



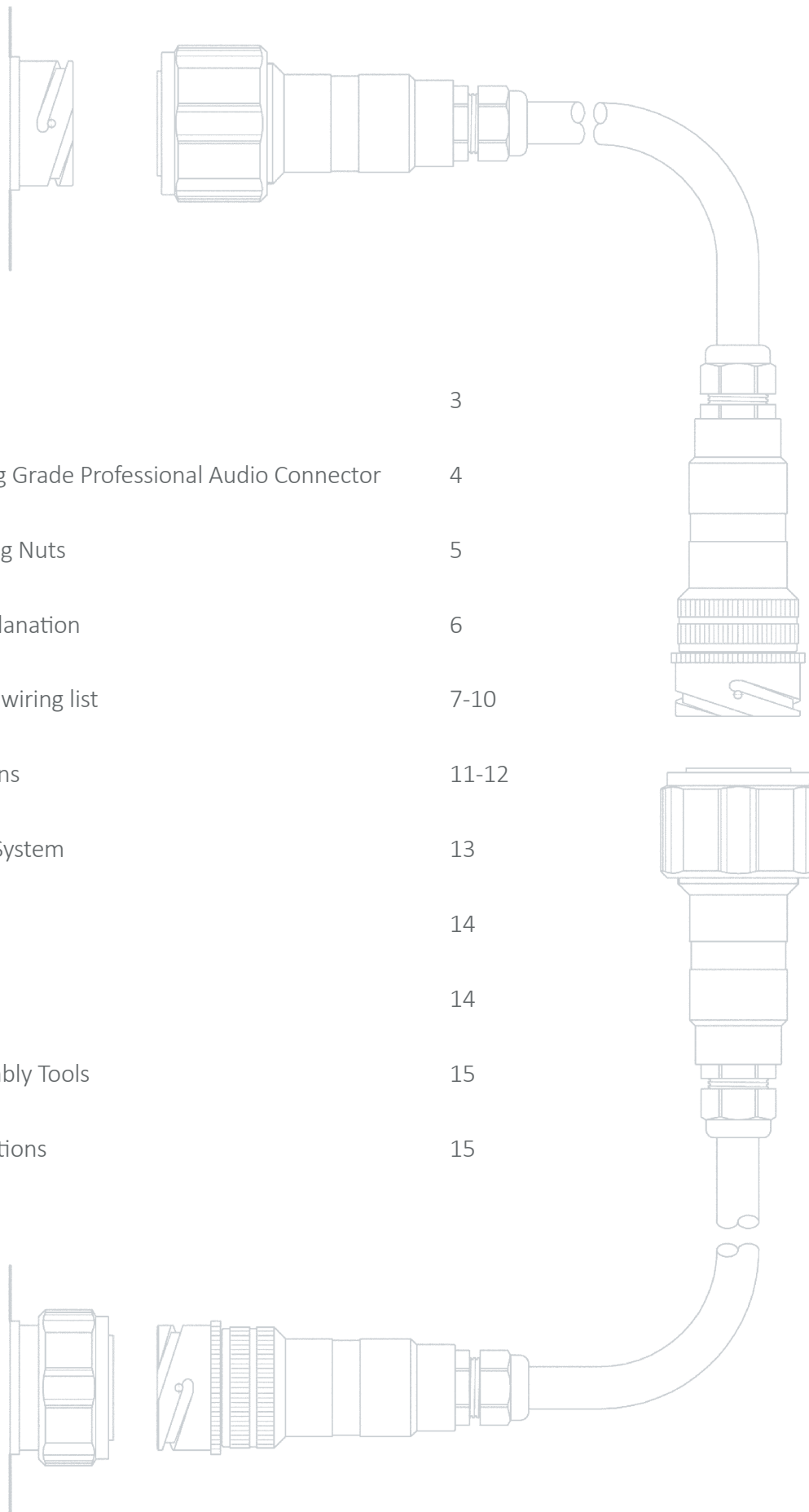
Tourline

Professional Audio Connectors



Index

Introduction	3
Enhanced Touring Grade Professional Audio Connector	4
Coloured Coupling Nuts	5
Part Number Explanation	6
Insert layout and wiring list	7-10
Overall Dimensions	11-12
Cable Retention System	13
Protection Caps	14
Contacts	14
Crimp and Assembly Tools	15
Assembly Instructions	15



