

Amphenol

GCB-M

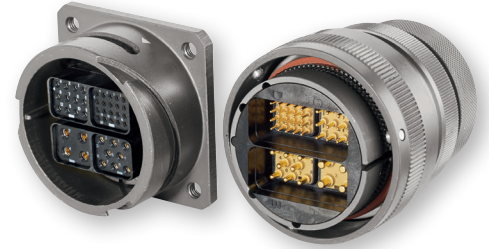
Reverse Bayonet* Modular



*Threaded coupling available on request

GCB-M

These connectors with reverse bayonet coupling are compliant to the VG95234 standard. Offering a high liability, they are coevally waterproof and resistant to vibrations and wear. They use the same installation dimensions as connectors according to MIL-C-5015, however they are provided with reverse bayonet coupling and ondular washer, wish guarantee a fast and effortless locking/unlocking and avoid an unintentional unlatch due to heavy vibrations. Connectors are standardly delivered with grounding finger.



Modules

The modules are made of thermoplastic and overmolded silicon elastomer.

The modules include a polarization system in addition, the modules meet the standards of EN4165 and VG96513. There are two types of modules:

- Pin modules for pin contacts **P**
- Socket modules for socket contacts **S**

Modules are inserted by rear of receptacles and plugs, can be manually inserted in the shell cavities, but have to be extracted with a specific tool.

Contacts

P pin and **S** socket crimp contacts are complying with SAE-AS39029 and EN3155 standards (most popular contacts worldwide), and available from 23 to 8. Contacts are inserted through the rear elastomer surface. In the grommet are three elastic barriers ensuring excellent sealing onto the cable. On the mating side, sealing is ensured by the overmolded elastomer on the pin modules.

Material: Copper alloy

Plating: Gold over nickel

Contacts retention in insulator:

# Contacts AWG	23	22	20MIL	20ASNE	16	12	8
N	45		89	60	110	133	156

Insulation resistance: \geq to 5000 M Ω

Max insulation resistance in altitude: \geq to 1000 M Ω

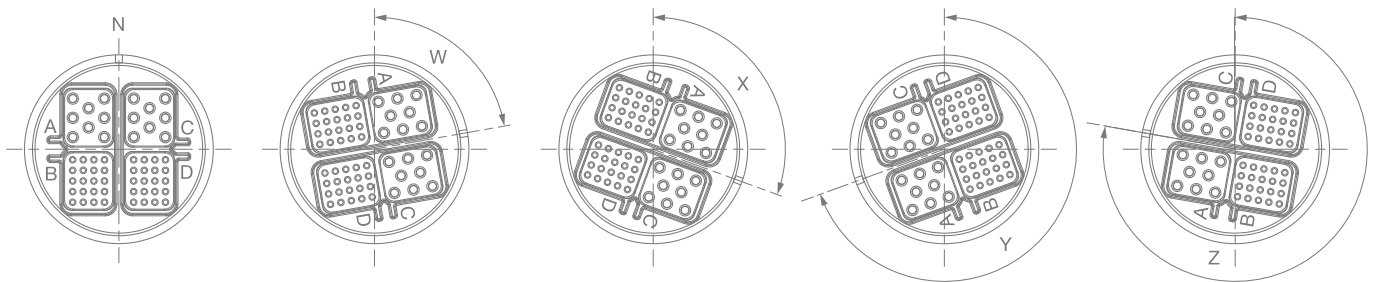
# Contacts AWG	23	22	20	16	12	8	8
Withstanding voltage	1500V eff. 50 Hz		1800V eff. 50 Hz				
Max. Current Rating (A)	5		7,5	13	23	46	80

Mechanical properties

- Operating temperature: -55°C +125°C continuously
- Endurance: 500 full mating and unmating cycles
- Vibrations: Sinusoidal and random frequency from 10 to 2000 Hz, acceleration 20 g
- IP code: All backshells with grommet are IP 67 (only if all cavities are used). For connectors with PG- or metrical backshell, the IP code depends on the IP code of the adapter which will be used.
- Protection: Contacts are scoop proofed

Angular position of the contact insert

The angular positions W, X, Y and Z are used when polarisation is required for connectors of the same size and same number of poles. The following figures show the view on the front face of the pin insert or the termination face of the socket insert.



Angular position of the contact inserts in degrees				
N	W	X	Y	Z
0	30	60	270	315

GCB

06

T

32-4M

N

- F1

Series

- 00 – Wall mount receptacle with backshell
- 01 – Cable connecting plug with backshell
- 02 – Box mounting receptacle (no backshell available)
- 06 – Plug, straight
- 08 – Plug, 90°

Backshell

- E – With cable clamp and bushing
- T – For heatshrink adapter
- TG – For heatshrink and grounding finger
- F – For flex tube
- FG – For flex tube and grounding finger
- M – For shielding braids and heatshrink

Shell size – contact arrangement

32-4M

Angular insert position

N; W; X; Y; Z

Finish

Ommit – Olive drap cadmium

RoHS compliant	F1 – Nickel
	F2 – Black greenish zinc cobalt **
	F3 – Green zinc cobalt **
	F4 – Electroplated black non conductive **
	F5 – Black zinc nickel **
	F6 – Marine bronze
	F8 – Zinc-tin** (according to VG96955 Version J)

Modification*

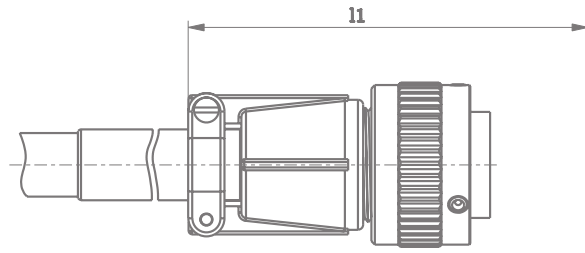
- T1 – front panel mounting
- T2 – receptacle with 4 threaded holes

* only for serie 02; 00

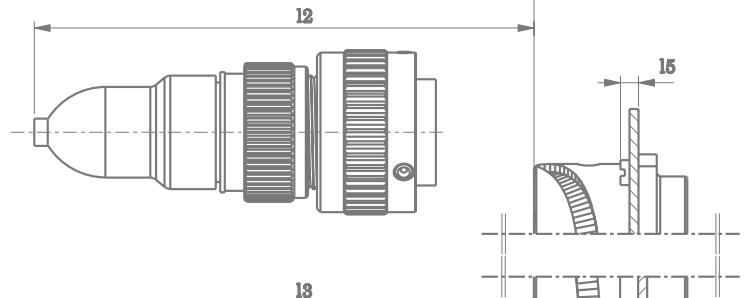
** on request

Modules for this connector must be ordered separately.

