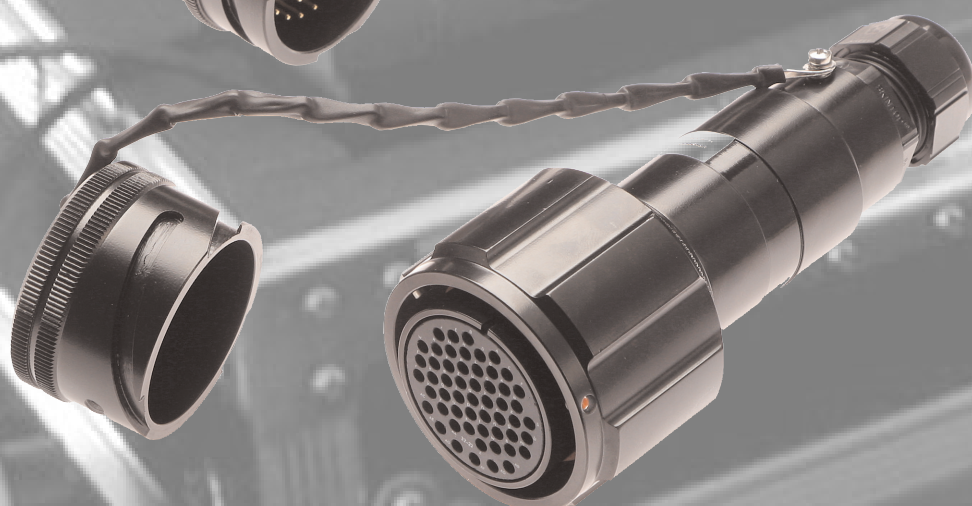


Professional

Audio

Connectors





Definitive solutions for your interconnection requirements

Ten 47 was formed in 2001 to fill a niche in the interconnect market.
It is our philosophy to offer high quality innovative products at cost effective prices.
To enable us to do this we have formed partnerships with customers and suppliers around the world.

Many of our products have been derived from solving customers problems.
In serving a few chosen markets we are able to understand and anticipate our customers needs and work with our partners to provide new solutions.
Step by step we are expanding and developing our product and service offering to provide more and more value to our customers.

In 2004, Ten 47 was awarded most Entrepreneurial Company both for Fife (our local region) and Scotland recognising our commitment to innovation and service.
This commitment is ongoing today and into the future.

Ten 47 products have been used in many prestigious projects including the Football World Cup, British Golf Open, the construction of Heathrow's Terminal 5, trains on the UK's East Coast Main Line, USA Presidential Debate and the Asian Games.

With our well proven track record we hope we can be of assistance to you.

Tourline & PLK series connectors for Professional Audio Applications

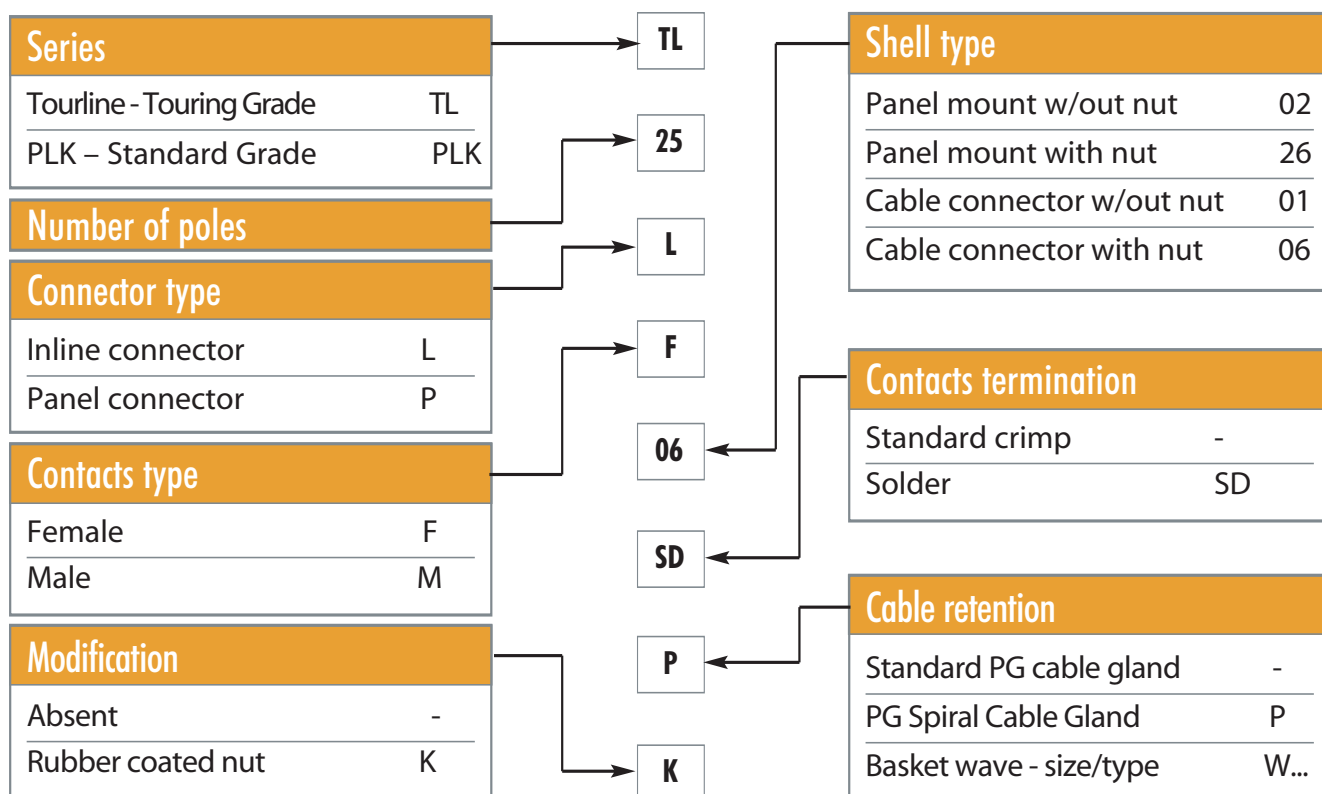
These connectors have been designed and are manufactured to ensure continual and reliable operation in the harsh environment of the professional sound applications.