Introduction

Tourline connectors for Professional Audio Applications

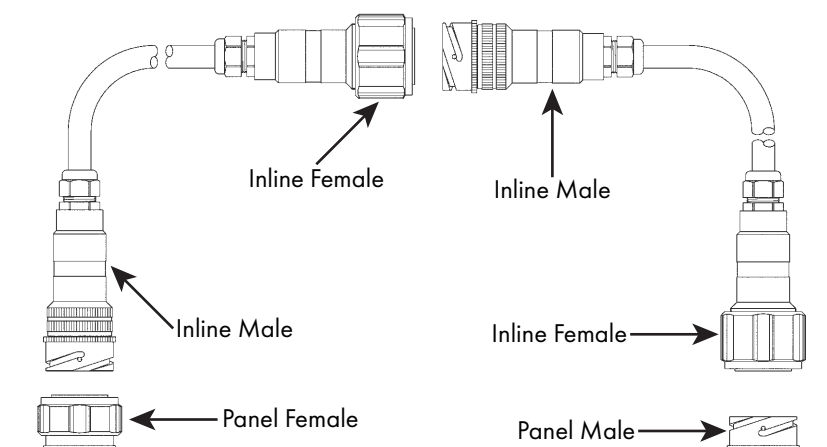
These connectors have been designed and are manufactured to ensure continual and reliable operation in the harsh environment of the professional sound applications.

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



Key Features

- 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.
- 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).



Typical configuration

Enhanced Touring Grade Professional Audio Connector

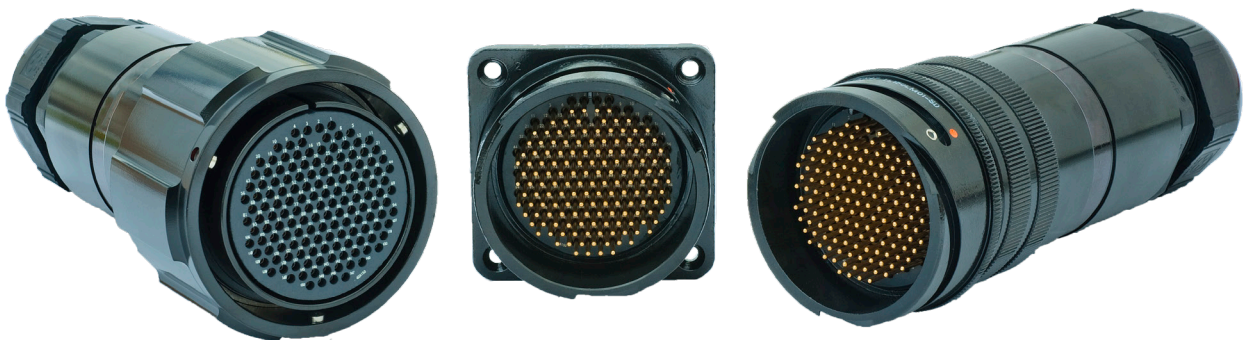
Circular Multipin Audio connectors are commonly subjected to various forms of abuse. Even after being dropped from heights, driven over by vehicles, subjected to rough handling on a regular basis, these connectors are expected to provide continuous reliable performance.

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

Tourline connectors 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.