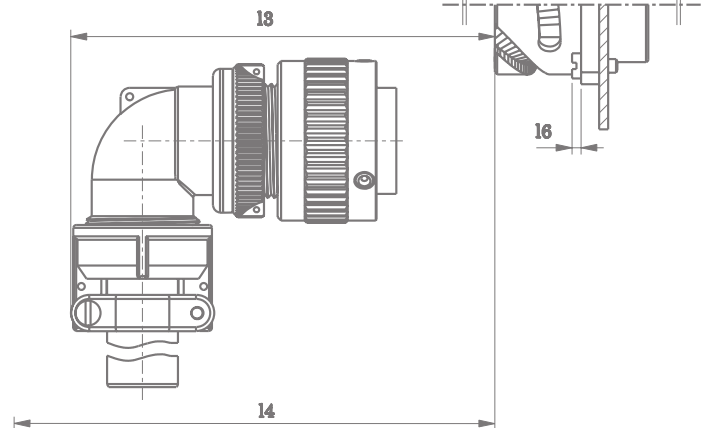
Connector type
E



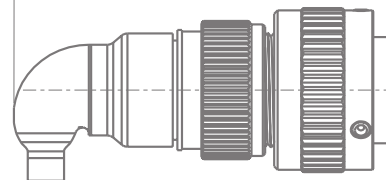
Connector type
M, N, T



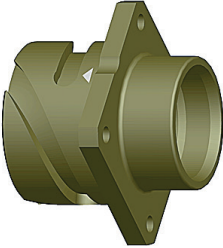
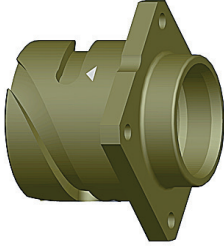
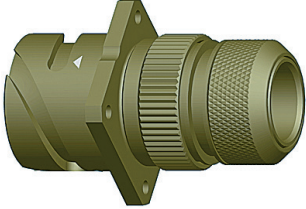
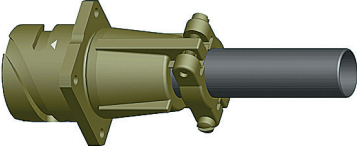
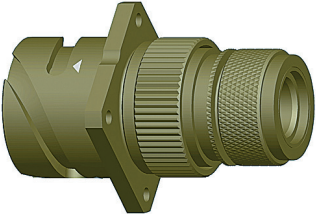
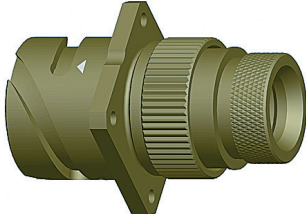
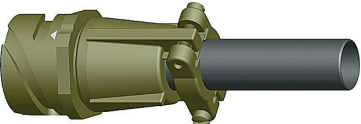
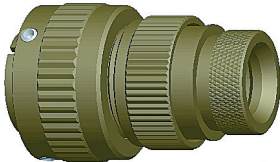
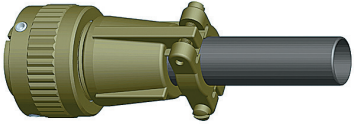

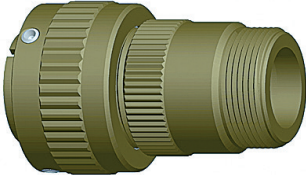
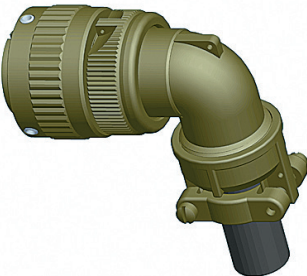
Connector type
E, E1

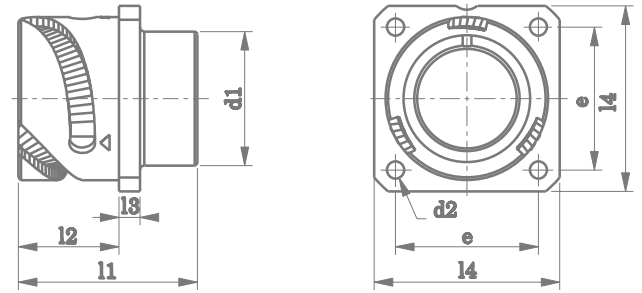
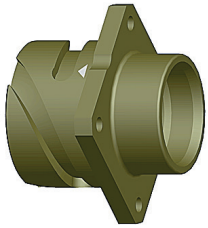


Connector type
M, N, T



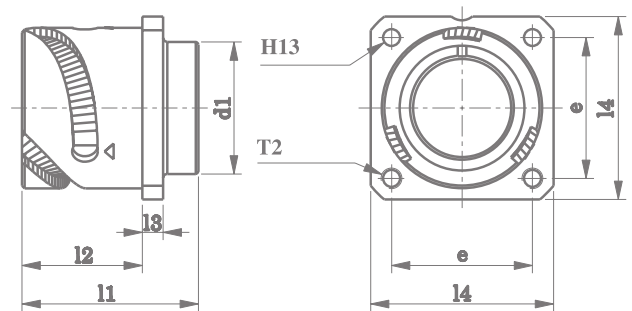
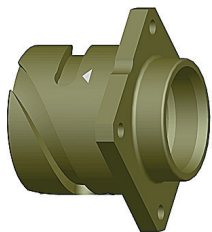
Shell size	l_1 min.	l_2 min.	l_3 min.	l_4 min.	l_5 max.	l_6 max.
32	110	180	115	120	9	6