They are directly derived from a reliable and rugged military standard (Mil C 5015 & VG 95234). Both Tourline and PLK series are fully intermateable with the widely used LK and CIRLK standard.

The key features are:

- Fast coupling and uncoupling
- Audible, visual and tactile indication of locking
- Guaranteed locking of the coupling nut under vibration or shock conditions
- Bayonet ramp protrusion protected by stainless steel ring
- IP 67 grade waterproof (when mated) for outdoor applications
- 2000 mating cycles minimum
- Insert manufactured in a high insulating chloroprene rubber: allowing easy contact insertion and removal, during assembly or repair.
- Gold Plated Crimp or Silver Plated Solder contacts (wide range of terminations for many wire sections).

Part Number explanation



Electrical data

Contact Size	Maximum Current	Rated Current	Max.Voltage Drop
	A	A	mV
20	7.5	7.5	83
18	11	10	79
16	22	13	74

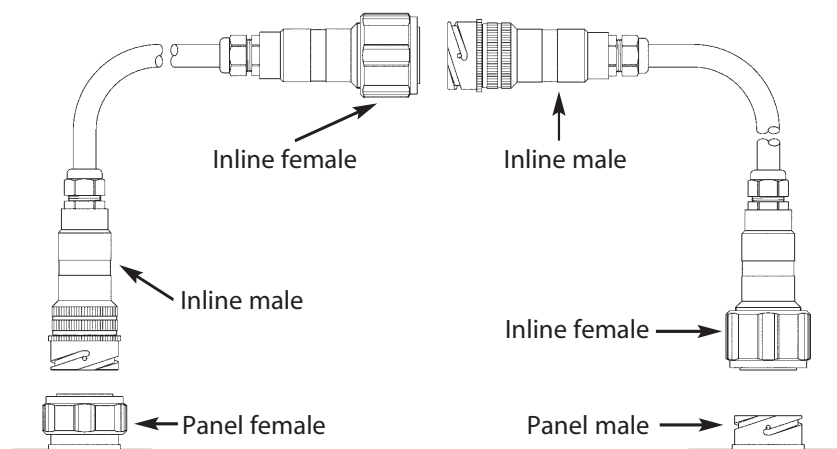
Number of poles	Rated Voltage	Rated Voltage	Dielectric Strength	Min Flashover
	Vac	Vdc	Vac	Vac
25/37/54/85	700	500	2.000	2.800
55/72/150/201	250	200	1.400	1.000

PLK series (Standard Audio Bayonet connector)

Two shell versions for panel connectors (male and female) plus two for inline cable connectors (male and female) allow complete cable hook up system and extension leads through a daisy chain configuration.

A wide range of available insert arrangements allows connections from 13 poles (4 channels) to 150 poles (48 channels).

- Aluminium alloy shells with high resistance black finish.
- Gold plated machined contacts for quality signal path and long term reliability
- Ergonomic arctic grip or rubber covered coupling nuts for ease of coupling even with gloved hands.
- SKINTOP® gland cable retention system (spiral anti flex version available), ensures water tight sealing and good strain relief at the cable entry.



Tourline Series (Enhanced Touring Grade Professional Audio Connector)

Circular Multipin Audio connectors are commonly subjected to various forms of abuse. Even after being dropped from heights, driven over by vehicles, subjected to rough handling on a regular basis, these connectors are expected to provide continuous reliable performance.

The Tourline series connector is the “definitive” solution for Touring (PA) or Outdoor broadcast (OB) environments.

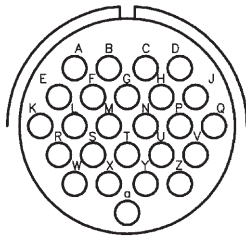
In addition to the standard rugged features of the PLK series, Tourline versions have been enhanced to offer even greater long term reliability, in the most arduous of applications. It includes all the arrangements of PLK series plus a 67 channel 201 pin configuration

- Thicker wall section coupling nuts and shells, give increased impact resistance.
- Rolling pins in the coupling nut allow for easier mating and increased mating cycles.
- Longer back shells, allow more internal space for easier cable assembly, especially where large Multicores are being terminated.
- Back shells have a new protective cap fixing system. No back shell drilling or additional accessories are required in order to fix the cap chain to the connector body. A special chain fixing kit is supplied as standard.
- Connectors can be supplied labelled with custom marking e.g. Customers name or company logo.



