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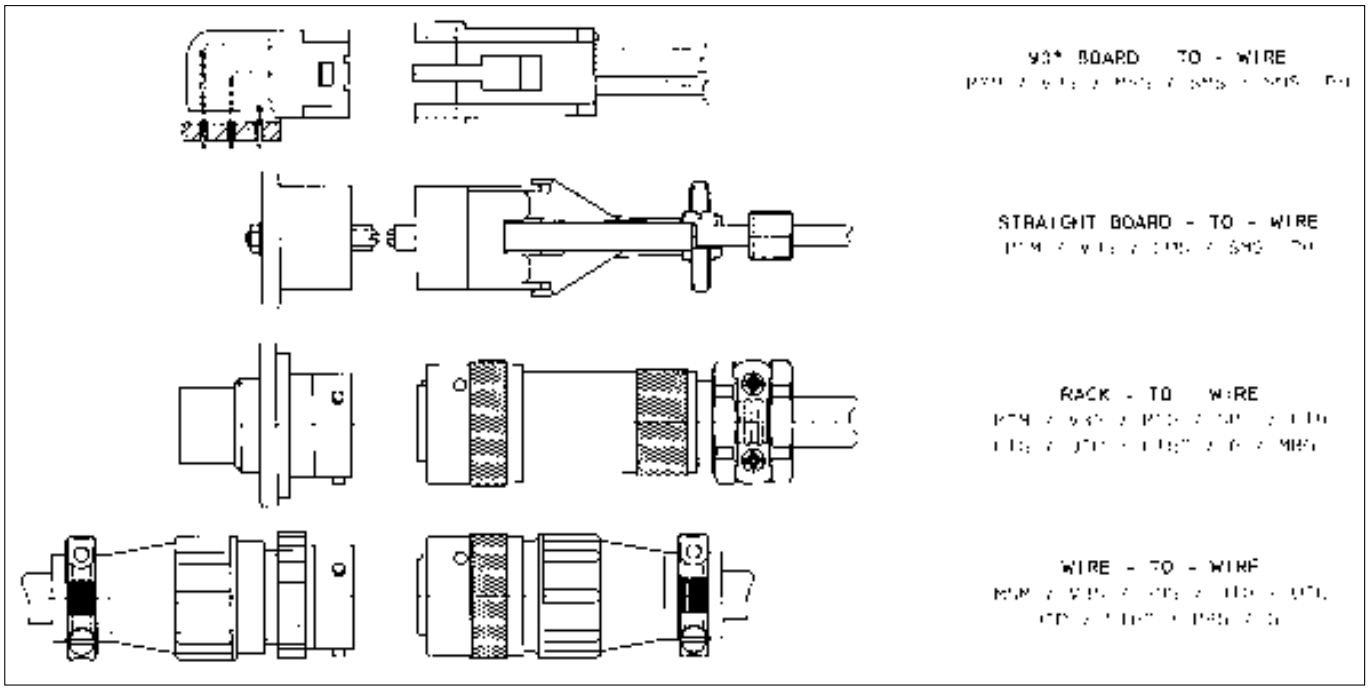
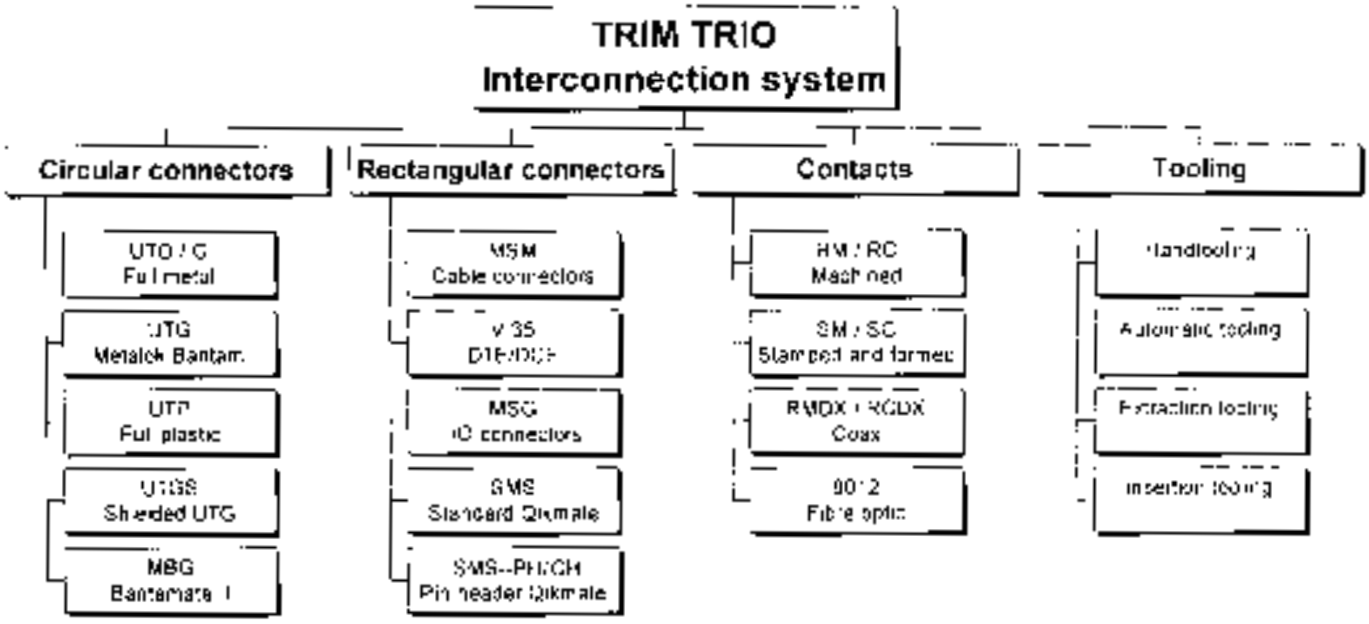
Introduction

Versatility

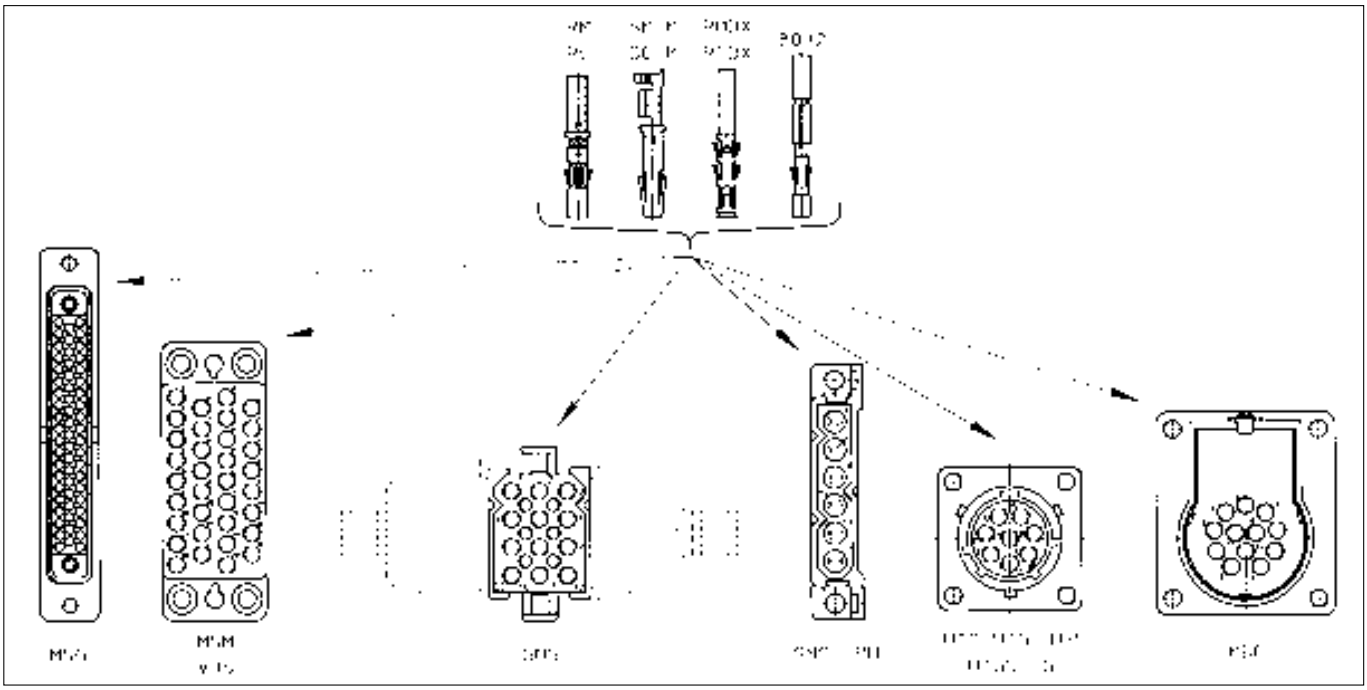


TRIM TRIO selection matrix



Introduction

TRIM TRIO - The principle



The TRIM TRIO interconnection system is a fully integrated system, in which 4 contact types can be used in a variety of connector styles and sizes, ranging from 1 to 104 contact positions.
This interchangeability offers boundless design possibilities with a large commonality throughout the entire range.

The commonality in the system is established in:
- contact performance and wire range.
- configuration of contact cavities in the housings.
- crimp tooling
- assembly procedures.
- quality assurance procedures.
- field service and maintenance.
- personnel training.

Products

The contacts, both male and female, accommodate a wire range of AWG14 up to AWG30. The 4 contact families are:
- Machined contacts for high performance (up to 13 Amp current rating), with gold or tin plating.
- Stamped and formed two-piece contacts, for more cost effective applications (up to 13 Amp current rating).
- Subminiature coaxial contacts, in a multi-piece and a mono-crimp version, for coaxial or twisted-pair cables.
- Fibre optic contacts to accommodate 1000µ plastic fibres with a cable diameter of 2.2 mm.

The housings offer many options in contact cavities and backshell possibilities
The main version are:
- circular connectors:
  - full metal
  - plastic with metal coupling system
  - full plastic
  - metallised plastic for shielding
  - plastic with quick mating feature
- rectangular, high performance, rack and panel and printed circuit board versions.
- rectangular, low cost, rack and panel and printed circuit board versions.
- rectangular connectors for V.35 applications.
- rectangular connectors for I/O applications.

(See TRIM TRIO selection matrix on the next page)

The beauty of the TRIM TRIO system means that the 4 contact types can be combined (both male and female) in any TRIM TRIO connector type of any geometry.