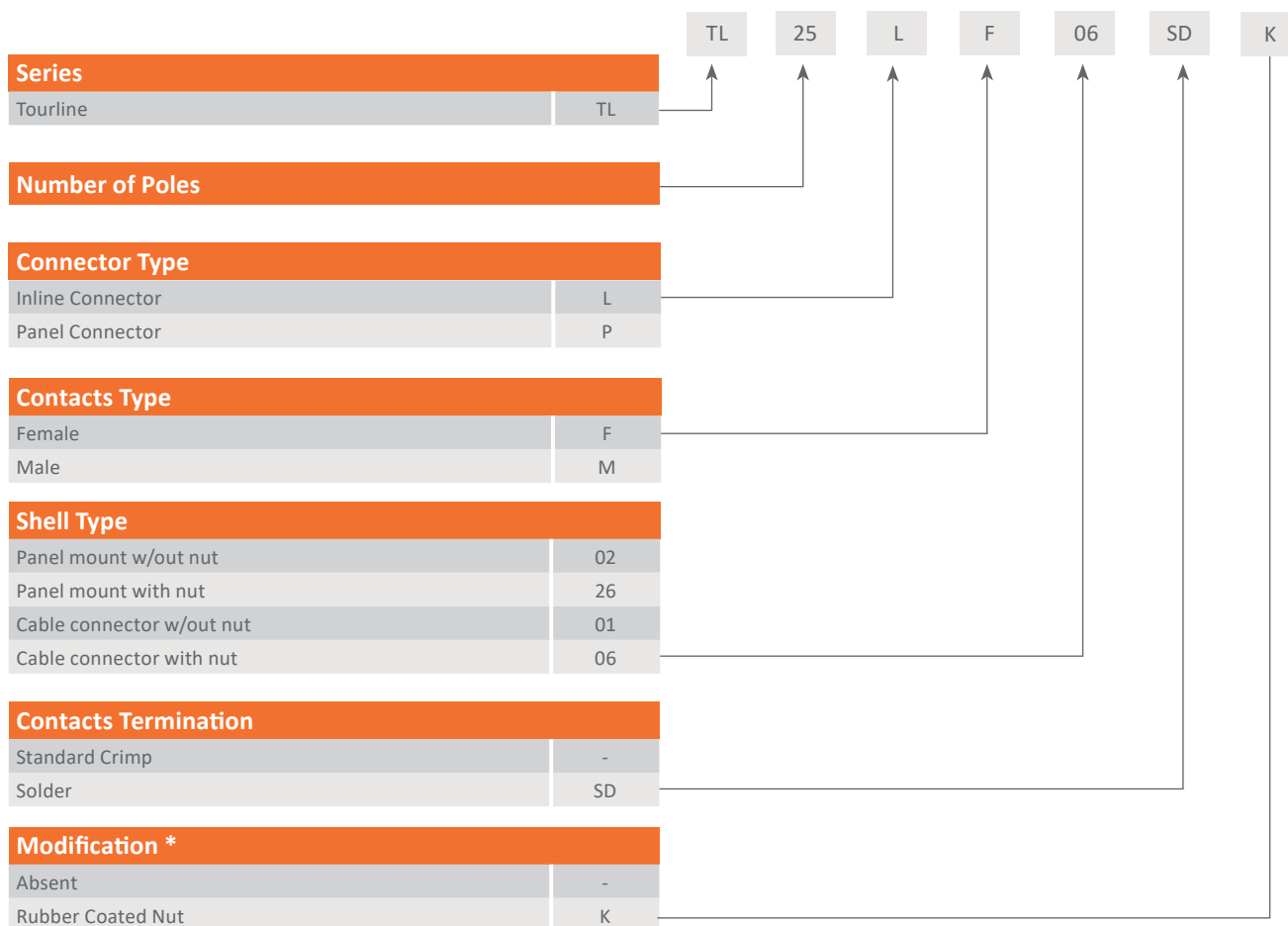
- Thicker wall sections coupling nuts and shells, give increased impact resistance.
- Rolling pins in the coupling nut allow for easier mating and increased mating cycles.
- Longer back shells, allow more internal space for easier cable assembly, especially where large Multicores are being terminated.
- 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.



PLK Series (Standard Audio Bayonet Connector)

Our PLK series is a budget audio multipin connector suited for applications in less harsh environments without the enhanced features of our Tourline series. Please contact our sales office for further details.

Part Number Explanation



*Contact sales for any bespoke/custom requirements.

Standard Gland Size (PG) For Reference	
4-10mm - 13 way	PG11
9-14mm - 25 way	PG16
13-18mm - 37/72 way	PG21
18-25mm - 85 way	PG29
24-32mm - 150 way	PG36

*Contact sales for any glands to fit specific cable diameters out with the above.

Electrical Data

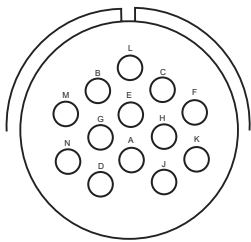
Contact Size	Maximum Current (A)	Rated Current (A)	Max. Voltage Drop (mV)
20	7.5	7.5	83
18	11	10	79
16	22	13	74

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

Insert layout and wiring list

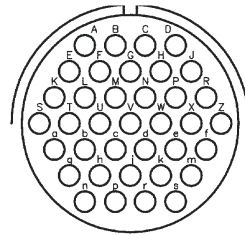
Front view of male insert

20-11



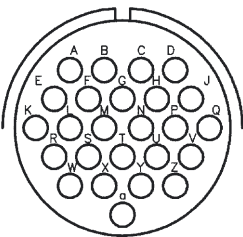
13 Pin / 4 Channel			
Ch.	+	-	G
1	B	C	E
2	F	K	H
3	J	D	A
4	N	M	G
General ground		L	