Insert layout and wiring list (front view of male insert)

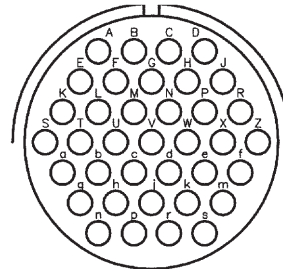
24A-25



25 Pin/ 8 Channel

Ch.	+	-	G
1	A	E	F
2	G	C	B
3	D	H	J
4	M	L	K
5	Q	P	N
6	W	S	R
7	T	X	Y
8	Z	V	U

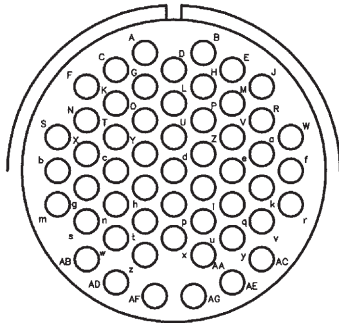
28-21



37 Pin / 12 Channel

Ch.	+	-	G
1	E	F	A
2	B	C	G
3	H	J	D
4	S	T	K
5	L	M	U
6	V	W	N
7	P	R	X
8	a	b	g
9	c	d	j
10	e	f	m
11	n	p	h
12	r	s	k

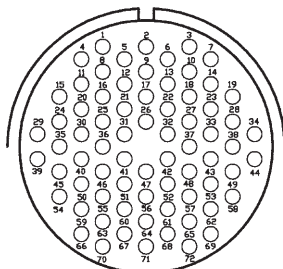
32-22



54 Pin / 16 Channel

Ch.	+	-	G
1	W	f	r
2	J	R	a
3	k	v	AC
4	E	M	V
5	e	q	y
6	B	H	P
7	Z	i	u
8	D	L	U
9	d	p	x
10	A	G	O
11	Y	h	t
12	C	K	T
13	c	n	w
14	F	N	X
15	g	s	AB
16	S	b	m

28-72

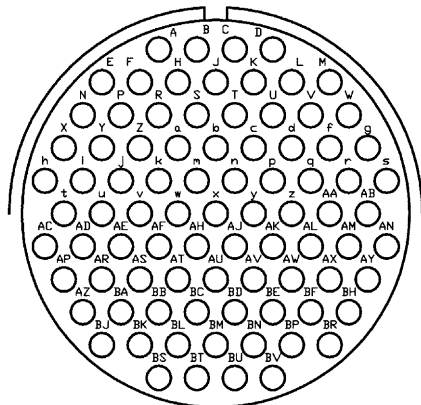


72 Pin / 24 Channel

Ch.	+	-	G
1	2	3	1
2	8	5	4
3	9	13	12
4	10	7	6
5	11	16	15
6	17	22	21
7	14	19	18
8	20	25	24
9	36	32	31
10	23	28	27
11	35	39	29
12	36	40	30
13	37	43	33
14	38	44	34
15	47	42	41
16	50	46	45
17	56	52	51
18	53	49	48
19	59	55	54
20	64	61	60
21	62	58	57
22	63	67	66
23	65	69	68
24	71	72	70

Insert layout and wiring list (front view of male insert)

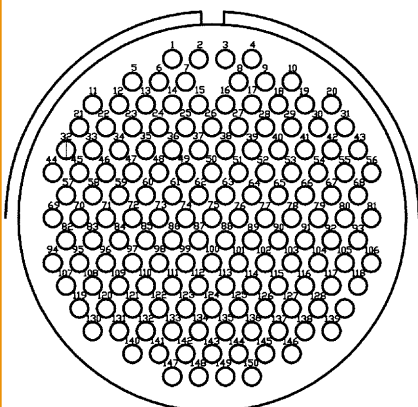
40-56



85 Pin / 28 Channel

Ch.	+	-	G	Ch.	+	-	G	Ch.	+	-	G
1	A	B	C	10	k	m	n	19	AT	AU	AV
2	E	F	H	11	p	q	r	20	AW	AX	AY
3	J	K	L	12	t	u	v	21	AZ	BA	BB
4	N	P	R	13	w	x	y	22	BC	BD	BE
5	S	T	U	14	z	AA	AB	23	BJ	BK	BL
6	X	Y	Z	15	AC	AD	AE	24	BM	BN	BP
7	a	b	c	16	AF	AH	AJ	25	BS	BT	BU
8	d	f	g	17	AK	AL	AM	26	BV	BR	BF
9	h	i	j	18	AP	AR	AS	27	BH	AN	s
								28	W	M	D