The keywords in the TRIM TRIO interconnection system are standardisation, versatility, reliability and economy.
These words explain why the TRIM TRIO name is so well known, and its connectors are used all over the world.

Standardisation

- The same contact cavity for each type of housing
- identical crimp tooling for all types of contacts except fibre optics
- reduced manufacturing methods
- standardised operator training
- international acceptance

Versatility

- wide range in current capability
- various contact platings
- wire and cable accommodations
- housings accommodate pin and socket (male and female) contacts
- variety of terminations
- variations in mounting
- number of sizes
- discrimination keying
- broad range of installation tooling
- variety of possible applications

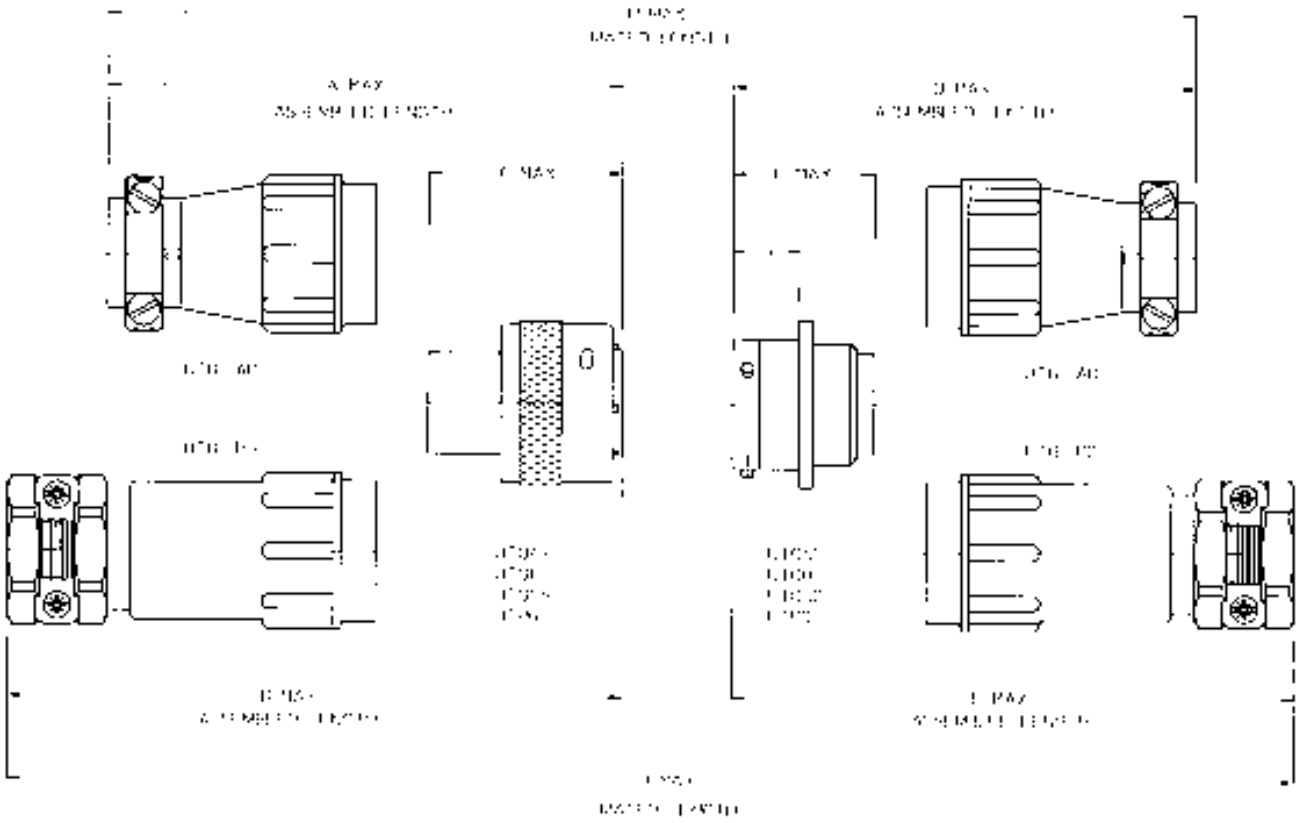
Reliability

- proven materials
- guaranteed quality assurance per ISO 9001 certification
- rigid inspection procedures
- positive polarisation
- pin protection
- rugged mouldings
- restricted entry contacts

Economy

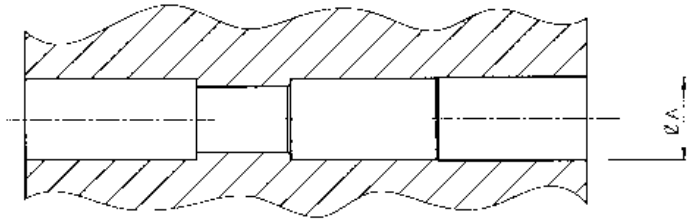
- low assembly cost
- minimal tooling downtime
- easy connecting and disconnecting
- low wiring cost
- simplified personnel education
- low inspection cost
- removable contacts
- reduced number of components
- low installed cost

Mating Dimensions TRIM TRIO



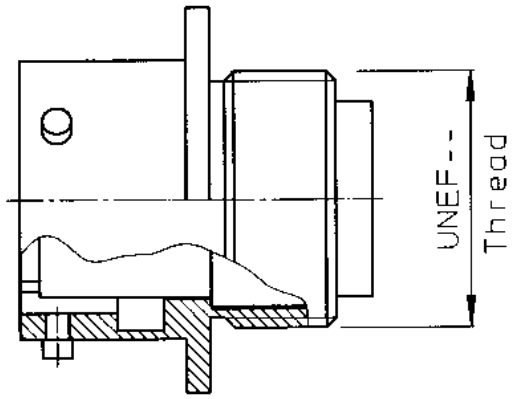
Shell size	Dimensions in mm								
	A max.	B max.	C max.	D max.	E max.	F max.	G ±0.2	H max.	J max.
10	57	72		57.5	72.5			106	136
12		74			74.0				139
14	63	81		63.5	81	24.3	11.4	118	153
16		85			85				161
18	67	88	31.8	67.5	89			126	168
20	74	101		76	103		14.6	140	191
22	79	117		82	110	26		151	207
24	84	123		88	127		15.4	162	240
10-3VDE	57	72		57.5	72.5	31.7	11.4	106	136
18-7 VDE	73.5	94,5	33	74	95.5	34	17.9	133	175
20-20VDE	74	101	31.8	76	103	26	14.6	140	191

TRIM TRIO cavity dimensions on wire face



CONNETOR FAMILY	ØA	
UTO	3.20	3.30
UTG		
UTGS	3.30	3.40
UTP		

TRIM TRIO back shell threading

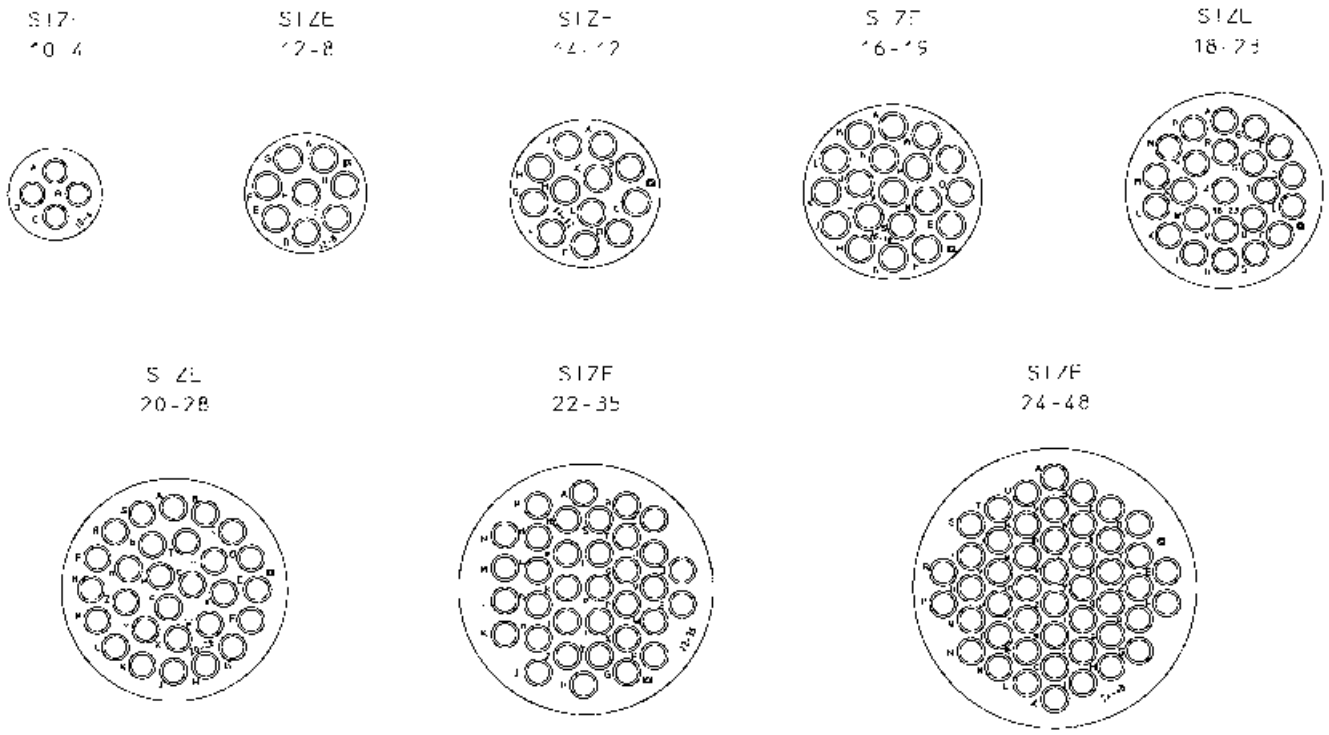


TRIM TRIO threading dimensions

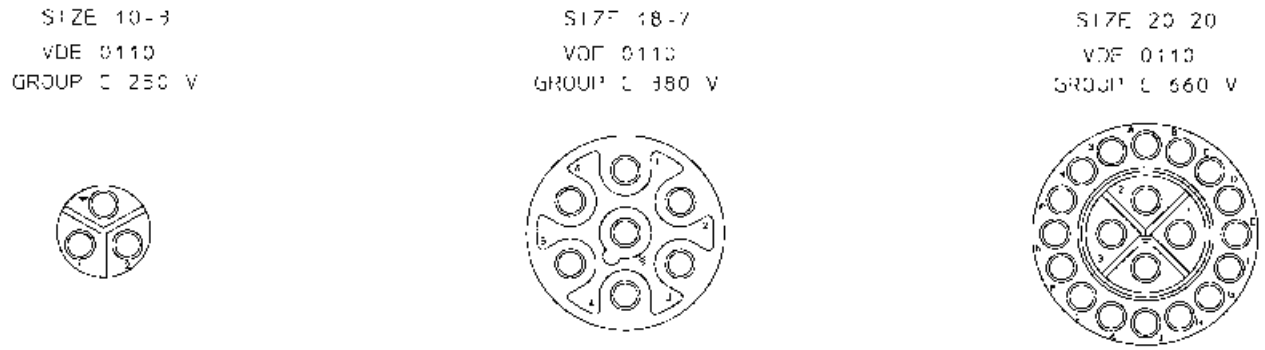
Shell size	Shell thread size for backshells	PG - thread on PG cable clamp
10	9/16 - 24 UNEF	PG9
12	11/16 - 24 UNEF	PG11
14	13/16 - 20 UNEF	PG13.5
16	15/16 - 20 UNEF	PG16
18	1-1/16 - 18 UNEF	
20	1-3/16 - 18 UNEF	PG21
22	1-5/16 - 18 UNEF	
24	1-7/16 - 18 UNEF	PG29