28-21



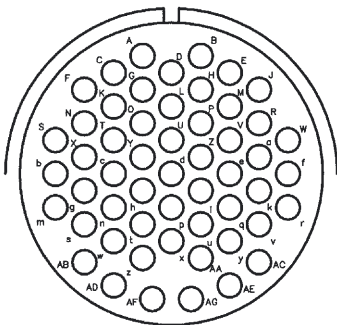
37 Pin / 12 Channel			
Ch.	+	-	G
1	E	F	A
2	B	C	G
3	H	J	D
4	S	T	K
5	L	M	U
6	V	W	N
7	P	R	X
8	a	b	g
9	c	d	i
10	e	f	m
11	n	p	h
12	r	s	k

24A-25



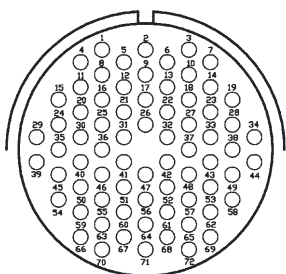
25 Pin / 8 Channel			
Ch.	+	-	G
1	A	E	F
2	G	C	B
3	D	H	J
4	M	L	K
5	Q	P	N
6	W	S	R
7	T	X	Y
8	Z	V	U

32-22



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

28-72

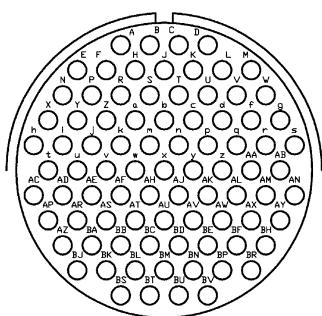


72 Pin / 24 Channel											
Ch.	+	-	G	Ch.	+	-	G	Ch.	+	-	G
1	2	3	1	9	36	32	31	17	56	52	51
2	8	5	4	10	23	28	27	18	53	49	48
3	9	13	12	11	35	39	29	19	59	55	54
4	10	7	6	12	36	40	30	20	64	61	60
5	11	16	15	13	37	43	33	21	62	58	57
6	17	22	21	14	38	44	34	22	63	67	66
7	14	19	18	15	47	42	41	23	65	69	68
8	20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

Insert layout and wiring list

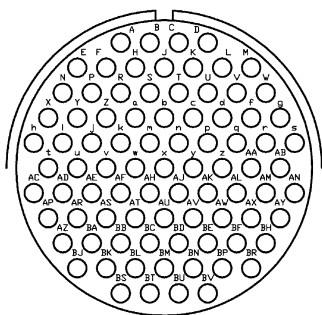
Front view of male insert

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

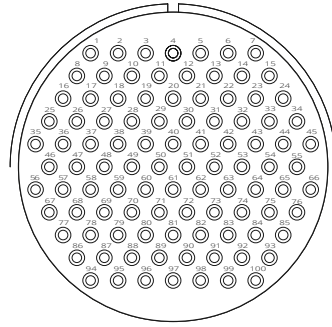


150 Pin / 48 Channel											
Ch.	+	-	G	Ch.	+	-	G	Ch.	+	-	G
1	1	2	3	17	50	51	52	33	100	101	102
2	5	6	7	18	53	54	55	34	103	104	105
3	8	9	10	19	57	58	59	35	56	81	106
4	11	12	13	20	60	61	62	36	107	108	109
5	14	15	16	21	63	64	65	37	110	111	112
6	17	18	19	22	66	67	68	38	113	114	115
7	21	22	23	23	69	70	71	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

40A-100

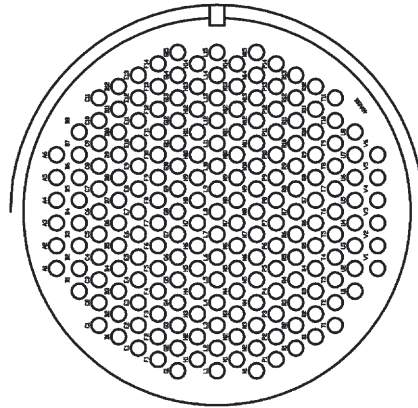


100 Pin / 32 Channel							
Ch.	+	-	G	Ch.	+	-	G
1	1	2	3	17	49	50	51
2	4	5	6	18	52	53	54
3	7	8	9	19	55	56	57
4	10	11	12	20	58	59	60
5	13	14	15	21	61	62	63
6	16	17	18	22	64	65	66
7	19	20	21	23	67	68	69
8	22	23	24	24	70	71	72
9	25	26	27	25	73	74	75
10	28	29	30	26	76	77	78
11	31	32	33	27	79	80	81
12	34	35	36	28	82	83	84
13	37	38	39	29	85	86	87
14	40	41	42	30	88	89	90
15	43	44	45	31	91	92	93
16	46	47	48	32	94	95	96
				33	97	98	99