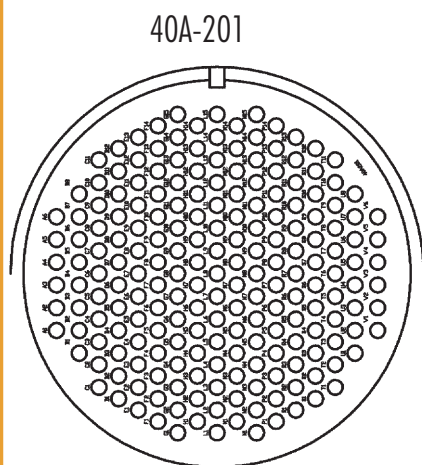
40A-150



150 Pin / 48 Channel

Ch.	+	-	G	Ch.	+	-	G	Ch.	+	-	G
1	1	2	3	17	50	51	52	33	100	101	102
2	5	6	7	18	53	54	55	34	103	104	105
3	8	9	10	19	57	58	59	35	56	81	106
4	11	12	13	20	60	61	62	36	107	108	109
5	14	15	16	21	63	64	65	37	110	111	112
6	17	18	19	22	66	67	68	38	113	114	115
7	21	22	23	23	69	70	71	39	116	117	118
8	24	25	26	24	72	73	74	40	119	120	121
9	27	28	29	25	75	76	77	41	122	123	124
10	20	30	31	26	78	79	80	42	125	126	127
11	32	33	34	27	82	83	84	43	139	128	129
12	35	36	37	28	85	86	87	44	130	131	132
13	38	39	40	29	88	89	90	45	133	134	135
14	41	42	43	30	91	92	93	46	136	137	138
15	44	45	46	31	94	95	96	47	140	141	142
16	47	48	49	32	97	98	99	48	143	144	145

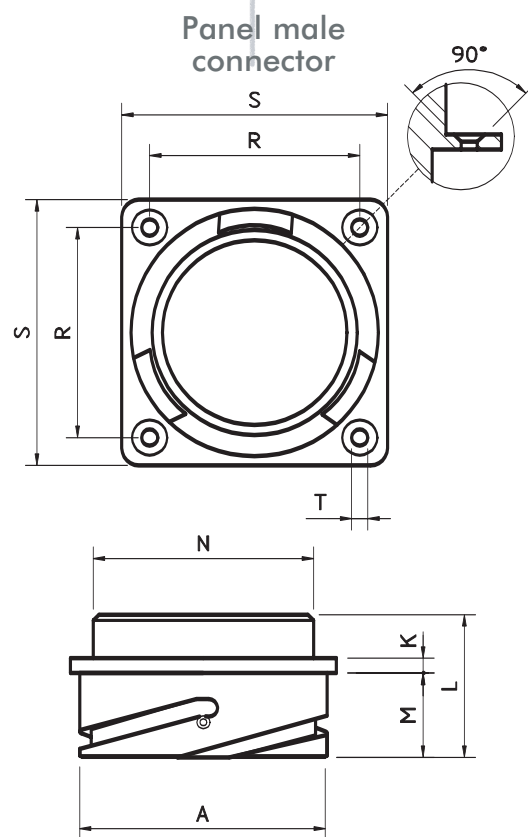
Insert layout and wiring list (front view of male insert)



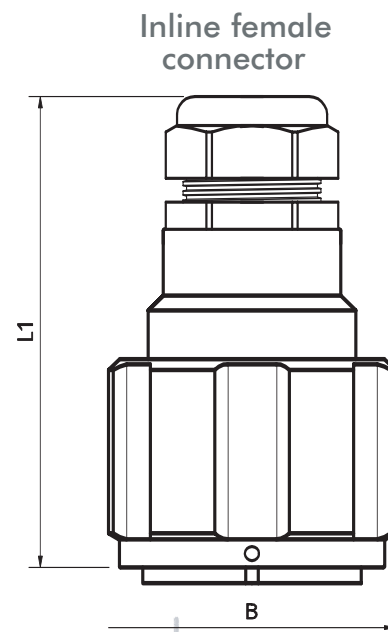
201 Pin / 67 Channel											
Ch.	+	-	G	Ch.	+	-	G	Ch.	+	-	G
1	A1	A2	A3	23	G4	G5	G6	45	N10	N11	N12
2	A4	A5	A6	24	G7	G8	G9	46	N13	N14	P14
3	B1	B2	B3	25	G10	G11	G12	47	P1	P2	P3
4	B4	B5	B6	26	G13	G14	F14	48	P4	P5	P6
5	B7	B8	C10	27	H1	H2	H3	49	P7	P8	P9
6	C1	C2	C3	28	H4	H5	H6	50	P10	P11	P12
7	C4	C5	C6	29	H7	H8	H9	51	P13	R13	S12
8	C7	C8	C9	30	H10	H11	H12	52	R1	R2	R3
9	D1	D2	D3	31	H13	H14	G15	53	R4	R5	R6
10	D4	D5	D6	32	L1	L2	L3	54	R7	R8	R9
11	D7	D8	D9	33	L4	L5	L6	55	R10	R11	R12
12	D10	D11	C11	34	L7	L8	L9	56	S1	S2	S3
13	E1	E2	E3	35	L10	L11	L12	57	S4	S5	S6
14	E4	E5	E6	36	L13	L14	L15	58	S7	S8	S9
15	E7	E8	E9	37	M1	M2	M3	59	S11	S12	T11
16	E10	E11	E12	38	M4	M5	M6	60	T1	T2	T3
17	F1	F2	F3	39	M7	M8	M9	61	T4	T5	T6
18	F4	F5	F6	40	M10	M11	M12	62	T7	T8	T9
19	F7	F8	F9	41	M13	M14	N15	63	U1	U2	U3
20	F10	F11	F12	42	N1	N2	N3	64	U4	U5	U6
21	F13	E13	D12	43	N4	N5	N6	65	U7	U8	T10
22	G1	G2	G3	44	N7	N8	N9	66	V1	V2	V3
								67	V4	V5	V6