TRIM TRIO Insert arrangements and moulded-in contact identification

TRIM TRIO arrangements only available for UT0, UTG, UTGS and UTP

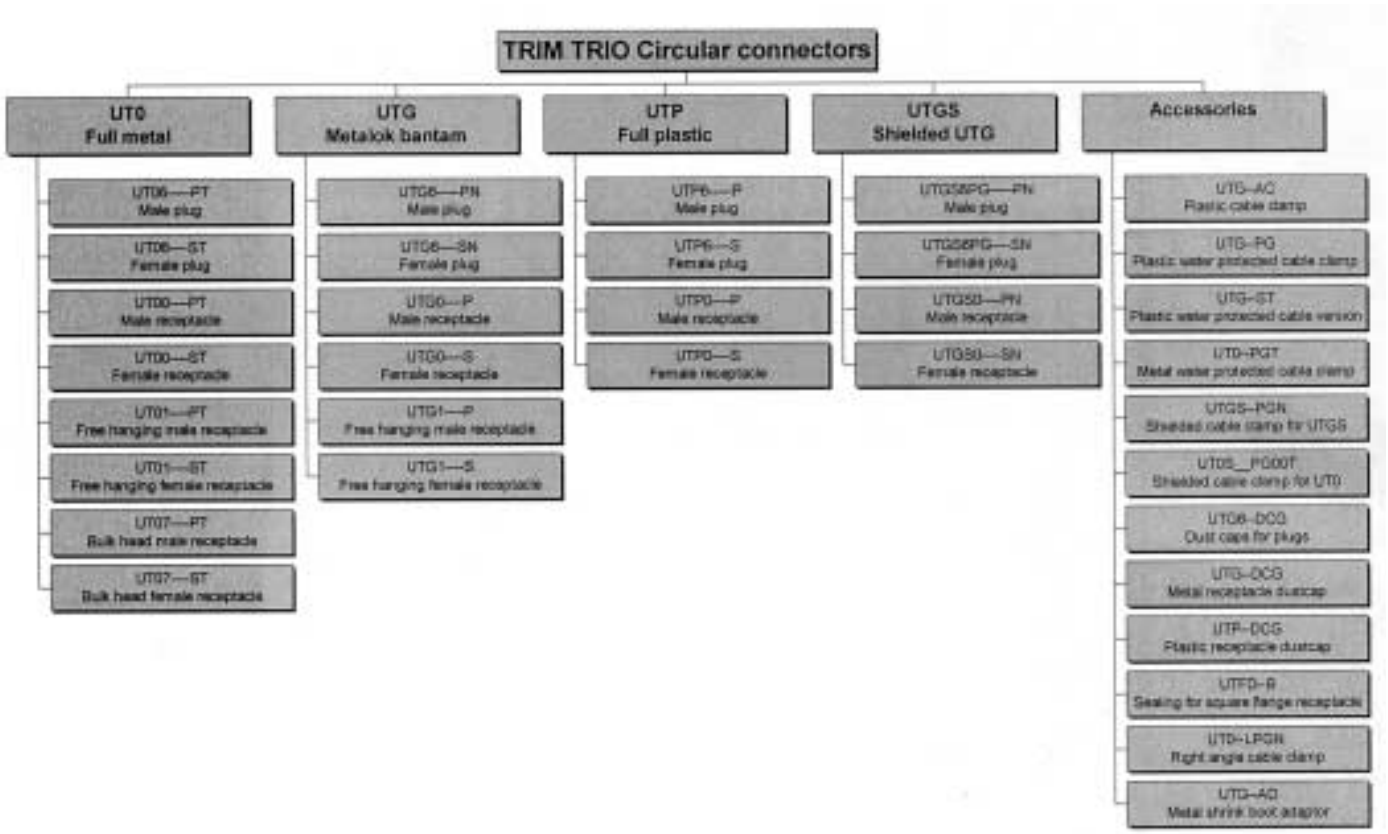


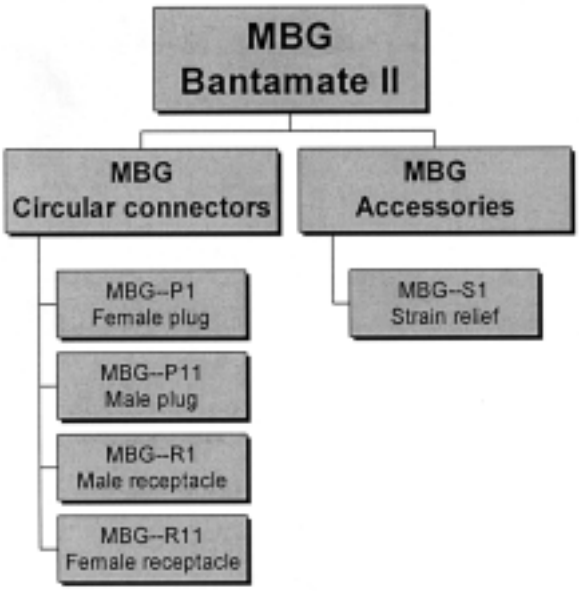
TRIM TRIO additional arrangements only available for UTG, UTGS and UTP



Contact identification positions shown are for mating face of pin contact connectors and wire face of socket contact connectors.

Selection matrix Circular connectors





Circular

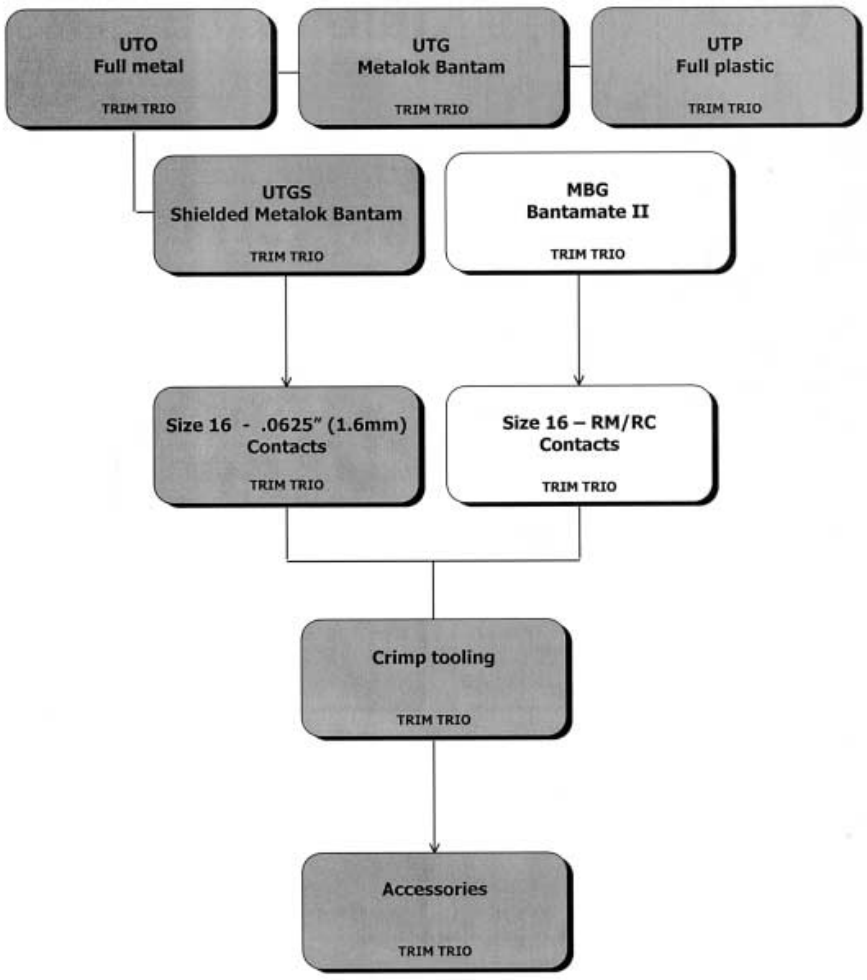
Description

The TRIM TRIO circular connectors are an integrated group of economical, reliable, versatile standardised connectors for a broad spectrum of interconnection applications.
Being derived from MIL-C-26482 ,input and output connections can be made with a large number of sizes ranging from:

- 3 to 48 contact positions in TRIM TRIO
- 4 to 46 contact positions in MBG Bantamate II

What are the links and differences between TRIM TRIO circular, and MBG Bantamate II

To avoid misunderstandings on the circular connector ranges, it has to be clearly understood that there are inevitable links and differences between all the circular product ranges (see fig).



Intermateability

- TRIM TRIO circular connectors are available in UT0, UTG, UTP and UTGS and are fully intermateable, interchangeable and intermountable.
- MBG Bantamate II with the unique quick mating feature plus high number of mating cycles is not mateable with other TRIM TRIO circular connectors.

Contacts

- TRIM TRIO and MBG Bantamate II circular connectors use the size 16 TRIM TRIO contacts available in machined, stamped and formed, coax and fibre optic versions.