GCB02-32-4M-T1	GCB02-32-4M-T2	GCB00M32-4M-T2
		
GCB00E32-4M-T2	GCB00N32-4M-T2	GCB00T32-4M-T2
		
GCB01E32-4M	GCB06TG32-4M	GCB06E32-4M
		
GCB06M32-4M	GCB06FG32-4M	GCB08E32-4M / GCB08E132-4M
		



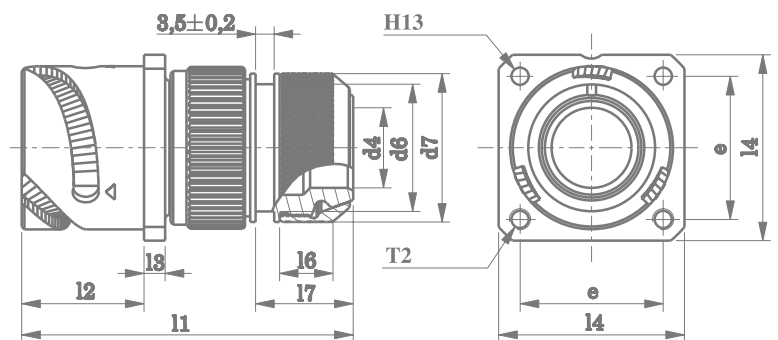
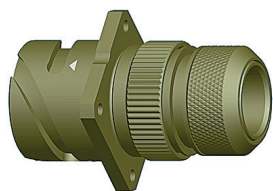
Fixed connector with mounting flange for front panel mounting

Shell size	d ₁ max.	d ₂ H13	e ±0,1	l ₁ ±0,3	l ₂ +0,4	l ₃ ±0,2	l ₄ ±0,3	Mass g max.
32	47,8	4,3	44,5	33,8	22,2	4,0	57,0	64



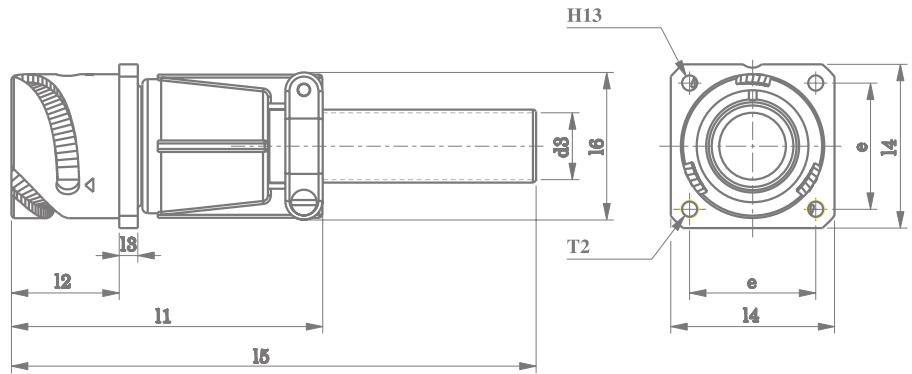
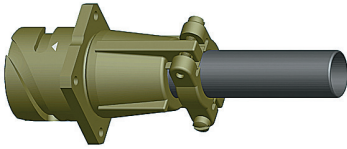
Fixed connector with mounting flange for back panel mounting. Form T2 with 4 threaded holes or with 4 entry holes.

Shell size	d ₁ max.	d ₂		e ±0,1	l ₁ ±0,3	l ₂ +0,4	l ₃ ±0,2	l ₄ ±0,3	Mass g max.
		Form T2	H13						
32	47,8	M5	4,3	44,5	33,8	24,1	4,0	57,0	72



Fixed connector with mounting flange and backshell for mounting of shielding braids by pressing with a nut and heat shrinkable endshells. Form T2 with 4 threaded holes or with 4 entry holes.

Shell size	d ₂		d ₄ max.	d ₆ max.	d ₇ +0,5	e ±0,1	l ₁ max.	l ₂ +0,4	l ₃ ±0,2	l ₄ ±0,3	l ₆ +2	l ₇ +1	Mass g max.
	Form T2	H13											
32	M5	4,3	33,3	44,0	48,0	44,5	75,0	24,1	4,0	57,0	10,0	18,0	

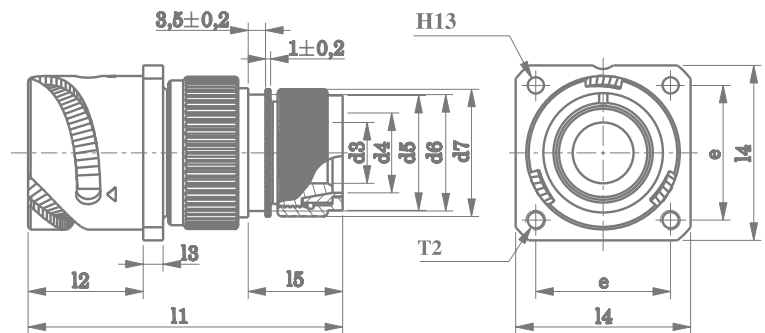
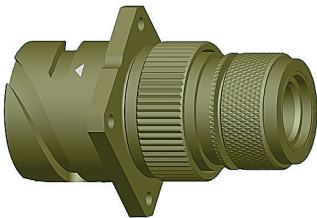


Fixed connector, with mounting flange, cable clamp and bushing. Form T2 with 4 threaded holes or with 4 entry holes.

Shell size	d_2		d_3 max.	e $\pm 0,1$	l_1 max.	l_2 $+0,4$	l_3 $\pm 0,2$	l_4 $\pm 0,3$	l_5 max.	l_6 max.	Mass g max.
	Form T2	H13									
32	M5	4,3	26,7	44,5	85,0	24,1	4,0	57,0	125,0	55,0	205

GCB00N32-4M-T2

Receptacle mounting flange, shielding braids an heat shrink

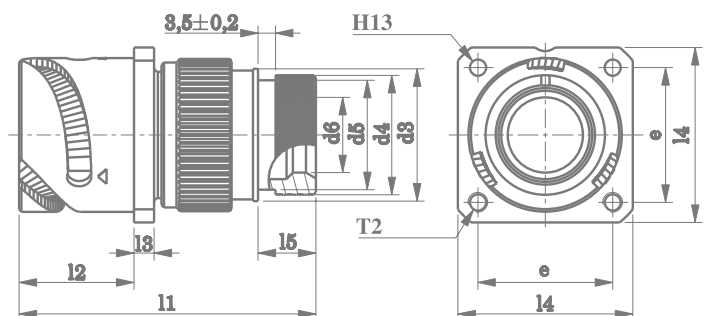
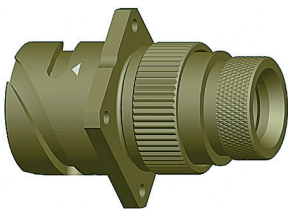


