

# TRIAxIAL CONNECTORS FOR BROADCASTING BBC STANDARD 4M SERIES



## 4M Series (50 $\Omega$ / 75 $\Omega$ ) for video applications

The 4M Series have been especially designed for triaxial video cameras in harsh environments.

These connector models are triaxial and available with either 50  $\Omega$  or 75  $\Omega$  contact. The connector outershell has a mechanical keying to avoid both connector/contact rotation and signal interruption.

Being equipped with a rugged housing, the 4M series have a high index protection of IP66. The 4M.650 (50  $\Omega$  version) has been adopted by the BBC as its standard for studio and outside broadcast cameras.



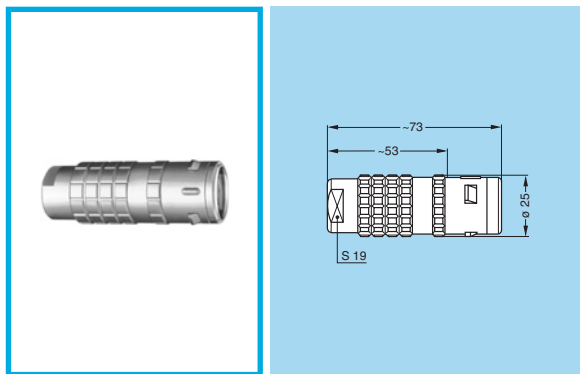
## Technical Characteristics

Characteristics	Triax	
	50 Ω	75 Ω
Impedance	50 Ω	75 Ω
Operating frequency	0.5 GHz	1.2 GHz
VSWR (f= GHz)	1.01 + 0.38 f	1.01 + 0.14 f
Contact resistance	< 2.5 m Ω	< 3 m Ω
Contact resistance internal screen	< 0.5 m Ω	< 1 m Ω
Watertightness (IEC 60529)	IP66	IP66

## Recommended cables

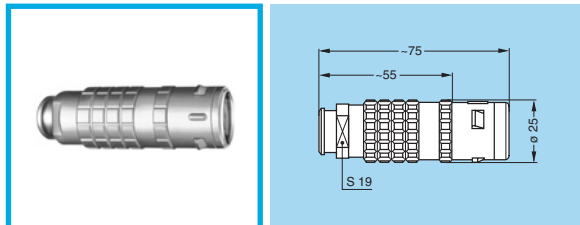
Reference	Basic coaxial cable	Imp. (Ω)	Cable groupe
Amphenol 21.204		50±2Ω	2
Belden 8232A	RG.59/U	75±3Ω	3
Belden 8233A	RG.11/U	75±3Ω	7
Belden 9222	RG.58A/U	50±2Ω	1
Belden 9192-9232	RG.11/U	75±3Ω	9
Belden 9267	RG.59/U	75±3Ω	4
Belden 9888	RG.8/U	50±2Ω	8
Dätwyler HF-2318		50±2Ω	5
Dätwyler HF-2426	RG.59/U	75±3Ω	3
Filotex 11820		50±2Ω	2
NEK 63990		75±3Ω	6
NEK 23860		75±3Ω	4
NOKIA Triax 8		75±3Ω	4
NOKIA Triax 11		75±3Ω	6
NOKIA Triax 14		75±3Ω	0

## Models



### FGG Straight plug with cable collet

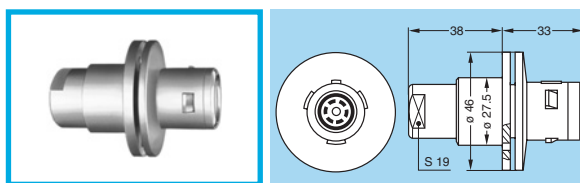
Part Number	Imp. (Ω)	Cable groupe	Cable ø	
			Max	Min
FGG.4M.650.CTLC65	50	1	6.5	6.1
FGG.4M.650.CTLC75	50	2	7.5	7.1
FGG.4M.650.CTLC90	50	4	9.0	8.6
FGG.4M.650.CTLC10	50	5	10.5	9.6
FGG.4M.650.CTLC12	50	8	12.8	12.1
FGG.4M.675.CTAC80	75	3	8.0	7.6
FGG.4M.675.CTAC90	75	4	9.0	8.6
FGG.4M.675.CTAC11	75	6	12.0	10.6
FGG.4M.675.CTAC12	75	7	12.8	12.1
FGG.4M.675.CTAC13	75	9	13.5	12.9
FGG.4M.675.CTAC15	75	0	15.0	14.1