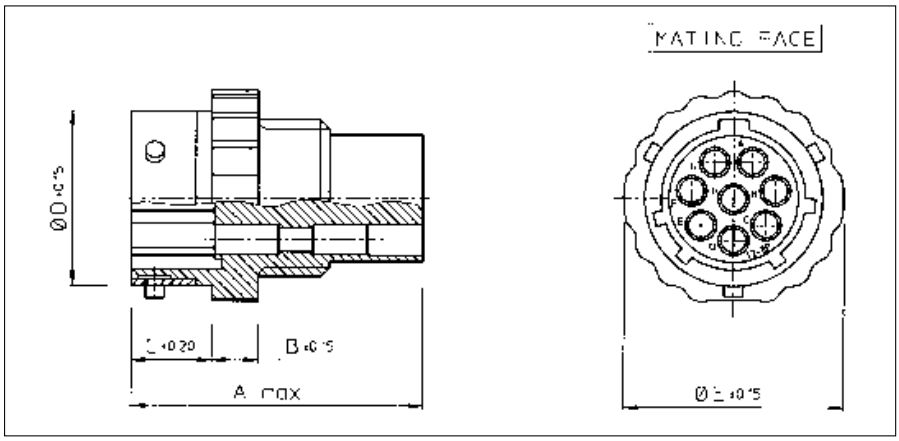
Accessories

- TRIM TRIO use the same accessories such as backshells and dustcaps.
- MBG Bantamate II has his own backshell

Tooling

- TRIM TRIO and MBG Bantamate II use all the same crimp barrels per wire size and the same crimptooling.

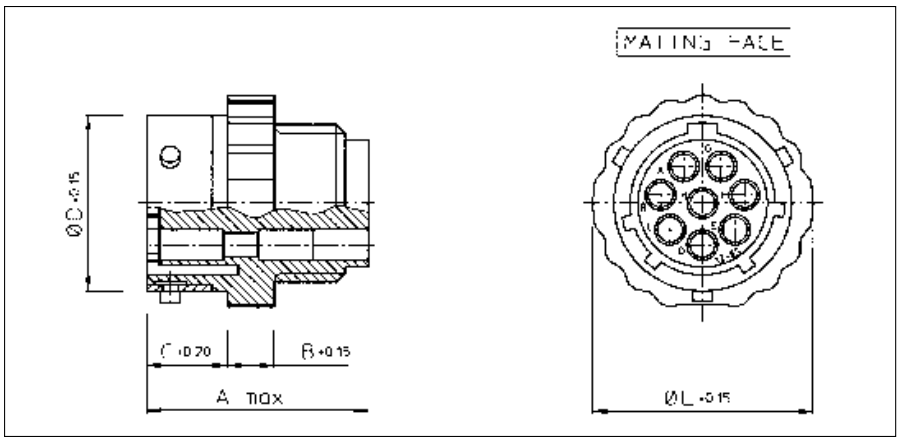
Free hanging receptacle for pin contacts (UTG1- - - -P)



Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	Ø E ±0.15
UTG1104P / UTG1103PVDE	**10**	31.7	5.0	8.65	15.0	19.5
UTG1128P	**12**				19.0	23.5
UTG11412P	**14**				22.2	27.0
UTG11619P	**16**				25.3	30.0
UTG11823P / UTG1187PVDEU	**18**	31.7/34.0		8.65/15.35	28.5	33.0
UTG12028P / UTG12020P	**20**	33.3/34.3		12.05	31.7	36.5
UTG12235P	**22**	33.3			34.9	39.5
UTG12448P	**24**			13.85	38.0	42.5

For waterprotected version add “H” behind “P” e.g. UTG11412PH

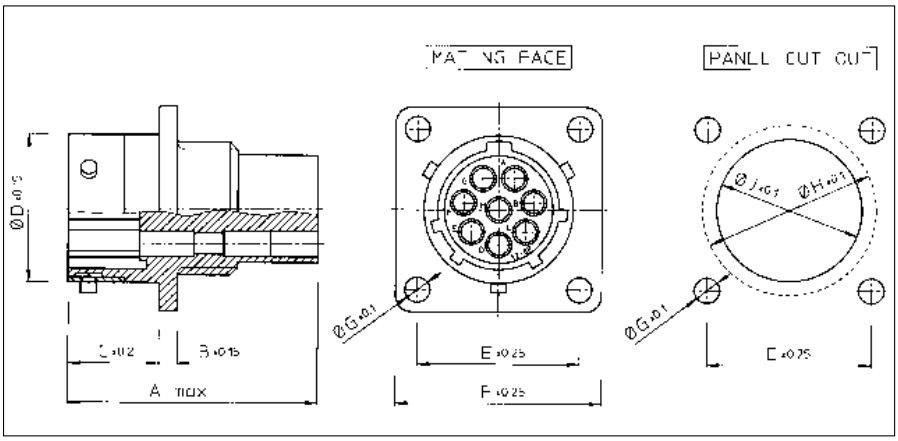
Free hanging receptacle for socket contacts (UTG1- - - -S)



Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	Ø E ±0.15
UTG1104S / UTG1103SVDE	**10**	24.3/27.6	5.0	8.65	15.0	19.5
UTG1128S	**12**	24.3			19.0	23.5
UTG11412S	**14**				22.2	27.0
UTG11619S	**16**				25.3	30.0
UTG11823S / UTG1187SVDEU	**18**	24.3/30.4		8.65/15.35	28.5	33.0
UTG12028S / UTG12020S	**20**	25.9		12.05	31.7	36.5
UTG12235S	**22**				34.9	39.5
UTG12448S	**24**			13.85	38.0	42.5

For waterprotected version add “H” behind “S” e.g. UTG11412SH

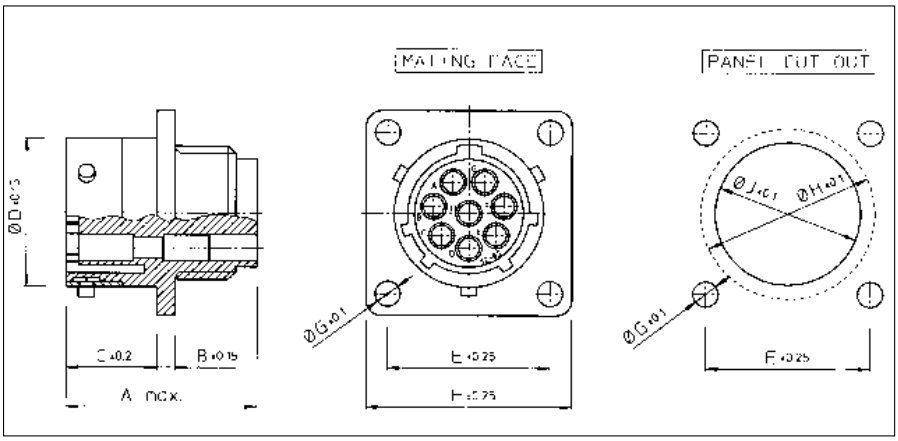
Wall mounting receptacle for pin contacts (UTG0- - - -P)



Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	E ±0.25	F ±0.25	Ø G ±0.1	Ø H ±0.1	Ø J ±0.1
UTG0104P / UTG0103PVDE	10				15.0	18.3	23.8		17.3	15.1
UTG0128P	12		2.3		19.0	20.6	26.2		21.8	18.2
UTG01412P	14	31.7		11.3	22.2	23.0	28.6		25.0	21.4
UTG01619P	16				25.3	24.6	31.0	3.2	28.1	24.6
UTG01823P / UTG0187PVDEU	18	31.7/34.0	2.5	11.3/17.9	28.5	27.0	33.3		31.3	27.8
UTG02028P / UTG02020P	20	33.3/34.3		14.5	31.7	29.4	36.5		34.5	30.9
UTG02235P	22	33.3	3.5		34.9	31.8	39.7		37.7	34.1
UTG02448P	24			15.3	38.0	34.9	42.9	3.9	40.9	37.3

For waterprotected version add “H” behind “P” e.g. UTG01412PH

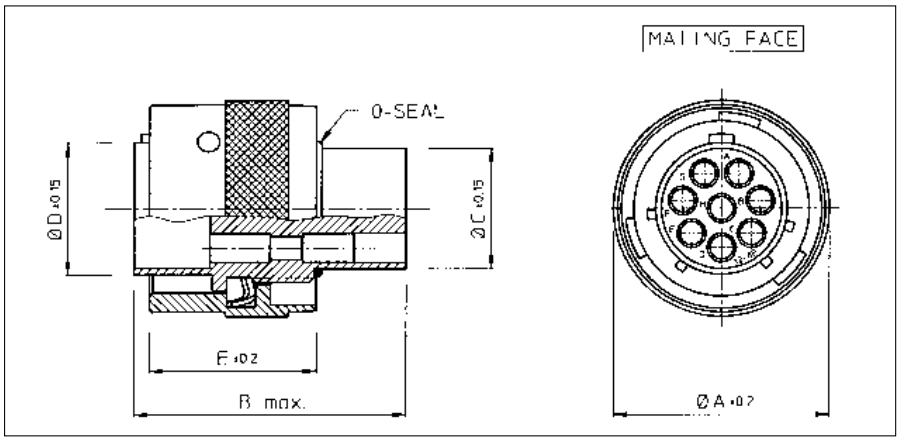
Wall mounting receptacle for socket contacts (UTG0- - - -S)



Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	E ±0.25	F ±0.25	Ø G ±0.1	Ø H ±0.1	Ø J ±0.1
UTG0104S / UTG0103SVDE	10	24.3/27.6			15.0	18.3	23.8		17.3	15.1
UTG0128S	12		2.3		19.0	20.6	26.2		21.8	18.2
UTG01412S	14	24.3		11.3	22.2	23.0	28.6		25.0	21.4
UTG01619S	16				25.3	24.6	31.0	3.2	28.1	24.6
UTG01823S / UTG0187SVDEU	18	24.3/30.4	2.5	11.3/17.9	28.5	27.0	33.3		31.3	27.8
UTG02028S / UTG02020S	20	27.0		14.5	31.7	29.4	36.5		34.5	30.9
UTG02235S	22	28.0	3.5		34.9	31.8	39.7		37.7	34.1
UTG02448S	24	30.4		15.3	38.0	34.9	42.9	3.9	40.9	37.3