Fixed connector with mounting flange and backshell for mounting of shielding braids by pressing with a nut and for heat shrinkable endshells. Form T2 with 4 threaded holes or with 4 entry holes

Shell size	d_2		d_3 $\pm 0,2$	d_4 $+0,4$	d_5	d_6 $\pm 0,3$	d_7 $\pm 0,3$	e $\pm 0,1$	l_1 max.	l_2 $+0,4$	l_3 $\pm 0,2$	l_4 $\pm 0,3$	l_5 max.	Mass g max.
	Form T2	H13												
32	M5	4,3	21,0	26,5	M35x1	37,5	41,5	44,5	81,0	24,1	4,0	57,0	26,0	195

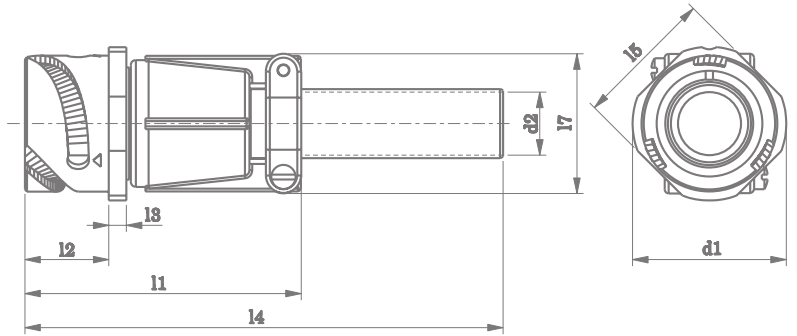
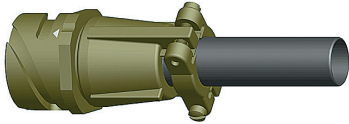
GCB00T32-4M-T2

Receptacle mounting flange, heat shrink



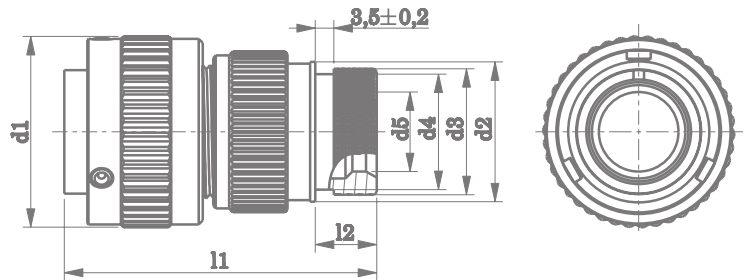
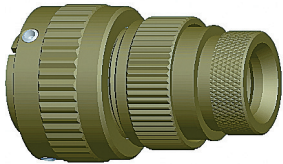
Fixed connector with mounting flange and backshell for heat shrinkable endshells. Form T2 with 4 threaded holes or with 4 entry holes.

Shell size	d_2		d_3 $+0,2$	d_4 $+0,2$	d_5 max.	d_6 min.	e $\pm 0,1$	l_1 max.	l_2 $+0,4$	l_3 $\pm 0,2$	l_4 $\pm 0,3$	l_5 $\pm 0,5$	Mass g max.
	Form T2	H13											
32	M5	4,3	48,6	47,8	43,6	33,3	44,5	75,0	24,1	4,0	57,0	15,2	188



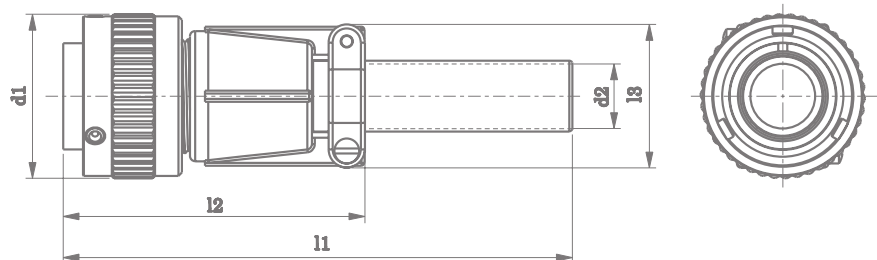
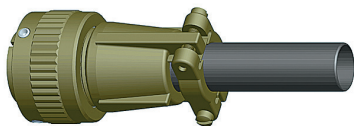
Inline receptacle, straight type, backshell with cable clamp and bushing.

Shell size	d ₁ max.	d ₂ ⁽²⁾ max.	l ₁ max.	l ₂ +0,4	l ₃ ±0,2	l ₄ max.	l ₅ ±0,2	l ₇ max.	Mass g max.
32	57,1	26,7	85,0	22,2	4,0	125,0	54,0	55,0	205



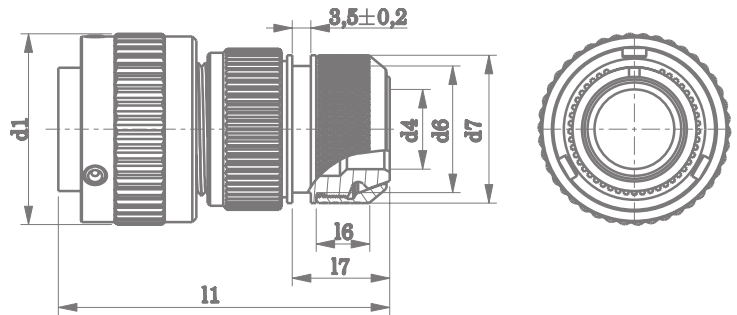
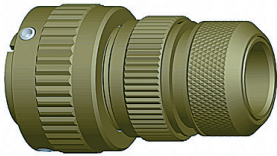
TG – Free connector, straight type with grounding fingers and backshell for heat shrinkable endshells.