Overall dimensions

Pin Nr.	ØA +0 -0.15	K ±0.2	L ±0.3	M +0.4 -0	ØN Max	R ±0.1	S ±0.3	T H13
25	40.9	4	35.7	20.6	35.3	34.9	44.5	3.7
37	46.7	4	35.7	20.6	41.4	39.7	50.8	3.7
54	53.4	4	37.3	22.2	47.8	44.5	57	4.3
55	40.9	4	35.7	20.6	35.3	34.9	44.5	3.7
72	46.7	4	35.7	20.6	41.4	39.7	50.8	3.7
85	65.5	4	37.3	22.2	59	55.6	69.8	4.3
150	65.5	4	37.3	22.2	59	55.6	69.8	4.3
201	65.5	4	37.3	22.2	59	55.6	69.8	4.3



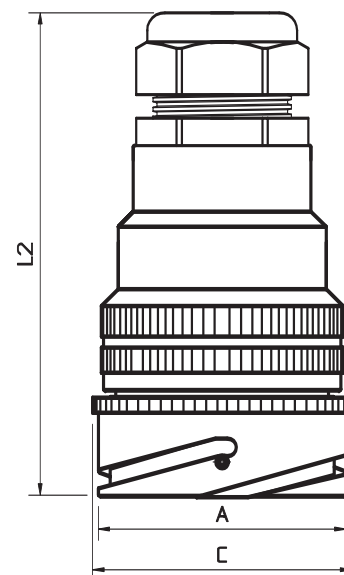
Pin Nr.	ØB Max PLK	ØB Max TL	L1 Max PLK	L1 Max TL	PG	Cable dia. Min.-Max.
25	50	53	110	160	16	9-14
37	57	61	124	164	21	13-18
54	64	67.5	126	166	21	13-18
55	50	53	110	160	21	13-18
72	57	61	124	164	21	13-18
85	76	79.5	139	174	29	14-25
150	76	79.5	147	182	36	24-32
201	76	79.5	147	182	36	24-32



Overall dimensions

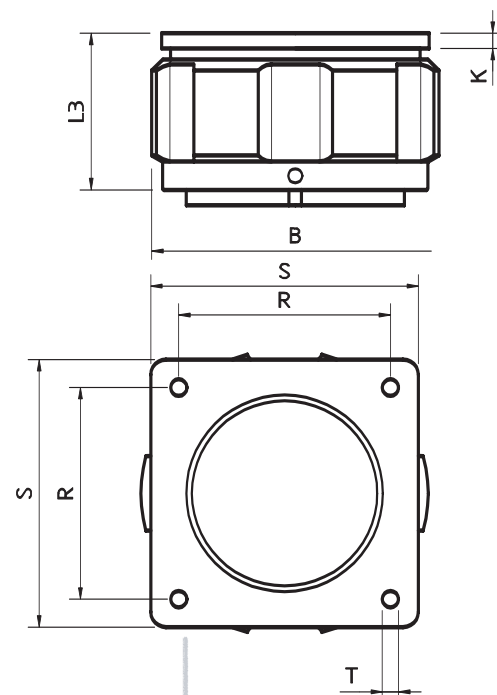
Pin Nr	ØA Max +0 -0.15	ØC Max Max	L2 Max PLK	L2 Max TL	PG	Cable dia. Min.- Max.
25	40.9	44	110	160	16	9-14
37	46.7	50	125	165	21	13-18
54	53.4	56	126	166	21	13-18
55	40.9	44	110	160	21	13-18
72	46.7	50	125	165	21	13-18
85	65.5	69	138	173	29	14-25
150	65.5	69	146	181	36	24-32
201	65.5	69	146	181	36	24-32

Inline male connector



Panel female connector

Pin Nr	ØB Max PLK	ØB Max TL	L3 Max	K ±0.2	R ±0.1	S ±0.3	T H13
25	50	53	41	4	34.9	44.5	3.7
37	57	61	41	4	39.7	50.8	3.7
54	64	67.5	44.5	4	44.5	57	4.3
55	50	53	41	4	34.9	44.5	3.7
72	57	61	41	4	39.7	50.8	3.7
85	76	79.5	45.5	4	55.6	69.8	4.3
150	76	79.5	45.5	4	55.6	69.8	4.3
201	76	79.5	45.5	4	55.6	69.8	4.3



Cable retention systems

The standard strain relief supplied with the Tourline series and PLK is the PG SKINTOP®. These glands provide positive strain relief and water tight sealing.
Gland Technical Characteristics

- Approvals: UL E146370 – CSA LR-50370 – VDE 57086 – SEV 100989
- Material: Polyamide-flame retardant, self-extinguishing nylon, with neoprene bushing
- Rated Temperature: -20 °C to + 80 °C – Short Term to + 100 °C
- Sealing: IP68

For the cable clamping range of the glands please refer to the overall dimensions section of the catalogue.