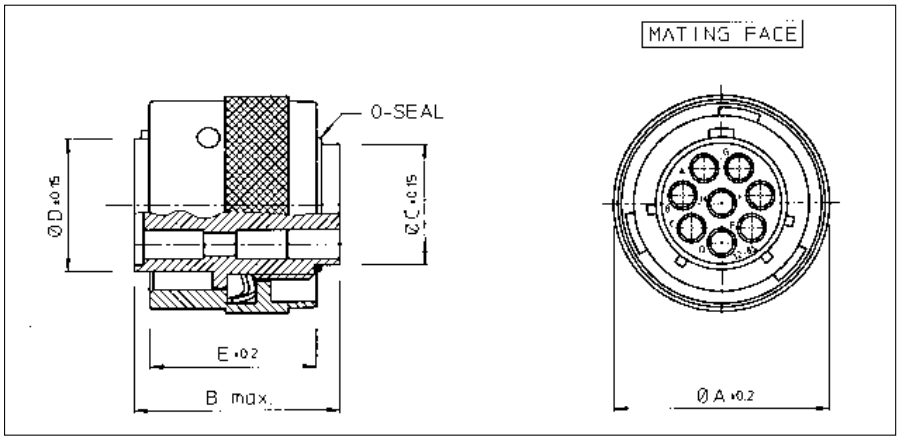
For waterprotected version add “H” behind “S” e.g. UTG01412SH

Cable plug for pin contacts (UTG6- - - -PN)



Part number	Shell size	Ø A ±0.2	B max.	Ø C ±0.15	Ø D ±0.15	E ±0.2
UTG6104PN / UTG6103PNVDE	10	21.6	31.8	10.9	12.2	19.1
UTG6128PN	12	24.8		13.8	15.1	
UTG61412PN	14	28.0		17.0	18.3	
UTG61619PN	16	31.2		19.9	21.5	
UTG61823PN / UTG6187PNVDEU	18	34.3	31.8 / 33.0	22.4	24.0	
UTG62028PN / UTG62020PN	20	37.5	31.8 / 35.3	25.6	27.2	
UTG62235PN	22	40.7	31.8	26.5	30.4	
UTG62448PN	24	43.9		31.7	33.5	

Cable plug for socket contacts (UTG6- - - -SN)



Part number	Shell size	Ø A ±0.2	B max.	Ø C ±0.15	Ø D ±0.15	E ±0.2
UTG6104SN / UTG6103SNVDE	10	21.6	23.9 / 26.75	10.9	12.2	19.1
UTG6128SN	12	24.8	23.9	13.8	15.1	
UTG61412SN	14	28.0		17.0	18.3	
UTG61619SN	16	31.2		19.9	21.5	
UTG61823SN / UTG6187SNVDEU	18	34.3	23.9 / 29.0	22.4	24.0	
UTG62028SN / UTG62020SN	20	37.5	24.9	25.6	27.2	
UTG62235SN	22	40.7		28.5	30.4	
UTG62448SN	24	43.9	26.2	31.7	33.5	

Plastic connector with metal coupling system

Description

"UTG" Metalok Bantam plastic industrial circular connectors with metal coupling are a range of multiway connectors to provide the complete answer to the need for leightweight, robust circular connectors. They are available in 8 shell sizes, 11 insert arrangements **all intermateable, interchangeable and intermountable** with the Trim-Trio "UT0" and "UTP industrial connector families.

Features and benefits

- Available in 8 shell sizes and 11 insert arrangements incl. 3 VDE versions.
- Available in plug and receptacle versions for both male and female contacts.
- Connectors and accessories are moulded from highly durable glass-filled thermoplastic.
- Flammability rating: UL94-V0.
- UL approved-file Nr.: E31151
- Metal bayonet ring:
  - Metal wave spring loaded.
  - Locks with audible positive "click"
  - Assures 500 matings and unmatings

Performance characteristics

Operating temperature:	-55°C to +125°C
Insulation resistance:	5000 MΩ min.
Test potential:	2000 VAC
Durability:	500 matings and unmatings.
Vibration resistance:	Per MIL-STD202 method 204
Thermal shock:	Per MIL-STD202 method 207

Degree of protection per DIN 40050: IP67 in mated condition. "H" version used with UTG —ST cable clamp

Construction

Connector body	Glass filled thermoplast UL94-V0 Colour: black
Coupling ring:	Nickel plated brass
Tri-lock pins:	Stainless steel
Coupling spring:	Spring steel

Contact accommodation

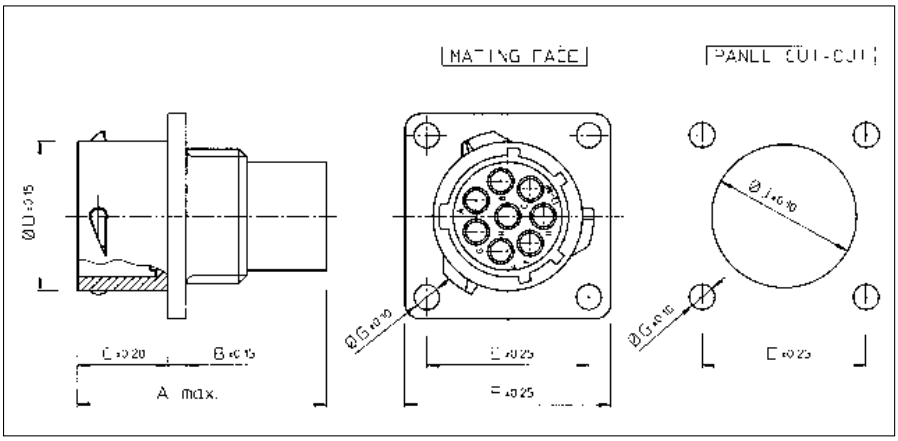
- "UTG" connectors accept Trim-Trio removable snap-lock contacts (see contact section)
- Contacts to be ordered seperately.

How to order

Connector family :	**UTG**	**0**	**14**	**12**	**P**		**H**	**- -**
	UTG	**6**	**14**	**12**	**S**	**N**		**- -**

Body variation:	**0 :** Wall mounting receptacle **6 :** Cable plug **1 :** Free hanging receptacle
Shell size:	
Insert arrangement:	
Type of contacts:	**P :** Pin contacts **S :** Socket contacts
Plating	**N :** Nickelplated bayonet ring
Application	**No letter :** Standard version **H :** Water protected version (only receptacle)
Design variation	**No letter :** Moulded-in contact marking (standard version) **Others :** Specials versions

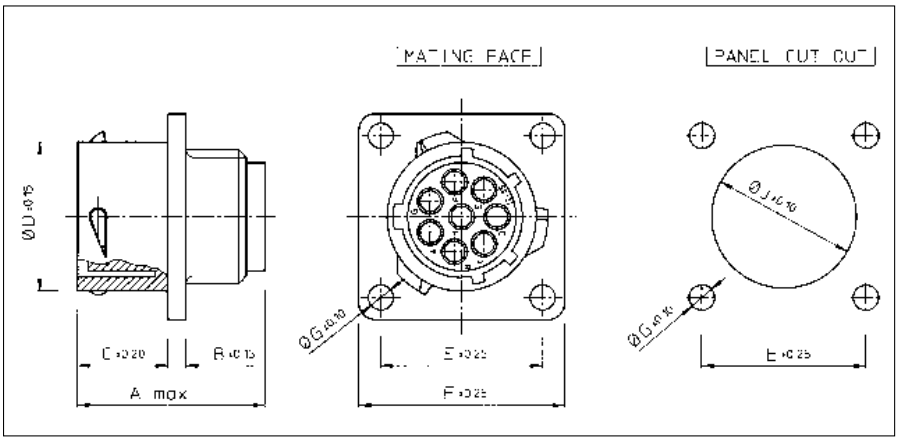
Wall mounting receptacle for pin contacts (UTP0- - - -P)



Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	E ±0.25	F •0.25	Ø G ±0.1	Ø J ±0.1
UTP0104P / UTP0103PVDE	10	31.7	2.3	11.3	15.0	18.3	23.8	3.2	15.1
UTP0128P	12				19.0	20.6	26.2		18.2
UTP01412P	14				22.2	23.0	28.6		21.4
UTP01619P	16				25.3	24.6	31.0		24.6
UTP01823P / UTP0187PVDEU	18	31.7/34.0	2.5	11.3/17.9	28.5	27.0	33.3		27.8
UTP02028P	20	33.3		14.5	31.7	29.4	36.5		30.9
UTP02235P	22		3.5		34.9	31.8	39.7		34.1
UTP02448P	24			15.3	38.0	34.9	42.9	3.9	37.3

For waterprotected version add “H” behind “P” e.g. UTP01412PH

Wall mounting receptacle for socket contacts (UTP0- - - -S)



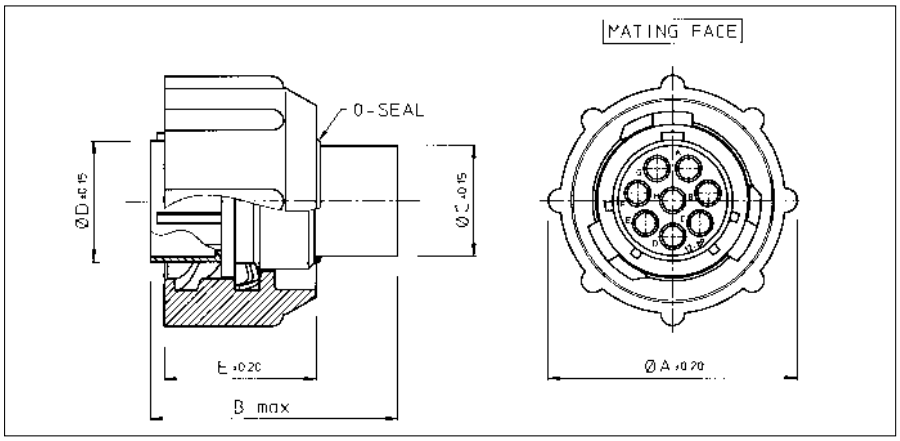
Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	E ±0.25	F •0.25	Ø G ±0.1	Ø J ±0.1
UTP0104S / UTP0103SVDE	10	24.3/27.6	2.3	11.3	15.0	18.3	23.8	3.2	15.1
UTP0128S	12	24.3			19.0	20.6	26.2		18.2
UTP01412S	14				22.2	23.0	28.6		21.4
UTP01619S	16				25.3	24.6	31.0		24.6
UTP01823S / UTP0187SVDEU	18	24.3/30.4	2.5	11.3/17.9	28.5	27.0	33.3		27.8
UTP02028S	20	27.0		14.5	31.7	29.4	36.5		30.9
UTP02235S	22	28.0	3.5		34.9	31.8	39.7		34.1
UTP02448S	24	30.4		15.3	38.0	34.9	42.9	3.9	37.3