Insert layout and wiring list

Front view of male insert

40A-201



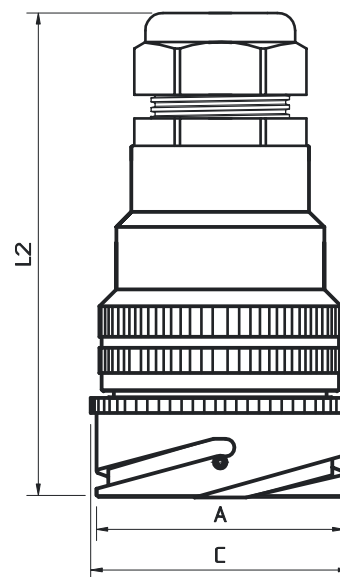
201 Pin / 67 Channel											
Ch.	+	-	G	Ch.	+	-	G	Ch.	+	-	G
1	A1	A2	A3	23	G4	G5	G6	45	N10	N11	N12
2	A4	A5	A6	24	G7	G8	G9	46	N13	N14	N15
3	B1	B2	B3	25	G10	G11	G12	47	P1	P2	P3
4	B4	B5	B6	26	G13	G14	F14	48	P4	P5	P6
5	B7	B8	C10	27	H1	H2	H3	49	P7	P8	P9
6	C1	C2	C3	28	H4	H5	H6	50	P10	P11	P12
7	C4	C5	C6	29	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	M15	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

Inline Connector without nut

Pin Nr.	θA +0 -0.15	θC Max Max	L2 Max PLK	L2 Max TL	PG	Cable dia. Min. - Max.
13	*	*	*	*	*	*
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
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

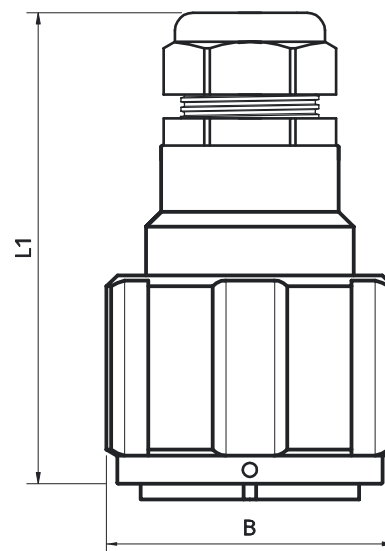
* Consult sales office for details.



Inline Connector with nut

Pin Nr.	θB Max PLK	θB Max TL	L1 Max PLK	L1 Max TL	PG	Cable dia. Min. - Max.
13	*	*	*	*	*	*
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
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

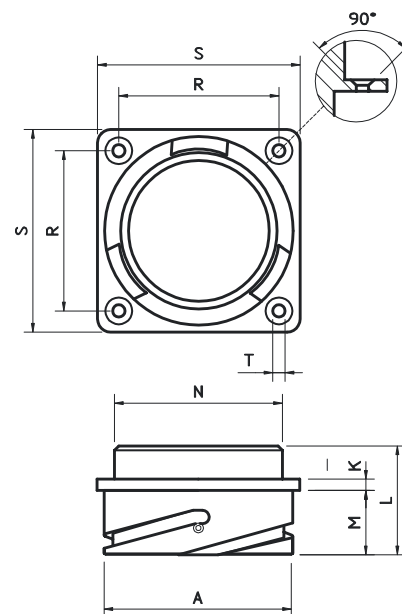
* Consult sales office for details.