SKINTOP® spiral versions are also available (PG 16 and 21 only). The spiral gland eliminates damage to cable cores through flexing of cable at the connector - cable interface, and therefore is commonly used with audio cable, where the small gauge of the signal wires can be easily damaged.

Deluxe Cord Grips sometimes referred to as "Basket Weave" grips are also available. These cable grips consist of a woven steel wire mesh and watertight gland nut assembly. The key benefits of this system are:

- The design of the weave is such that it is virtually impossible for a cable to be pulled out of the sock through lateral force. The more the cable is pulled the tighter the grip will become.
- The anti bend characteristics of the weave sock, eliminate damage to cable through flexing.

This design of grip is mainly used with large channel count systems, where the added protection of the valuable Multicore is a warranted feature. However versions are available for virtually any cable or connector configuration.



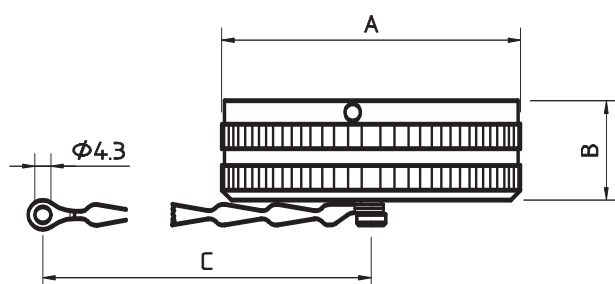
Protection caps

The caps are waterproof IP67 grade when mated with the connectors

A sleeve protects the chain and prevents damages to the connector's external surface.

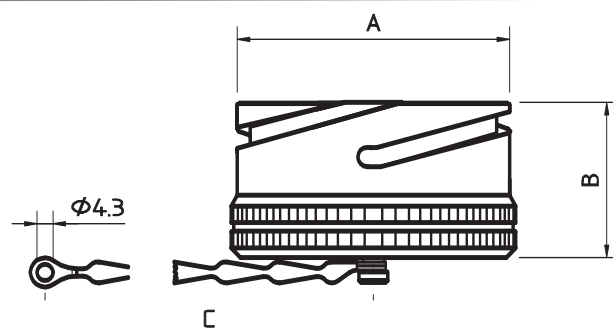
Caps TC 01-02 for connectors without coupling nut

P / N	ØA Max.	B Max.	C Min.	Pin Nr.
TC 01-02-25	48	23	200	25/55
TC 01-02-37	54	23	200	37/72
TC 01-02-32	61	23	200	54
TC 01-02-85	73	23	200	85/150/201



Caps TC 06-26 for connectors with coupling nut

P / N	ØA Max.	B Max.	C Min.	Pin Nr.
TC 06-26-25	44	36	200	25/55
TC 06-26-37	50	36	200	37/72
TC 06-26-32	56	36	200	54
TC 06-26-85	68	36	200	85/150
TC 06-26-201	68	36	200	201



Contacts

Crimp termination contacts are supplied loose.

Solder contacts are supplied pre fitted in the insert.

P/N	Contact type	Wire section mm ²	Wire section AWG	Pin number
GMC-16P-13	male	0.15 ÷ 0.6	26 ÷ 20	25/37/54/85
GFC-16S-13	female	1 ÷ 1.5	18 ÷ 16	25/37/54/85
GMC-16P	male	1 ÷ 1.5	18 ÷ 16	25/37/54/85
GFC-16S	female	1 ÷ 1.5	18 ÷ 16	25/37/54/85
GMC-18P	male	0.15 ÷ 0.6	26 ÷ 20	150
GFC-18S	female	0.15 ÷ 0.6	26 ÷ 20	150

