FUW) and one straight socket (receptacle) (PUW), both complete with GMF/GMP bend relief with cap and gaiters.



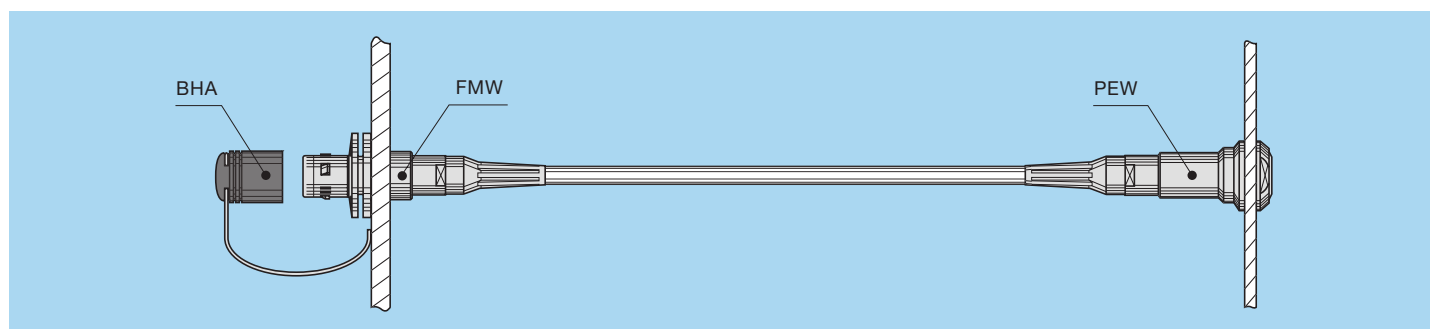
MMP Internal OB van cable assembly

Assembly cable with one fixed plug (FMW) and one straight socket (receptacle) (PUW), both complete with BHA/BRF caps.



MME Studio/Infrastructure cable assembly

Assembly cable with one fixed plug (FMW) and one straight socket (receptacle) (PEW), complete with BHA cap.



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Part Number Example

Pigtails

M	X	T	3	K	9	3	C	Z	Z	Z	C	0	5	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Model
X = FXW
D = EDW

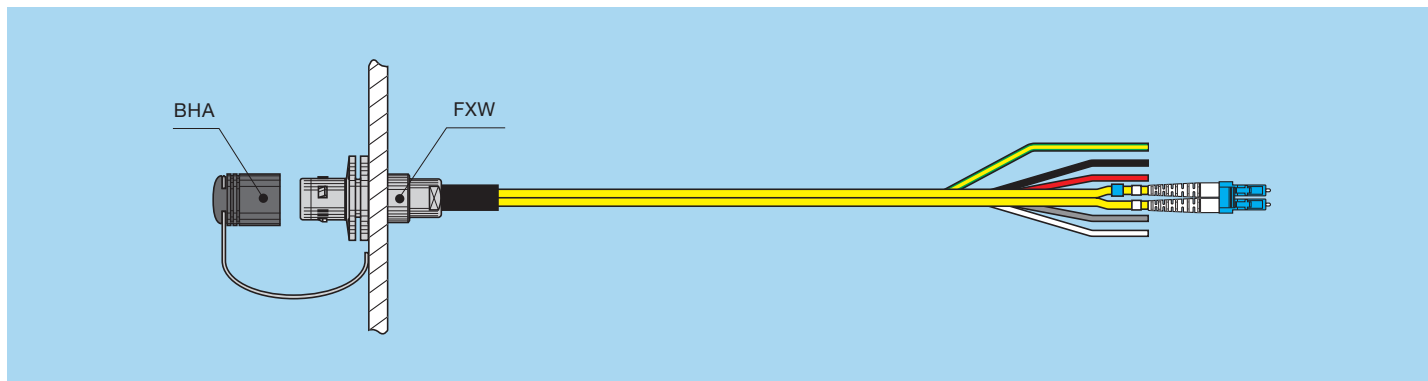
T = Pigtail (LC)

Cable length (cm)

MXT.3K.93C.ZZZC050 = 1 FXW plug (key W), 3K.93C series and one pigtail (LC) on the other side, 50 cm length.