Shell size	d ₁ max.	d ₂ ±0,2	d ₃ ±0,2	d ₄ max.	d ₅ min.	l ₁ max.	l ₂ ±0,5	Mass g max.
32	60,1	48,6	47,8	43,6	33,3	70,0	15,2	



Free connector, straight type, backshell with cable clamp and bushing.

Shell size	d ₁ max.	d ₂ max.	l ₁ max.	l ₂ max.	l ₃ max.	Mass g max.
32	60,1	26,7	120,0	90,0	55,0	199

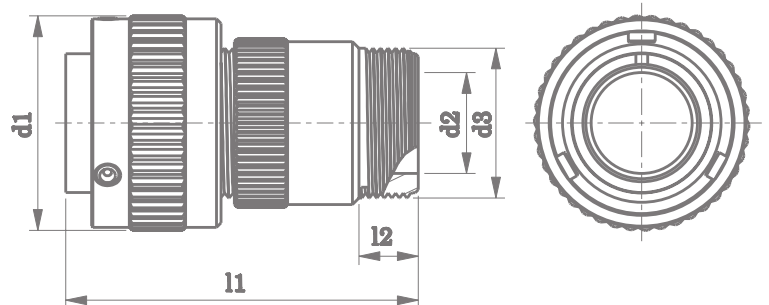
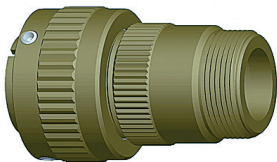


Free connector, straight type with grounding fingers and backshell for shielding and heat shrinkable endshells.

Shell size	d ₁ max.	d ₄ min.	d ₆ max.	d ₇ ±0,5	l ₁ max.	l ₆ +2	l ₇ +1	Mass g max.
32	60,1	33,3	44,0	48,0	70,0	10,0	18,0	170

GCB06FG32-4M

Plug, conduit termination / with grounding finger

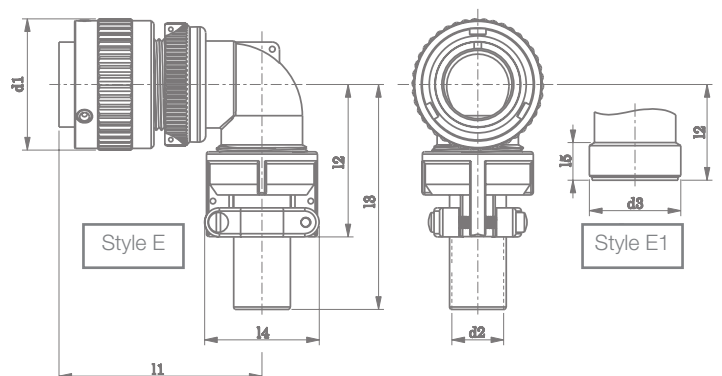
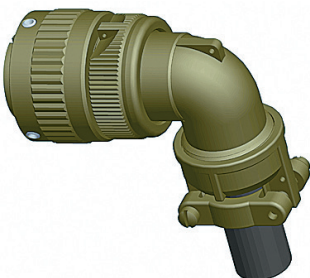


FG – Free connector, straight type with grounding fingers and backshell for conduit termination.

Shell size	d ₁ max.	d ₂ min.	d ₃ Class 2A	l ₁ max.	l ₂ max.	Mass g max.
32	60,1	32,5	1 3/4-18UNS	79	26	175

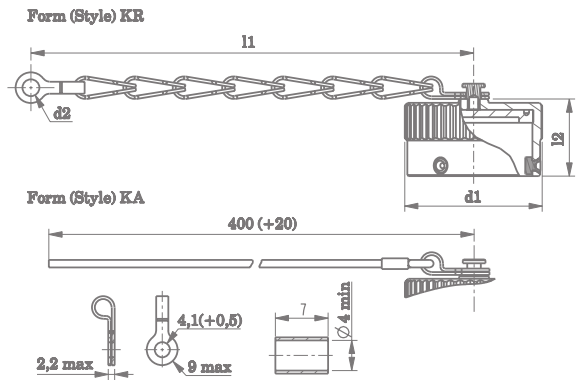
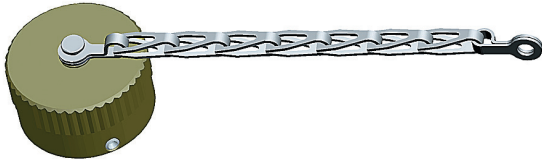
GCB08E32-4M / GCB08E132-4M

Plug 90°, cable clamp with bushing

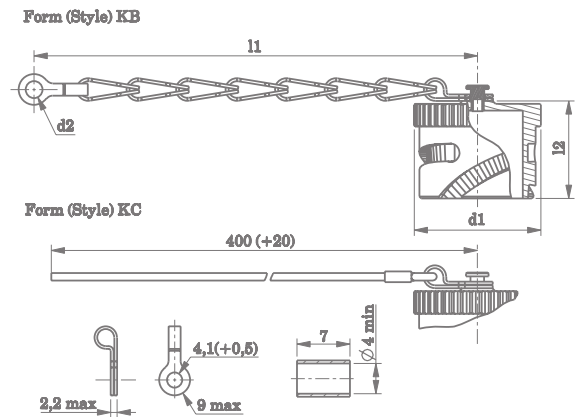
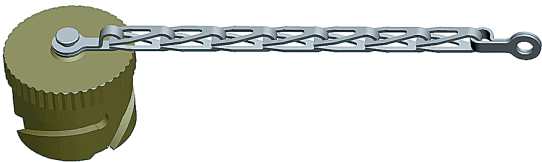


Free connector, angular type.
Style E with cable clamp and bushing or style E1 for conduit termination, without cable clamp.