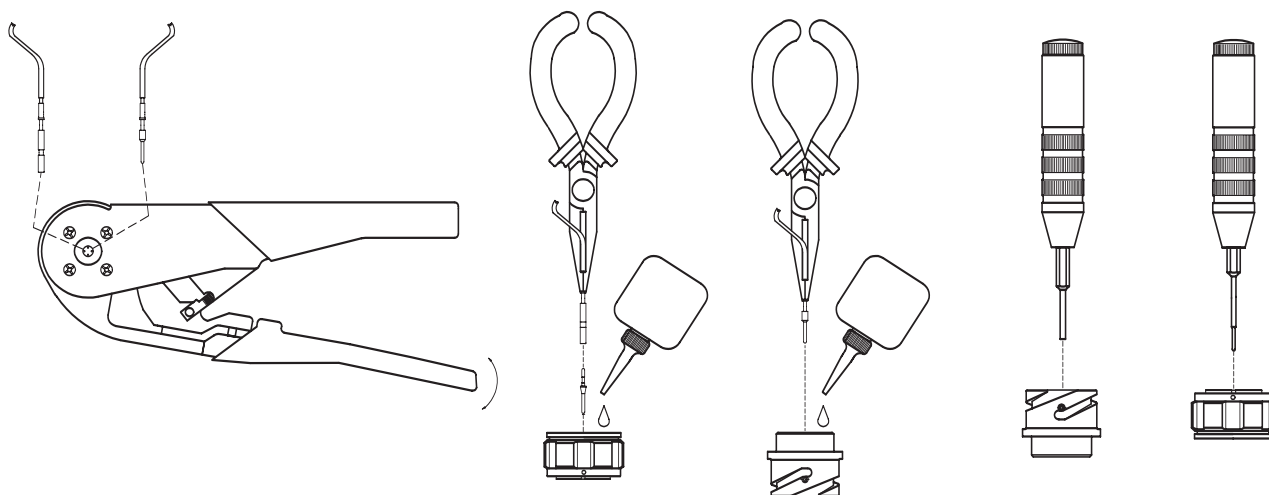


Crimp and assembly tools

Pin Nr.	Crimp tool	Locator	Inserting tool	Guide pin for female ct.	Removal tool	Lubricant
25	M22520/1	61001	61010	61020	61014	61065
37	M22520/1	61001	61010	61020	61014	61065
54	M22520/1	61001	61010	61020	61014	61065
55	M22520/1	61060	61036	61061	61057	61065
72	M22520/1	61060	61036	61061	61057	61065
85	M22520/1	61001	61010	61020	61014	61065
150	M22520/1	61059	61036	61064	61058	61065

Assembly instructions

1. Strip the wire
2. Assemble the locator on the crimp tool frame. Turn the locator to the required position (select the colour according to the contact type). Depress the locator until it snaps into the locked position.
3. Raise and rotate the wire gauge selection knob on the tool frame, to select the correct crimping dimension
4. Place the contact (mating end first) into the tool as shown below



5. Insert the stripped wire into the hollow end of the contact. Close the tool completely and release.
6. For ease of insertion it is beneficial to lubricate insert cavities with the recommended lubricant.
7. Insert the wired contact from the rear of the connector as shown below, using the insertion tool.
8. When inserting socket contacts, it is recommended that a guide pin be used. Remove the guide pin from the inserted contact and use it for the next contact.
9. Apply a slow, even pressure until the contact snaps into position.
10. Only use the recommended extraction tool to remove the contact or to adjust its position in the cavity. Use of other tools could damage the contact or insert.

Proline T series

Proline T series encompasses a range of high density, miniature quarter turn bayonet connectors. Derived from the proven MIL C 26482 standard, these connectors are particularly suitable for audio signal transmission.

The compact size of the connectors allows an optimal number of signal lines within a minimal physical space.

The range is available in four Industry recognised arrangements, with pin counts of 26, 39, and 61. Proline T series is intermateable with other common MIL C 26482 Versions

The T39 & T61 types are fully intermateable with the common, USA, audio standard W1 & W2 series connectors. The T39 version can be used to interconnect up to 12 balanced, shielded signal lines, whilst the T61 version can be used to interconnect up to 20 balanced, shielded signal lines.

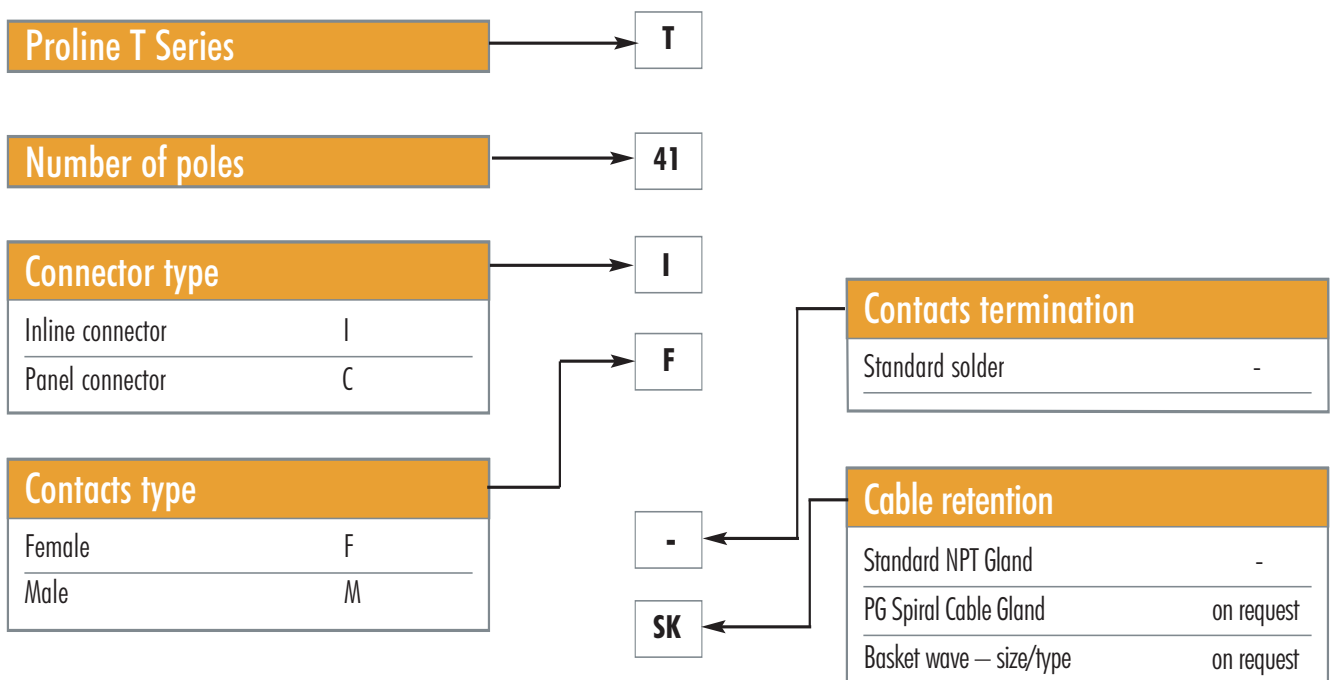
The T26 type is fully intermateable with other Industry standard versions, which are particularly favoured in the UK Outdoor Broadcast Industry, where these arrangements are used to terminate 8 and 12 way "STAR-QUAD" cable in audio multicore systems respectively.