For waterprotected version add “H” behind “S” e.g. UTP01412SH

17

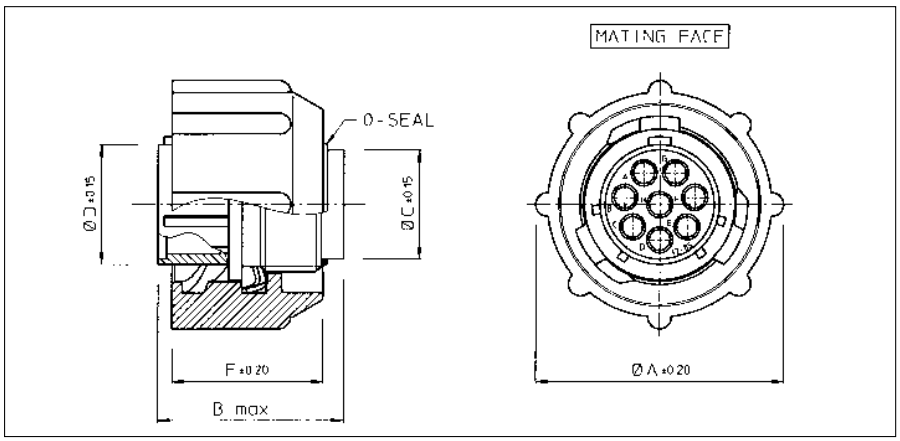
UTP - Full plastic Bantam

Cable plug for pin contacts (UTP6- - - -P)



Part number	Shell size	Ø A ±0.2	B max.	Ø C ±0.15	Ø D ±0.15	Ø E ±0.2
UTP6104P / UTP6103PVDE	10	26.7		10.9	12.2	
UTP6128P	12	31.4		13.8	15.1	
UTP61412P	14	34.5	31.8	17.0	18.3	
UTP61619P	16	37.8		19.9	21.5	19.1
UTP61823P / UTP6187PVDEU	18	40.8	31.8 / 33.0	22.4	24.0	
UTP62028P	20	43.9		25.6	27.2	
UTP62235P	22	47.0	31.8	28.5	30.4	
UTP62448P	24	50.1		31.7	33.5	

Cable plug for socket contacts (UTP6- - - -S)



Part number	Shell size	Ø A ±0.2	B max.	Ø C ±0.15	Ø D ±0.15	Ø E ±0.2
UTP6104S / UTP6103SVDE	10	26.7	23.9 / 26.75	10.9	12.2	
UTP6128S	12	31.4		13.8	15.1	
UTP61412S	14	34.5	23.9	17.0	18.3	
UTP61619S	16	37.8		19.9	21.5	19.1
UTP61823S / UTP6187SVDEU	18	40.8	23.9 / 29.0	22.4	24.0	
UTP62028S	20	43.9	24.9	25.6	27.2	
UTP62235S	22	47.0		28.5	30.4	
UTP62448S	24	50.1	26.2	31.7	33.5	

Full plastic circular Trim Trio connector

Description

"UTP" full plastic industrial circular connectors are a range of multiway connectors.
"UTP" provides the complete answer to the need for economical lightweight, robust circular connectors and is unique in offering a plastic bayonet coupling ring incorporating a metal wave spring, which locks with an audible positive "click".
It is available in 8 shell sizes, 10 insert arrangements all intermateable, interchangeable and intermountable with the Trim-Trio "UT0" (full metal) and "UTG" (plastic with metal coupling ring) industrial connector families.

Features and benefits

- Available in 8 shell sizes and 10 insert arrangements incl. 2 VDE versions.
- Available in plug and receptacle versions for both male and female contacts.
- Connectors and accessories are moulded from highly durable glass-filled thermoplastic.
- Flammability rating: UL94-V0.
- Plastic bayonet ring:
  - Vibration proof thermoplast
  - Metal wave spring loaded.
  - Locks with audible positive "click"

Performance characteristics

Operating temperature:	-55°C to +125°C
Insulation resistance:	5000 MΩ min.
Test potential:	2000 VAC
Durability:	250 matings and unmatings.

Degree of protection per DIN 40050: IP67 in mated condition. "H" version used with UTG--ST cable clamp

Construction

Connector, Bayonet ring and accessories
Gass filled thermoplast UL94-V0
Colour: black

Coupling spring: Spring steel

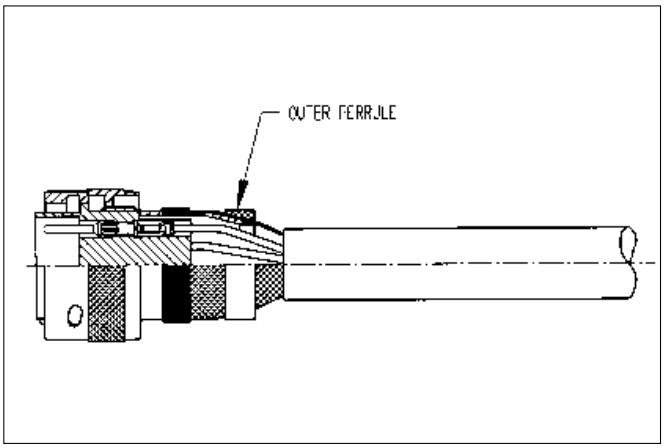
Contact accommodation

- "UTP" connectors accept Trim-Trio removable snap-lock contacts (see contacts section)
- Contacts to be ordered seperately.

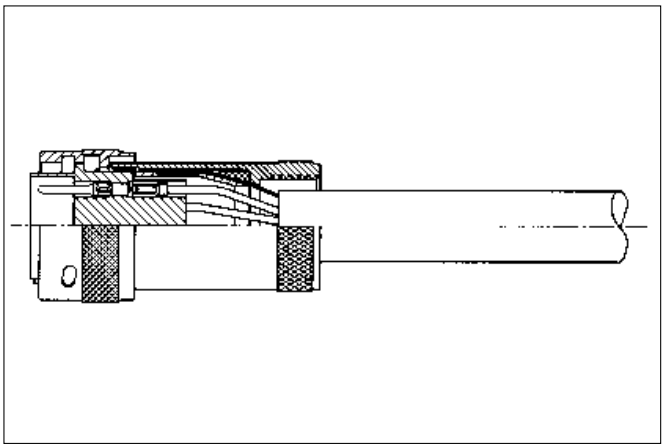
How to order

Connector family :		**UTP** **UTP**	**0** **6**	**14** **14**	**12** **12**	**P** **S**	**H**	**- -** **- -**
Body variation:	0 : Wall mounting receptacle 6 : Cable plug							
Shell size:								
Insert arrangement:								
Type of contacts:	P : Pin contacts S : Socket contacts							
Application	No letter : Standard version H : Water protected version (only receptacle)							
Design variation	No letter : Moulded-in contact marking (standard version) Others : Specials versions							

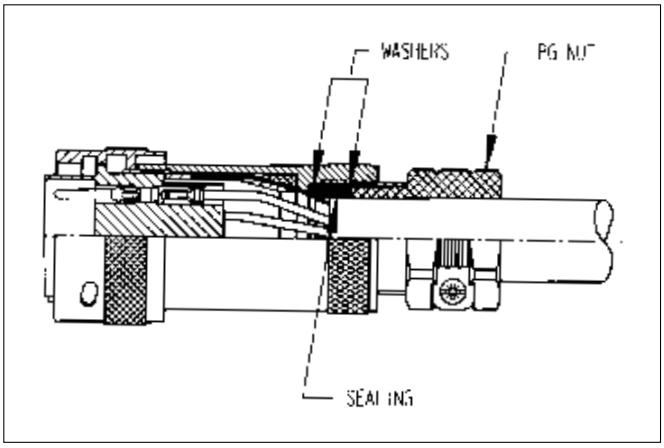
How to assemble shielded connectors ... (cont.)



Slide coupling ring forwards over the connector.
Slide outer shielding ferrule over the shield.
Push the cable a little foreward to avoid stress on wires, contact and braid after tightening the PG-tube.



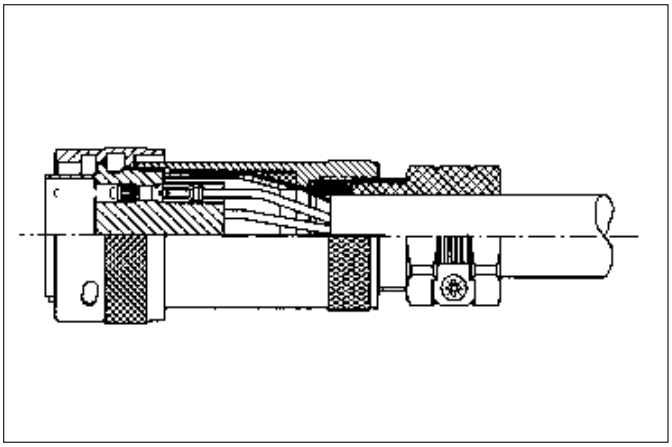
Screw the PG-tube onto the connector using a strap wrench.
Put the plug in an empty receptacle and fix the receptacle in a bench.
Tighten the PG-tube with the recommended torque moments given in table and prevent the cable of twisting.
For Strap wrench and torque meters cosult factory.



Screw the sealing and the PG-nut into the PG-tube to achieve sealing.
Tighten up cable clamp.
Note: Tightening the PG-tube with its PG-nut and sealing might twist the braid.