Shell size	d ₁ max.	d ₂ max.	d ₃ Class 2A	l ₁ max.	l ₂ max.		l ₃ max.	l ₄ max.	l ₅ min.	Mass g max.	
					E	E1				E	E1
32	60,1	26,7	1 3/4-18UNS	72	66	45	110	55	11	245	160



Shell size	d ₁ max.	d ₂ +0,6	l ₁ max.	l ₂ max.	Mass g max.
32	61,0	5,5	160	25	48



Shell size	d ₁ Class 2B	d ₂ max.	d ₃ +0,6	l ₁ max.	l ₂ max.
32	2 -18UNS	56,3	5,5	160	12,7

Caption

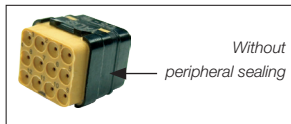
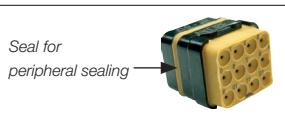


Green module = High contact density



Purple modules are designed for ASNE contacts

Pin rear view	Pin front view	Layout	Pin module	Socket module
		Rigid protective cap	SIM 201	
		30 contacts size 23	SIM Q 3023 P Q	SIM Q 3023 S Q
		20 contacts size 22	SIM Q 2022 P Q	SIM Q 2022 S Q
		12 contacts size 20	SIM Q 1220 P Q	SIM Q 1220 S Q
		8 contacts size 16	SIM Q 0816 P Q	SIM Q 0816 S Q
		4 contacts size 12	SIM Q 0412 P Q	SIM Q 0412 S Q
		1 contact size 8	SIM Q 0108 P Q	SIM Q 0108 S Q
		1 quadrax contact anti-rotate on polarizer side	SIM Q 0118 P Q	SIM Q 0118 S Q
		1 quadrax contact anti-rotate on polarizer opposite side	SIM Q 0128 P Q	SIM Q 0128 S Q
		5 contacts size 22 & 6 contacts size 16	SIM Q 9901 P Q	SIM Q 9901 S Q
		6 contacts size 22 & 3 contacts size 20	SIM Q 0936 P Q	SIM Q 0936 S Q
		8 contacts size 20 & 2 contacts size 16	SIM Q 0910 P Q	SIM Q 0910 S Q
		12 contacts size 20	SIM Q 0912 P Q	SIM Q 0912 S Q
		SIM RJ45 Ethernet: <i>Metallized</i> <i>Not metallized</i>	SIM M D 0145 P N SIM M N 0145 P N	SIM M D 0145 S N SIM M N 0145 S N
		Sealing module	SIM Q L0000 P N	/

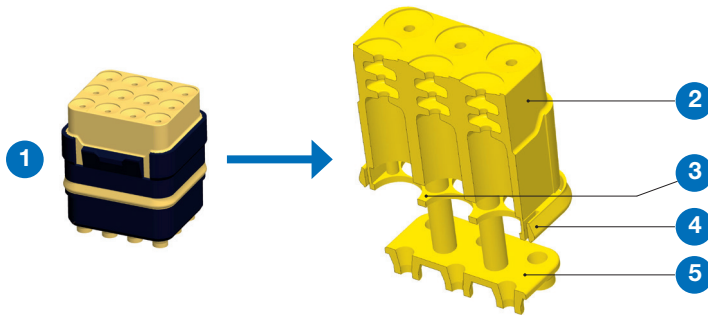


Peripheral sealing
E: Sealed
M: Not Sealed

Amphenol-Air LB SIM design a broad rang of overmolded modules to optimize the sealing (with or without peripheral sealing) and improve the withstanding voltage.

Modules are designed to use contacts to crimp, according to the SAE-AS39029 and EN3155 standards.

Modules polarization is available thanks to a specific design using slot inside each cavity of the connectors (see white frame on pictures):



Caption:
 1 – Module
 2 – Grommet
 3 – Intercavity seal
 4 – Peripheral seal
 5 – Interfacial seal

A module polarization	B module polarization	C module polarization	D module polarization	N «neutral» module polarization

Modules for straight or angled PCB contacts are also available.

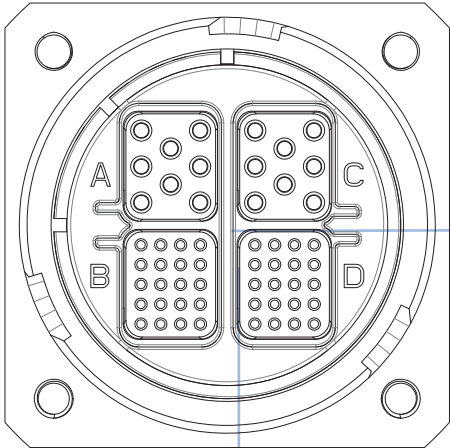
Amphenol-Air LB has designed 3 versions of specific modules for fiber optic termini, modules for high density (size 23) and modules for RJ45 Ethernet insert.

Part Number System

	SIM	M	0412	P	N
Sealing					
M – without peripheral sealing					
E – with peripheral sealing					
Contact layout					
(see page 10)					
Contacts					
P – Pin					
S – Socket					
Polarization					
N; A; B; C; D					
Options (contacts see page 14/15)					
no suffix – without contacts					
C – with crimp contacts					

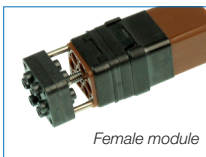
other P/N please contact us

Electrical system is printed on the grommet.
These modules are only available in male version.



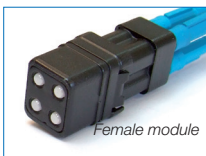
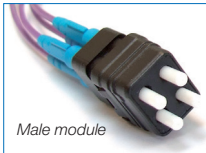
Male module	Drawing	Layout	Peripheral sealing
		20 contacts size 22 [5 x 4] shunted contacts	SIM EZ 2022 P Q
		20 contacts size 22 [3 x 4] + [4 x 2] shunted contacts	SIM EZ 2A22 P Q
		20 contacts size 22 [10 x 2] shunted contacts	SIM EZ 2B22 P Q
		8 contacts size 16 [1 x 3] + [1 x 2] shunted contacts	SIM EZ 0816 P Q

Luxcis® and Amphelux® (ARINC 801) Module standard: ENxxxx in progress
Contact standard: EN4639-10x



Amphelux® and Luxcis® modules	
Male	Female
SIM Q O 06LU P Q	SIM Q O 06LU S Q
Peripheral sealing E: Sealed M: Not Sealed	
Polarization	

Technical Data	Multimode (PC)	Singlemode (UPC)	Singlemode (APC)
IL	0,10 dB typical	0,15 dB typical	0,20 dB typical
IL deviation	0,07 dB	0,10 dB	0,12 dB
RL	> 20 dB	> 50 dB	> 60 dB
VRT	-65 to +125°C		
Module endurance	500 full mating/unmating cycles		/



Elio® and Lumière Module standard: EN4701 Contact standard: EN4531-101

Contacts are inserted / extracted by quarter-turn thanks to a specific tool – PN: 006101 009 00.