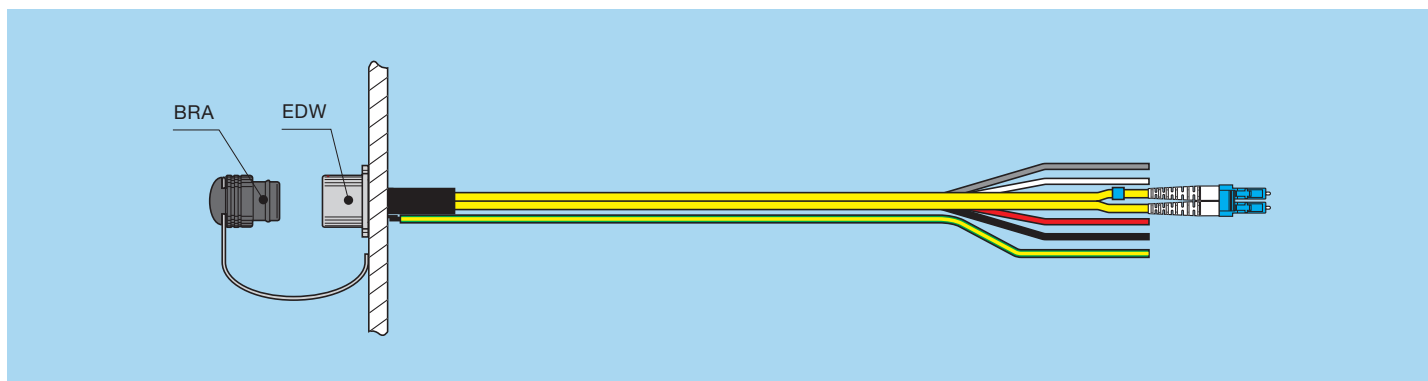
MXT ECU side pigtails

Assembly cable with one fixed plug (FXW) and one pigtail (LC) complete with BHA cap.



MDT Camera side pigtails

Assembly cable with one fixed socket (EDW) and one pigtail (LC) complete with BRA cap.



SMPTE 311M standard cable assemblies

Outside Broadcast FUW-PUW

Part number	Description
MFP.3K.93C.AM025NS	25 meter length
MFP.3K.93C.AM050NS	50 meter length
MFP.3K.93C.AM100NS	100 meter length
MFP.3K.93C.AM200NS	200 meter length
MFP.3K.93C.AM300NS	300 meter length
MFP.3K.93C.AM400NS	400 meter length
MFP.3K.93C.AM500NS	500 meter length

Internal OB van

Part number	Description
MMP.3K.93C.AM003NS	3 meter length
MMP.3K.93C.AM005NS	5 meter length
MMP.3K.93C.AM010NS	10 meter length
MMP.3K.93C.AM015NS	15 meter length
MMP.3K.93C.AM020NS	20 meter length

Studio/Infrastructure

Part number	Description
MME.3K.93C.AM020NS	20 meter length
MME.3K.93C.AM050NS	50 meter length

ARIB standard cable assemblies

Outside Broadcast FUW-PUW

Part number	Description
MFP.3K.93C.AM025NA	25 meter length
MFP.3K.93C.AM050NA	50 meter length
MFP.3K.93C.AM100NA	100 meter length
MFP.3K.93C.AM200NA	200 meter length
MFP.3K.93C.AM300NA	300 meter length
MFP.3K.93C.AM400NA	400 meter length
MFP.3K.93C.AM500NA	500 meter length

Internal OB van

Part number	Description
MMP.3K.93C.AM003NA	3 meter length
MMP.3K.93C.AM005NA	5 meter length
MMP.3K.93C.AM010NA	10 meter length
MMP.3K.93C.AM015NA	15 meter length
MMP.3K.93C.AM020NA	20 meter length

Studio/Infrastructure

Part number	Description
MME.3K.93C.AM020NA	20 meter length
MME.3K.93C.AM050NA	50 meter length

Other cable assemblies, patch cords and pig tails available on request.

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