### FGG Straight plug, cable collet and nut for fitting a bend relief

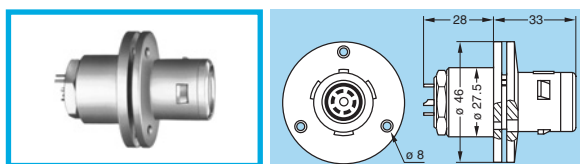
Part Number	Imp. (Ω)	Cable groupe	Cable ø	
			Max	Min
FGG.4M.650.CTLC85Z	50	4	8.5	8.1
FGG.4M.650.CTLC90Z	50	4	9.0	8.6
FGG.4M.650.CTLC11Z	50	6	12.0	10.6
FGG.4M.675.CTAC80Z	75	3	8.0	7.6
FGG.4M.675.CTAC90Z	75	4	9.0	8.6

**Note:** The bend relief must be ordered separately.



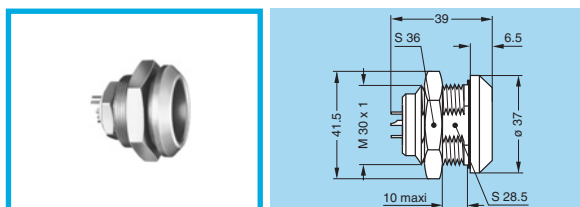
### FBB Fixed plug with round flange (screw fixing)

Part Number	Imp. (Ω)	Weight (g)
FBB.4M.650.CTLC11	50	240
FBB.4M.650.CTLC80	50	240
FBB.4M.650.CTLC85	50	240



### FBD Fixed plug with round flange (screw fixing)

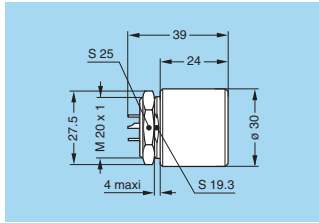
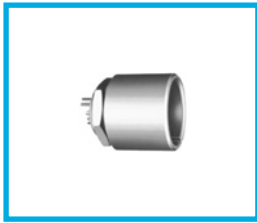
Part Number	Imp. (Ω)	Weight (g)
FBD.4M.650.CTL	50	230
FBD.4M.675.CTA	75	230



### ENG Fixed socket with tag, nut fixing

Part Number	Imp. (Ω)	Weight (g)
ENG.4M.650.CTA	50	100
ENG.4M.675.CTL	75	100

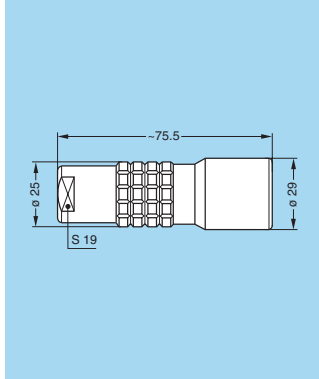
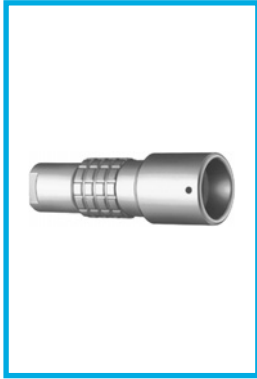
**Note:** all dimensions are in millimetres.



### EHM Fixed socket with tag, visible shell

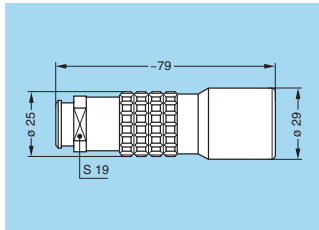
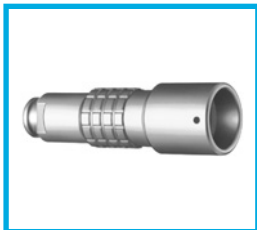
Part Number	Imp. (Ω)	Weight (g)
EHM.4M.650.CTA	50	80
EHM.4M.675.CTL	75	80

Note: all dimensions are in millimetres.