Elio® modules	
Male	Female
SIM Q O 04EL P Q	SIM Q O 04EL S Q
Polarization	

Technical Data	Multimode (PC)
IL	0,30 dB
IL deviation	0,20 dB
RL	> 30 dB
VRT	-65 to +125°C
Module endurance	500 full mating/unmating cycles



Module for MPO/MTP connector Module standard: IEC61754-7

SIM module for MPO® connector	
SIM Q O MPO Q Q	
Type	Polarization
P: Male module	S: Female module

Technical Data	Multimode	Singlemode
Number of optical ways	12	8
IL	0,20 dB typical	0,25 dB typical
IL deviation	0,40 dB	0,50 dB
RL	> 20 dB	> 60 dB
VRT	-65 to +125°C	

Extraction of Modules

P/N: 006101 000 00



Insertion of Modules *

P/N: 006101 006 00



* Recommended for modules with peripheral sealing.

Extraction of RJ45 and Luxcis® Modules

P/N: 006101 008 00



Tools for contacts

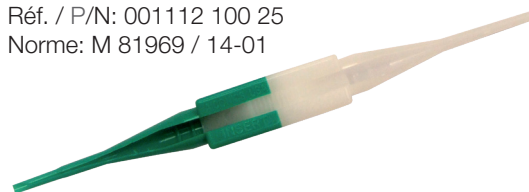
Insertion / extraction tool for contact size 23

Réf. / P/N: 001112 010 25



Insertion / extraction tool for contact size 22

Réf. / P/N: 001112 100 25
Norme: M 81969 / 14-01



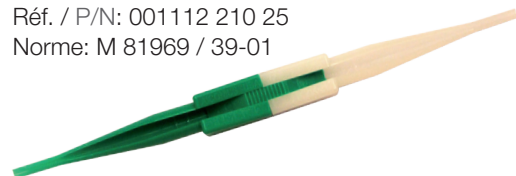
Insertion / extraction tool for contact size 20

Réf. / P/N: 001112 250 25
Norme: M 81969 / 14-10



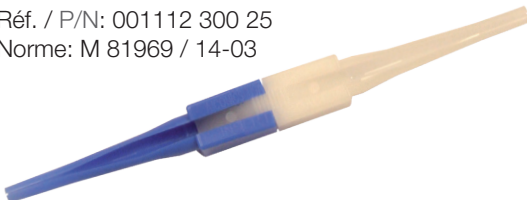
Insertion / extraction tool for contact size 20 (purple modules)

Réf. / P/N: 001112 210 25
Norme: M 81969 / 39-01



Insertion / extraction tool for contact size 16

Réf. / P/N: 001112 300 25
Norme: M 81969 / 14-03



Insertion / extraction tool for contact size 12

Réf. / P/N: 001112 400 25
Norme: M 81969 / 14-04



Extraction tool for contact size 8, Quadrax, Twinax, Triax

Réf. / P/N: 001112 700 25
Norme: M 81969 / 14-06



Insertion / extraction of Elio® contacts

Réf. / P/N: 006101 009 00



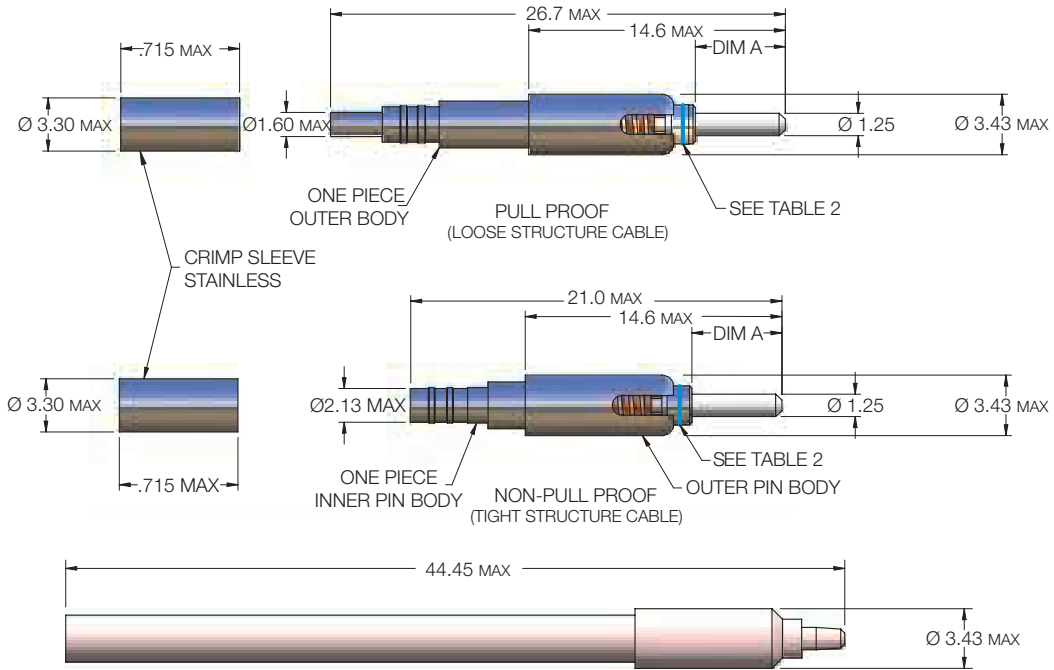


Table 1 – ARINC Termini Product Numbers

	UPC	APC	MM127	MM140	MM230
Pull proof	M801-SU2P	M801-SA2P	M801-MS1P	M801-MS3P	M801-MS8P
Non Pull proof	M801-SU2N	M801-SA2NP	M801-MS1N	M801-MS3N	M801-MS8N
DIM A	4.93	5.03	4.93	4.93	4.93
Ferrule I.D.	.1255+.0005/-.0000		127+1/-0	140+2/-0	230+2/-0