Overall Dimensions

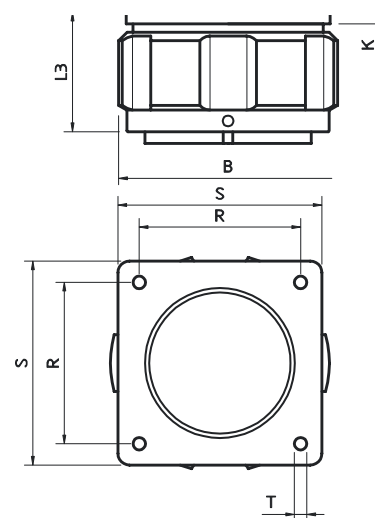
Panel Connector without nut

Pin Nr.	θA +0 -0.15	K ± 0.2	L ± 0.3	M +0.4 -0	θN Max	R ± 0.1	S ± 0.3	T H13
13	34.2	4	34.3	19	28.8	29.4	38.1	3.1
25	40.9	4	35.7	20.6	35.3	34.9	44.5	3.7
37	46.7	4	35.7	20.6	41.1	39.7	50.8	3.7
54	53.4	4	37.3	22.2	47.8	44.5	57	4.3
72	46.7	4	35.7	20.6	41.4	39.7	50.8	3.7
85	65.6	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

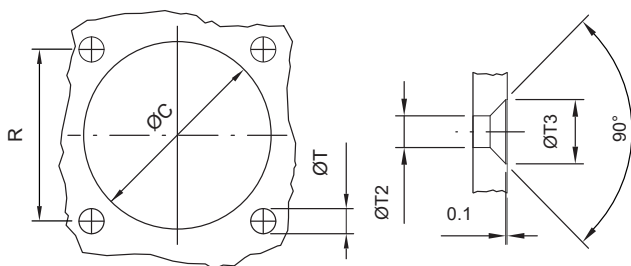


Panel Connector with nut

Pin Nr.	θB Max TL	L3 Max	K ± 0.2	R ± 0.1	S ± 0.3	T H13
13	51.5	38.3	4	29.4	38.1	3.1
25	53	41	4	34.9	44.5	3.7
37	61	41	4	39.7	50.8	3.7
54	67.5	44.5	4	44.5	57	4.3
72	61	41	4	39.7	50.8	3.7
85	79.5	45.5	4	55.6	69.8	4.3
150	79.5	45.5	4	55.6	69.8	4.3
201	79.5	45.5	4	55.6	69.8	4.3



Panel Cut Out Dimensions



Pin Nr.	R ± 0.1	θC ± 0.2	θT Through holes	$\theta T2$ Countersunk holes*	$\theta T3$ Countersunk holes*
13	29.4	30	3.4	3.2	6.5
25	34.9	36	3.9	3.7	7.5
37	39.7	42	3.9	3.7	7.5
54	44.5	48.5	4.5	4.3	8
72	39.7	42	3.9	4.3	8
85 150/201	55.6	61	4.5	4.3	8.5

* Panel receptacles only

Cable Retention System

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

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

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



SKINTOP spiral versions

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.



Cable Grips

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:

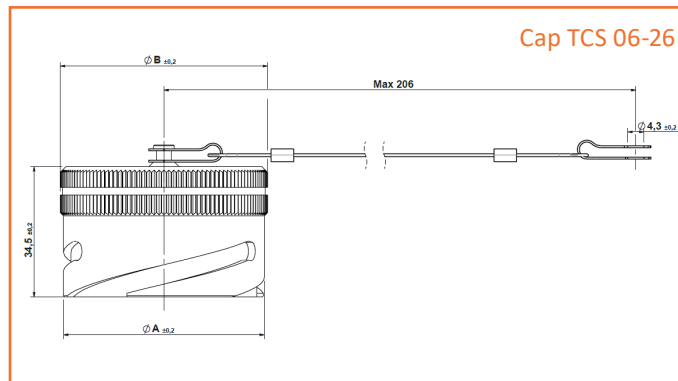
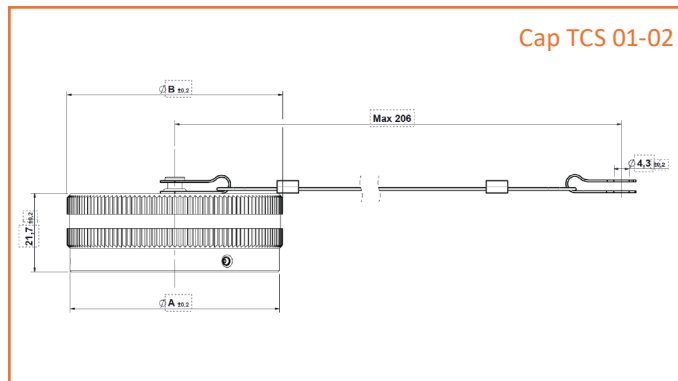
- The design of the weave is such that it is virtually impossible for a cable to be pulled out of the sock through lateral force. The more the cable is pulled the tighter the grip will become.
- The anti bend characteristics of the weave sock, eliminate damage to cable through flexing cable, where the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

This design of grip is mainly used in 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.