### PHG Straight socket with cable collet

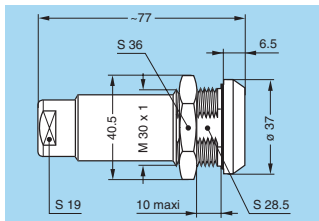
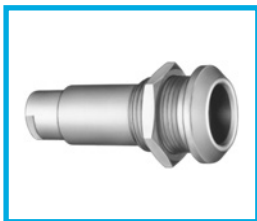
Part Number	Imp. (Ω)	Cable groupe	Cable ø	
			Max	Min
PHG.4M.650.CTAC65	50	1	6.5	6.1
PHG.4M.650.CTAC75	50	2	7.5	7.1
PHG.4M.650.CTAC90	50	4	9.0	8.6
PHG.4M.650.CTAC10	50	5	10.5	9.6
PHG.4M.650.CTAC12	50	8	12.8	12.1
PHG.4M.675.CTLC80	75	3	8.0	7.6
PHG.4M.675.CTLC90	75	4	9.0	8.6
PHG.4M.675.CTLC11	75	6	12.0	10.6
PHG.4M.675.CTLC12	75	7	12.8	12.1
PHG.4M.675.CTLC13	75	9	13.5	12.9
PHG.4M.675.CTLC15	75	0	15.0	14.1



### PHG Straight socket, cable collet and nut for fitting a bend relief

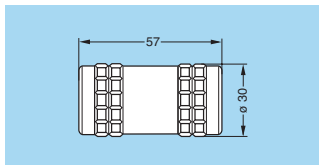
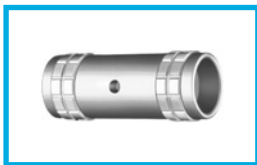
Part Number	Imp. (Ω)	Cable groupe	Cable ø	
			Max	Min
PHG.4M.650.CTAC85Z	50	4	8.5	8.1
PHG.4M.650.CTAC90Z	50	4	9.0	8.6
PHG.4M.650.CTAC11Z	50	6	12.0	10.6
PHG.4M.675.CTLC80Z	75	3	8.0	7.6
PHG.4M.675.CTLC90Z	75	4	9.0	8.6

Note: The bend relief must be ordered separately.



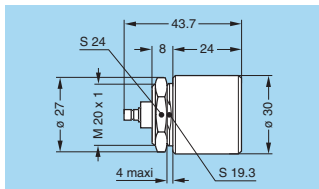
### PKG Fixed socket, nut fixing and cable collet

Part Number	Imp. (Ω)	Cable groupe	Cable ø	
			Max	Min
PKG.4M.650.CTAC11	50	6	12.0	10.6
PKG.4M.650.CTAC14	50	-	14.0	13.6



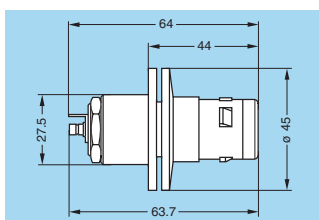
### RMA Straight coupler

Part Number	Imp. (Ω)	Weight (g)
RMA.4M.675.CTM	75	148



### AZA Adapter, nut fixing, consisting of a LEMO socket and a triax SMZ socket

Part Number	Imp. (Ω)	Weight (g)
AZA.4M.650.CTA	50	83



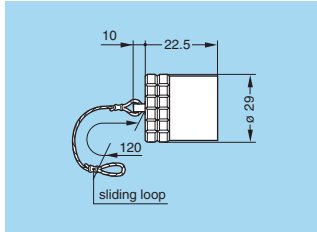
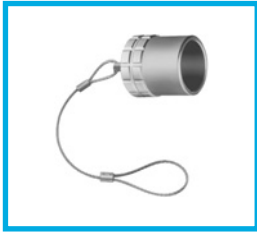
### AZF Adapter, consisting of a LEMO plug with round flange, screw fixing and a triax SMZ socket

Part Number	Imp. (Ω)	Weight (g)
AZF.4M.650.CTL	50	224

Note: all dimensions are in millimetres.