The connectors are supplied pre fitted with gold plated solder contacts. The shells have 5 alignment keys to ensure accurate mating preventing damage to the pins. Cable strain relief and watertight sealing is ensured through a choice of Spiral anti bend glands, or our deluxe basket weave cord grips. The extended length backshell allows good working room for ease of assembly.

- Minimal Physical Size
- Fast Coupling
- Robust Design
- Extended length backshells
- Hard wearing Black finish
- 5 Keyways for accurate mating
- Watertight



Part Number explanation



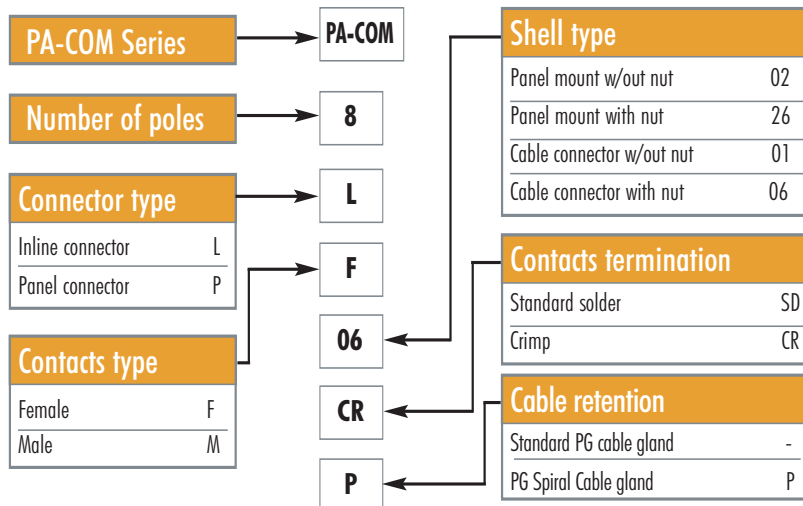
PA-COM – Speaker connectors

These connectors use the industry standard 8 pin and 19 pin configuration for speaker array connections and are fully intermateable with CA-COM connectors, commonly used by many loudspeaker manufacturers.

The design utilises the same key features of PLK Series, and are supplied as standard with the rubber covered coupling rings and with solder contacts.

The PA-COM series, ensures long term reliability through the robust construction and addresses the short comings of the more traditional Industrial and Military connectors when used in Touring applications.

Part Number explanation



Proline Mass Series

The Proline Mass series provides outstanding reliability.

The metal shells are machined and hard black anodized to protect against damage through physical abuse.

The hermaphroditic design minimizes the number of required parts as two connectors allow for complete daisy chain capability.

All connectors include a heavy-duty dust cap.

Inline connectors have watertight cable strain relief utilising a basket weave design or watertight SKINTOP® cable gland.

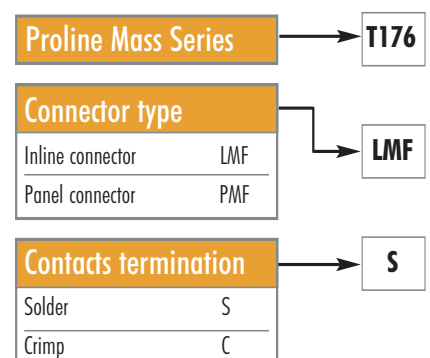
Proline Mass connectors are configured in the 176 contact position arrangement, for up to 56 pair cable and are fully compatible with the existing fixed pin solder type & crimp type MASS connectors, and use the same inline and panel mount housings.

The crimp type versions are designed for easy, positive insertion and removal of pins and sockets, using a standard crimp tool and locator insert available from Plusconnection

- Hermaphroditic Design
- IP67 when mated
- Crimp or Solder pins
- Intermateable with Whirlwind connector
- All machined construction
- Hard anodised black finish



Part Number explanation



Manufacturing facility and sales office:

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Kirkcaldy. Fife
KY1 2XZ. UK
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Fax: +44(0) 1592 651049
Email: admin@ten47.com
Web: www.ten47.com