Caps TCS 01-02 for connectors without coupling nut

Part Number	Description	Shell Size	Ø A (mm)	Ø B (mm)
TCS01-02-26	25 way cap for connector without coupling nut	24	45.6	47
TCS01-02-37	37 way cap for connector without coupling nut	28	51.5	53
TCS01-02-54	54 way cap for connector without coupling nut	32	58.2	60
TCS01-02-85	85/150/Tool 1 way cap for connector without coupling nut	40	70.3	72.4

Caps TCS 06-26 for connectors with coupling nut

Part Number	Description	Shell Size	Ø A (mm)	Ø B (mm)
TCS06-26-25	25 way cap for connector with coupling nut	24	40.9	43.2
TCS06-26-37	37 way cap for connector with coupling nut	28	46.7	48.9
TCS06-26-54	54 way cap for connector with coupling nut	32	53.4	55.5
TCS06-26-85	85/150 way cap for connector with coupling nut	40	65.4	67.6
TCS06-26-201	201 way cap for connector with coupling nut	40	65.4	67.6

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	0.15 ÷ 0.6	26 ÷ 20	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
GMC-20P	Male	0.15 ÷ 0.6	26 ÷ 20	72
GFC-20S	Female	0.15 ÷ 0.6	26 ÷ 20	72



Crimp and Assembly Tools

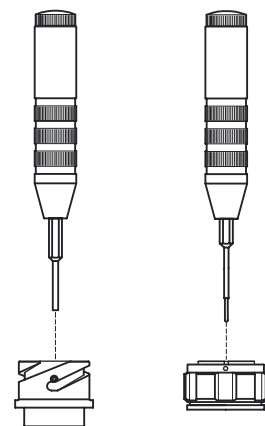
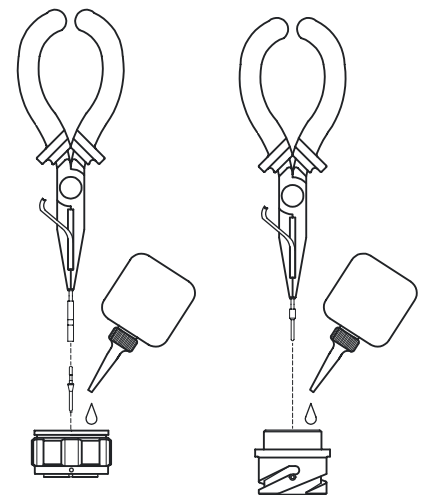
Pin Nr	Crimp Tool	Locator	Inserting tool	Guide pin for female ct.	Removal Tool
25	8780 0004 61	*N/A	61010	61020	61014
37	8780 0004 61	*N/A	61010	61020	61014
54	8780 0004 61	*N/A	61010	61020	61014
55	M22520/1	61060	61036	61061	61057
72	M22520/1	61060	61036	61061	61057
85	8780 0004 61	*N/A	61010	61020	61014
150	8780 0004 61	*N/A	61036	61064	61058



* Crimp tool supplied with locator

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.
5. Insert the stripped wire into the hollow end of the contact. Close the tool completely and release.
6. For ease of insertion is it beneficial to lubricate insert cavities with an isopropyl alcohol.
7. Insert the wired contact from the rear of the connector as shown, 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.



Also available from Ten 47

PA-COM Speaker Connectors

PA-COM 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 loudspeakers manufacturers.

Long term reliability is ensured through the robust construction and addresses the short comings of the more traditional Industrial and Military connectors when used in touring applications.



Tourline 25 Way Speaker Connectors

Tourline Size 32, 25 way multipin connectors for speaker applications are designed to connect up to 12 channel line array systems in a single housing.

Adopted by some of the world's leading speaker manufacturers, these connectors are based on our popular Tourline series and are manufactured to ensure continual and reliable operation in the harsh environment of professional sound applications.



See our **Speaker Connectors** catalogue for more information.



Unit 2B Frances Industrial Park
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