Table 2 – Color Designation

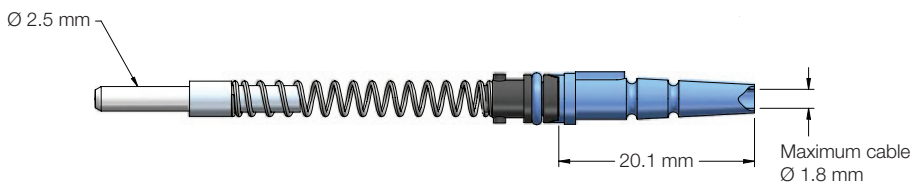
MM =	No Line
SM (PC) =	Blue Line
SM (APC) =	Green Line

Lumière Termini

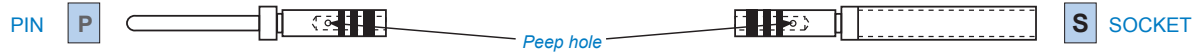


AOT 4531-1 & AOT 4531-3

AOT 4531-1	Short boot	Sealed
AOT 4531-2	Long boot	Sealed
AOT 4531-3	Short boot	Not Sealed
AOT 4531-4	Long boot	Not Sealed



AOT 4531-2 & AOT 4531-4



CONTACTS					CABLE			CRIMPING TOOLING		INSERTION EXTRACTION TOOLS
EN 3155 spec.	Others spec.	P/N	Type	Size	AWG	Sections mm ²	Sheath dia. mm (inch)	Crimping tool	Locator	
IN PROGRESS	BACC47HB1	001704 001 02	S	23	26-24-22	0,38 - 0,14	0,71 - 1,20 (.028 - .047)	M22520/2-01	K1461 (Daniels)	001112 010 25
	BACC47HA1	001714 001 02	P							
/	SAE-AS39029 / 57-354	001704 100 02	S	22	26-24-22	0,38 - 0,14	0,71 - 1,37 (.028 - .054)	M 22520/2-01 M 22520/7-01	M 22520/2-06 M 22520/7-06	M 81969 / 14-01 001112 100 25
003 F 2222	/	001704 100 50	P						M 22520/2-09 M 22520/7-07	
/	SAE-AS39029 / 58-360	001714 100 02	S	20	24-22-20	0,21 - 0,60	1,01 - 2,10 (.039 - .082)	M 22520/1-01 M 22520/2-01 M 22520/7-01	M 22520/1-04 M 22520/2-10 M 22520/7-08	M 81969 / 14-10 001112 250 25
003 F 2020	/	001704 203 50	P							
/	SAE-AS39029 / 58-363	001714 203 02	S	16	20-18-16	0,30 - 1,34	1,31 - 2,62 (.051 - .103)	M 22520/1-01 M 22520/7-01	M 22520/1-04 M 22520/7-04	M 81969/14-03 001112 300 25
008 M 2222	/	001714 100 50	P							
/	SAE-AS39029 / 57-357	001704 203 02	S	12	14-12	1,91 - 3,18	1,93 - 3,70 (.074 - .145)	M22520/1-01	M22520/1-04	M 81969/14-04 001112 400 25
003 F 1616	/	001704 301 50	P							
/	SAE-AS39029 / 57-359	001704 301 02	S	micro coax 16	MIL 17/113 KX 22 RG 316	int : M 22520/2-01 ext : M 22520/4-01	int : M 22520/2-35 ext : M 22520/4-02	M300 BT	SP593	M 81969 / 14-03 001112 300 25
008 M 1616	/	001714 301 02	P							
003 F 1212	/	001704 400 50	S	8 ⁽¹⁾	10-8	5,3 - 8,98	3,8 - 5,15 (.149 - .202)	M22520/23-01 +.../23-02 414 DA8N die set	4664-2	M 81969/39-01 001112 210 25
008 M 1212	/	001714 400 02	P							
/	SAE-AS39029 / 78-432	001704 500 02	S	8 twinax concentric	M17/176-00002	ctr : M 22520/2-01 int : M 22520/5-01 ext : M 22520/5-01	ctr : K709 int : Y631-mors B ext : Y631-mors A	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	Extract. only M 81969/14-06 001112 700 25
066 F 0808 A	/	001704 700 02	P							
065 M 0808 A	/	001714 700 02	S	8 twinax differential	TENSOLITE 24463/9PO25X-2 (LT) or equivalent	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	Extract. only M 81969/14-06 001112 700 25
013 F 08	SAE-AS39029 / 91-530	001704 701 02	P							
012 M 08	SAE-AS39029 / 90-529	001714 701 02	S	8 quadrax	ABS 0972-KB24 ABS 1503-KD24	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	Extract. only M 81969/14-06 001112 700 25
/	/	001704 709 02	P							
073 F 08	ABS 0974 F 08A	001704 711 02 ⁽²⁾	S	8 quadrax	ABS 0972-KB24 ABS 1503-KD24	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	Extract. only M 81969/14-06 001112 700 25
072 M 08	ABS 0973 M 08A	001714 711 02 ⁽²⁾	P							
075 F 08	ABS 1503-KD24	001704 705 02	S	8 quadrax	ABS 1503-KD24	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	int : M 22520/2-01 ext : M 22520/5-01	int : K709 ext : M 22520/5-45	Extract. only M 81969/14-06 001112 700 25
074 M 08	ABS 1503-KD24	001714 705 02	P							
/	ASNE 0825 LW0800	001704 780 03	S	8 80A	8	8,98	5,2 - 5,6 (.205 to .22)	M22520/23-01 +.../23-02 414 DA8N die set	4664-2	M 81969/39-01 001112 210 25
015 F 2020	/	001704 201 50	P							
/	SAE-AS39029 / 64-369	001714 201 02	S	20	24-22-20	0,21 - 0,60	0,85 - 1,73 (.033 - .068)	M 22520/2-01	M 22520/2-08	M 81969/39-01 001112 210 25
014 M 2020	/	001714 201 50	P							
015 F 2018	ASNE 0396 DV 2001	001704 202 02	S	24-22 20-18	0,25 - 1					
014 M 2018	ASNE 0395 FV 2001	001714 202 02	P							

Amphenol

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