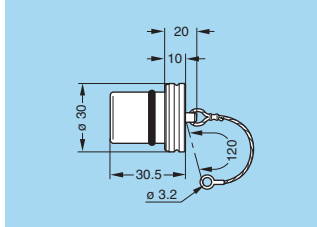
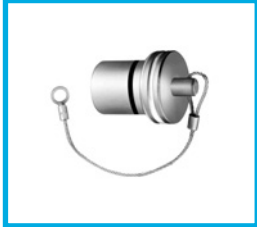
## Accessories



### BFG Plug cap

Part Number	Weight (g)
BFG.4K.100.NAS	37

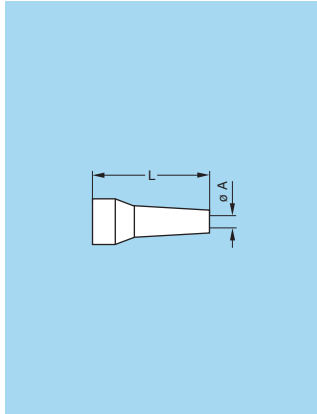
**Note:**  
Body material: Nickel-plated brass (Ni 3µm)  
Lanyard material: Stainless steel  
Watertightness: IP68 according to IEC 60529



### BRE Blanking caps for fixed and free sockets

Part Number	Weight (g)
BRE.4K.200.NAS	51

**Note:**  
Body material: Nickel-plated brass (Ni 3µm)  
Lanyard material: Stainless steel  
Watertightness: IP68 according to IEC 60529



### GMA Bend relief for FGG and PHG models with nut for fitting a bend relief

Part Number	Dimensions (mm)			
	Bend relief		Cable ø	
	A	L	max.	min.
GMA.4B.080.DG	8.0	60	9.0	8.0
GMA.4B.010.DG	10.0	60	10.9	10.0
GMA.4B.011.DG	11.0	60	11.9	11.0
GMA.4B.012.DG	12.0	60	13.0	12.0
GMA.4B.013.DG	13.5	60	14.5	13.5

Ref.	Colour
A	blue
B	white
G	grey

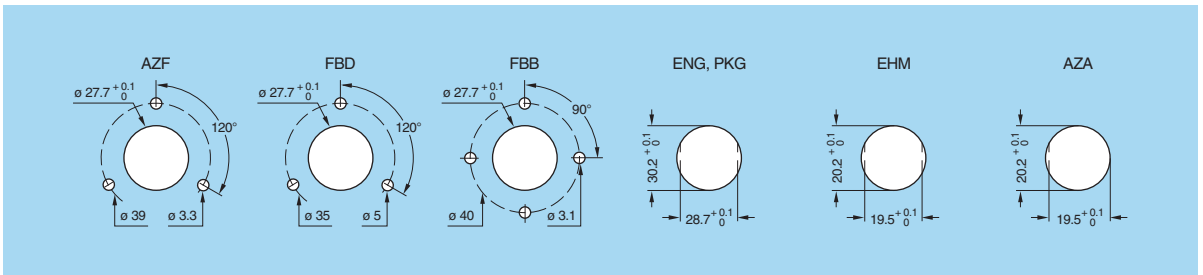
Ref.	Colour
J	yellow
M	brown
N	black

Ref.	Colour
R	red
S	orange
V	green

**Note:**  
Material: Polyurethane elastomer  
Temperature range in dry atmosphere: -40°C +80°C

**Note:** The last letter «G» of the part number indicates the colour grey of the bend relief. For others colour, refer to the above table and replace letter «G» by the letter of the colour required.

## Panel cut-outs



**Note:** all dimensions are in millimetres.

## LEMO HEADQUARTERS

SWITZERLAND  
LEMO SA  
Chemin des Champs-Courbes 28 - P.O. Box 194 - CH-1024 Ecublens  
Tel. (+41 21) 695 16 00 - Fax (+41 21) 695 16 02 - e-mail: info@lemo.com

[www.lemo.com](http://www.lemo.com)