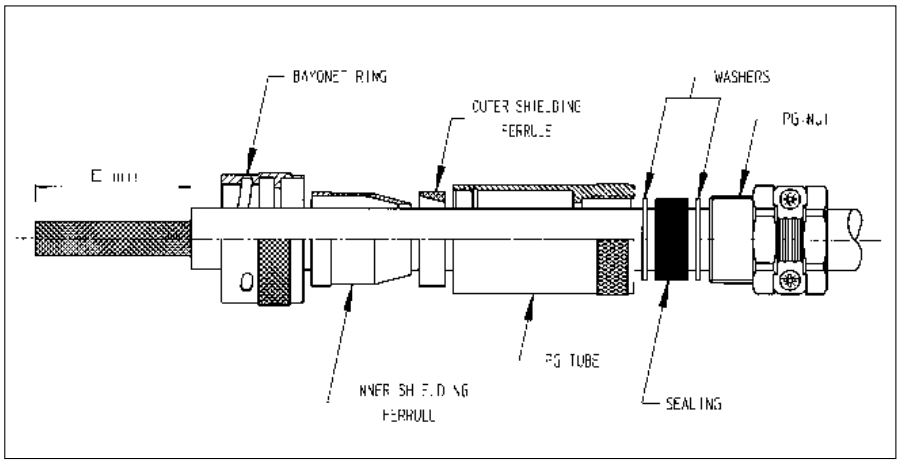
SIZE-NR. POS.	TORQUE PG-TUBE
10 - 4	4 Nm max.
12 - 8	6 Nm max.
14 - 12	10 Nm max.
16 - 19	10 Nm max.
18 - 23	10 Nm max.
20 - 28	15 Nm max.
22 - 35	15 Nm max.
24 - 48	15 Nm max.

Recommended torque moments to tighten PG-tube onto connector.



Shielded connector in assembled condition.

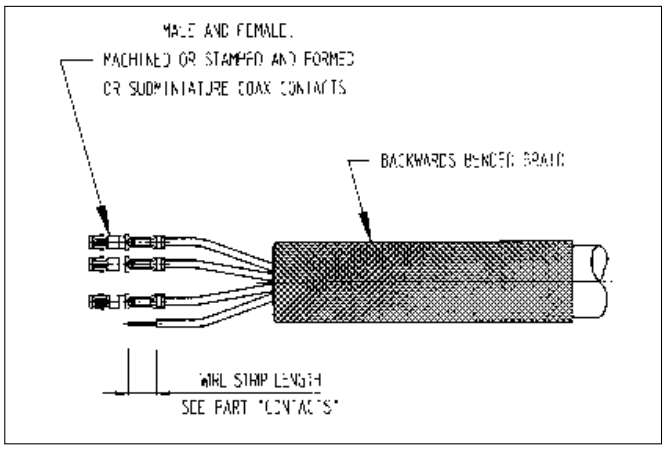
How to assemble shielded connectors ...



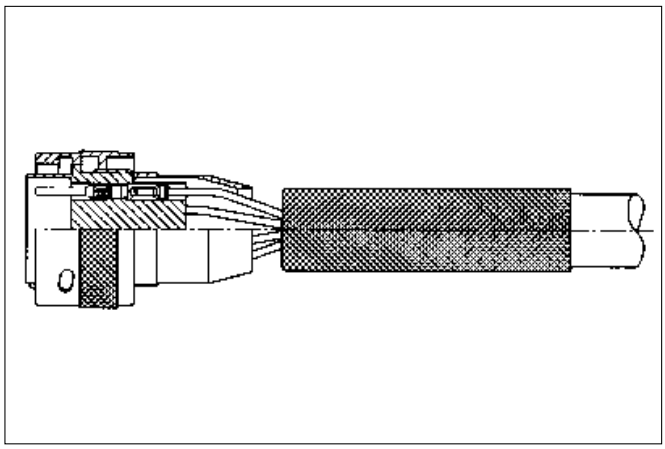
Put all parts over the cable, including the coupling ring, as mentioned on the picture.
Strip the outer jacket with the dimensions given in the table.

SIZE-NR. POS.	DIM E
10 - 4	22.3
12 - 8	22.3
14 - 12	26.2
16 - 19	28.1
18 - 23	31.7
20 - 28	35.3
22 - 35	40.5
24 - 48	44.4

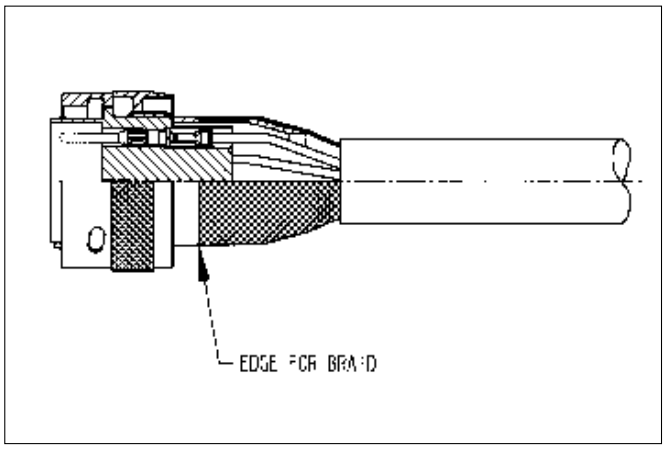
Recommended cable strip dimensions



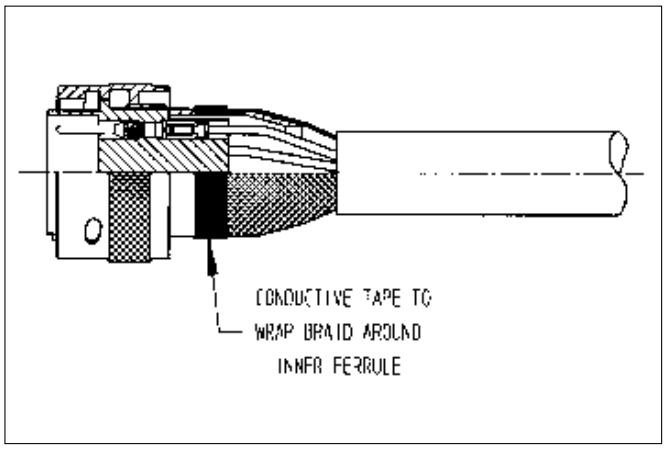
Bend the braid backwards over the cable jacket.
Strip the wires (refer to contact section).
Crimp the contacts.



Insert contact into connector.
Slide inner shielding ferrule over the connector.



Bend the braid back over the conical part of the inner shielding ferrule.
Cut the shield so that it does not pass the front edge as shown



Wrap shielding around inner shielding ferrule using a conductive tape.
.Make sure that the braid is wrapped equally around the ferrule to avoid misalignment when assembled.

Shielded circular TRIM TRIO connectors UT0 and UTGS

Description

With the increasing coverage of the electromagnetic spectra and the constantly increasing use of electronic hardware, the need for control on electronic equipment to operate in electromagnetically noisier environments and greater control is one of the main issues.
More and more electronic equipment will be required to meet an EMC (Electro Magnetic Compatibility) specification which controls the level of EM emmisions being upset by interfering RF (Radio Frequency) and EM (Electro Magnetic) fields.
A full solution to the problem consists in the consideration of each and every aspect within a design, starting at the board level and working outwards through the connector to the enclosure and then on to the power supply and signal cabling.
As a result, UT0 and UTGS are available with shielded backshells including a " two conical ferrule shielding system".

Shielding effectiveness is a functional method to characterise the shield leakage, since it offers us the relation between the measured power progression from shielding leakage and the reference power delivered to the test-cel.

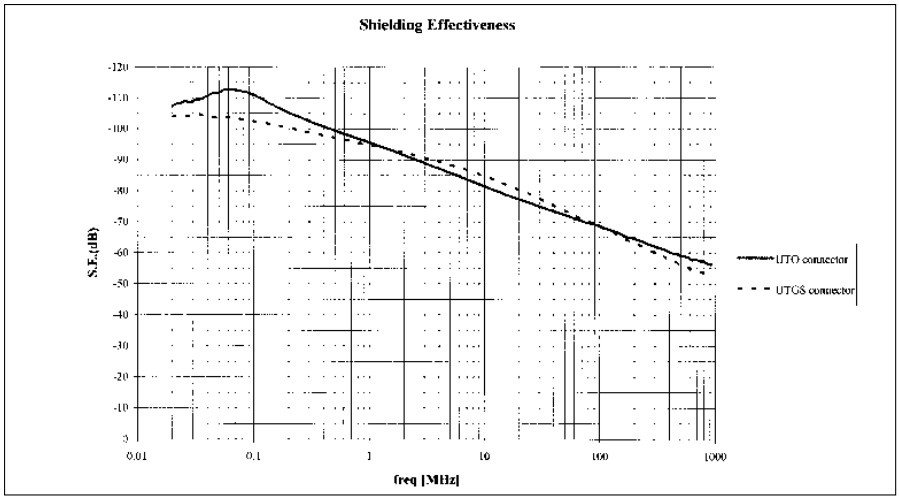
Test set-up

The measurements are performed with the triaxial setup.
The connectors are embedded in a rectangular testcell (see picture)
For the circular connectors an inner conductor is contructed to obtain a 50Ω coaxial transmission line, to which a power level Pin is delivered. The shield of the connector and the walls from the triaxial cell form the second coaxial transmission line. The output power
Pout at one end of the short-circuited second transmission line is measured with a spectrum analyser. From the average of these quantities, the shielding effectiveness is calculated (see formula and resulting chart).

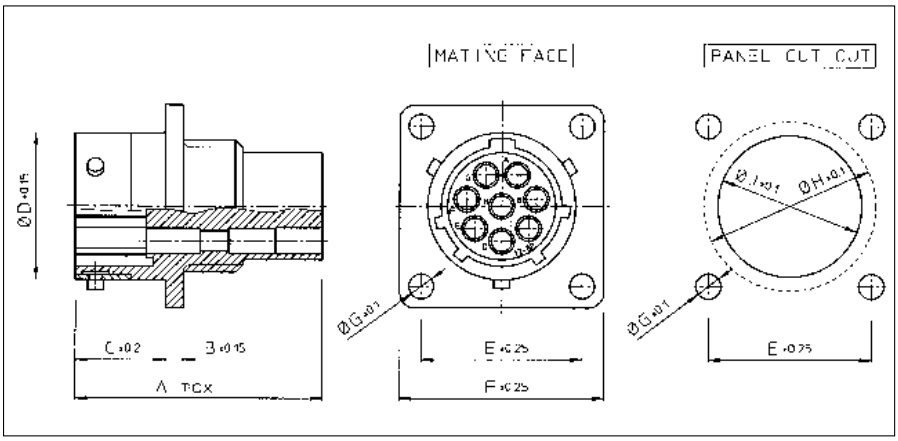
Formula: Shielding effectiveness in dB

$$S.E.\ (dB) = 10 \times \mathrm{Log}\left(\frac{P_{in}}{P_{out}}\right)$$

Shielding effectiveness chart for UT0 and UTGS



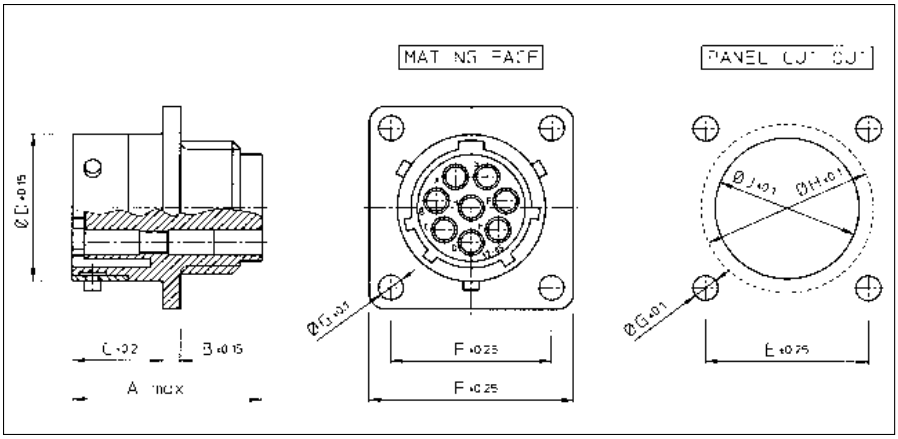
Shielded wall mounting receptacle for pin contacts (UTGS0- - - -PN)



Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	E ±0.25	F ±0.25	Ø G ±0.1	Ø H ±0.1	Ø J ±0.1
UTGS0104PN / UTGS0103PNVDE	10				15.0	18.3	23.8		17.3	15.1
UTGS0128PN	12		2.3		19.0	20.6	26.2		21.8	18.2
UTGS01412PN	14	31.7		11.3	22.2	23.0	28.6		25.0	21.4
UTGS01619PN	16				25.3	24.6	31.0	3.2	28.1	24.6
UTGS01823PN / UTGS0187PNVDEU	18	31.7/34.0	2.5	11.3/17.9	28.5	27.0	33.3		31.3	27.8
UTGS02028PN / UTGS02020PN	20	33.3/34.3		14.5	31.7	29.4	36.5		34.5	30.9
UTGS02235PN	22	33.3	3.5		34.9	31.8	39.7		37.7	34.1
UTGS02448PN	24			15.3	38.0	34.9	42.9	3.9	40.9	37.3

For waterprotected version add “H” behind “P” e.g. UTGS01412PHN

Shielded wall mounting receptacle for socket contacts (UTGS0- - - -SN)

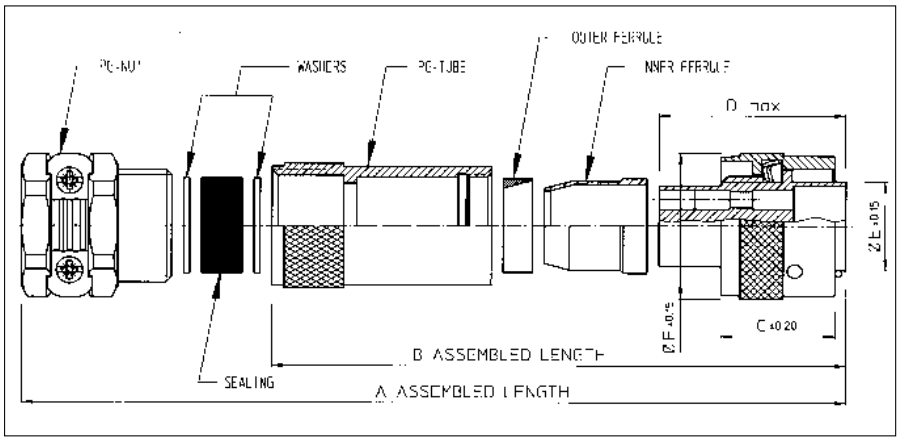


Part number	Shell size	A max.	B ±0.15	C ±0.2	Ø D ±0.15	E ±0.25	F ±0.25	Ø G ±0.1	Ø H ±0.1	Ø J ±0.1
UTGS0104SN / UTGS0103SNVDE	10	24.3/27.6			15.0	18.3	23.8		17.3	15.1
UTGS0128SN	12		2.3		19.0	20.6	26.2		21.8	18.2
UTGS01412SN	14	24.3		11.3	22.2	23.0	28.6		25.0	21.4
UTGS01619SN	16				25.3	24.6	31.0	3.2	28.1	24.6
UTGS01823SN / UTGS0187SNVDEU	18	24.3/30.4	2.5	11.3/17.9	28.5	27.0	33.3		31.3	27.8
UTGS02028SN / UTGS02020SN	20	27.0		14.5	31.7	29.4	36.5		34.5	30.9
UTGS02235SN	22	28.0	3.5		34.9	31.8	39.7		37.7	34.1
UTGS02448SN	24	30.4		15.3	38.0	34.9	42.9	3.9	40.9	37.3

For waterprotected version add “H” behind “S” e.g. UTGS01412SHN

UTGS - Shielded Bantam

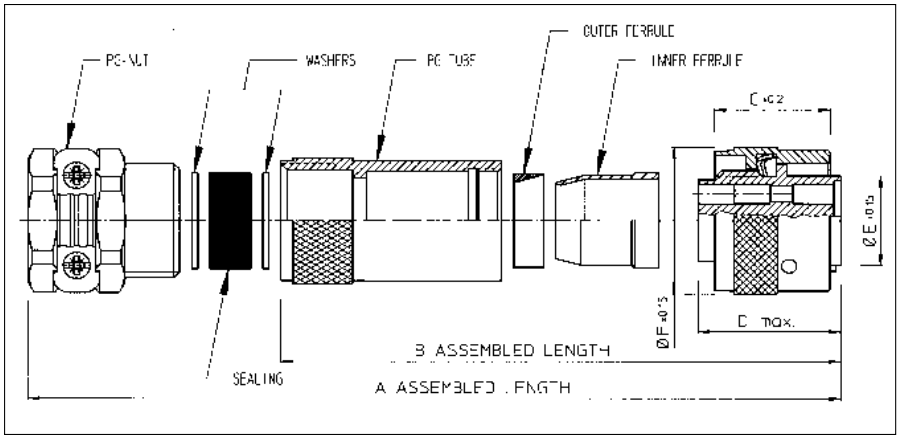
Shielded cable plug for pin contacts (UTGS6PG- - - -PN)



Part number	Shell size	A	B	C ±0.2	D Max.	Ø E ±0.15	F ±0.15	Max cable Ø
UTGS6PG104PN / UTGS6PG103PNVDE	**10**	70/74.1	52.2/56.3	19.1	31.8	12.2	21.6	11.0
UTGS6PG128PN	**12**	74	53.2			15.1	24.8	13.5
UTGS6PG1412PN	**14**	81	58.2			18.3	28.0	14.5
UTGS6PG1619PN	**16**	84	61.2			21.5	31.2	16.5
UTGS6PG1823PN / UTGS6PG187PNVDEU	**18**	88/94.4	65.2/71.6		31.8/33.0	24.0	34.3	16.5
UTGS6PG2028PN / UTGS6PG2020PN	**20**	101	70.9		31.8/35.3	27.2	37.5	22.0
UTGS6PG2235PN	**22**	107	76.9		31.8	30.4	40.7	22.0
UTGS6PG2448PN	**24**	120	81.9			33.5	43.9	29.5

- For ass'y procedure see shielded connectors section

Shielded cable plug for socket contacts (UTGS6PG- - - -SN)



Part number	Shell size	A	B	C ±0.2	D Max.	Ø E ±0.15	F ±0.15	Max cable Ø
UTGS6PG104SN / UTGS6PG103SNVDE	**10**	70/74.1	52.2/56.3	19.1	23.9/26.8	12.2	21.6	11.0
UTGS6PG128SN	**12**	74	53.2		23.9	15.1	24.8	13.5
UTGS6PG1412SN	**14**	81	58.2			18.3	28.0	14.5
UTGS6PG1619SN	**16**	84	61.2			21.5	31.2	16.5
UTGS6PG1823SN / UTGS6PG187SNVDEU	**18**	88/94.4	65.2/71.6		23.9/29.0	24.0	34.3	16.5
UTGS6PG2028SN / UTGS6PG2020SN	**20**	101	70.9		24.9	27.2	37.5	22.0
UTGS6PG2235SN	**22**	107	76.9			30.4	40.7	22.0
UTGS6PG2448SN	**24**	120	81.9		26.2	33.5	43.9	29.5

- For ass'y procedure see shielded connectors section

Metallised plastic connector for EMC requirements

Description

"UTGS" Shielded Bantam are a range of industrial circular connectors suitable for EMC requirements.
It is a range of multiway connectors available in 8 shell sizes and 11 insert arrangements all intermateable, interchangeable and intermountable with the Trim-Trio "UT0" metal connector families.
Finding its origin in the "UTG" range, "UTGS" keeps the metal locking system, whilst the connectors are selectively metallised.
This together with a new shielded backshell offers a competent, reliable, user friendly and cost effective solution .

Features and benefits

- Suitable for EMC requirements.
- Shielded backshell is independent from the cable diameter and its shielding.
- Available in 8 shell sizes and 13 insert arrangements incl. 3 VDE versions and one power version.
- Available in plug and receptacle versions for both male and female contacts.
- Connectors are moulded from highly durable glass-filled thermoplastic. Selectively nickel plated
- Flammability rating: UL94-V0.
- Metal bayonet ring:
  - Metal wave spring loaded.
  - Locks with audible positive "click"
  - Assures 500 matings and unmatings

Performance characteristics

Operating temperature:	-55°C to +125°C
Insulation resistance:	5000 MΩ min.
Test potential:	2000 VAC
Durability: unmatings.	500 matings and
Vibration resistance:	Per MIL-STD202 method 204
Thermal shock:	Per MIL-STD202 method 207
Corrosion:	Salt spray per MIL-STD 202 method 101

Shielding effectiveness: 95 dB at 1 Mhz (See shielded connectors section)

Degree of protection per DIN 40050: IP67 in mated condition. "H" version

Construction

Connector body
Glass filled thermoplast UL94-V0
Colour: black
Selectively nickel plated

Coupling ring: Nickel plated brass

Tri-lock pins: Stainless steel

Coupling spring: Spring steel

Shielded backshell : Nickel plated Aluminium alloy.

Contact accommodation

- "UTGS" connectors accept Trim-Trio removable snap-lock contacts (see contact section)
- Contacts to be ordered seperately.

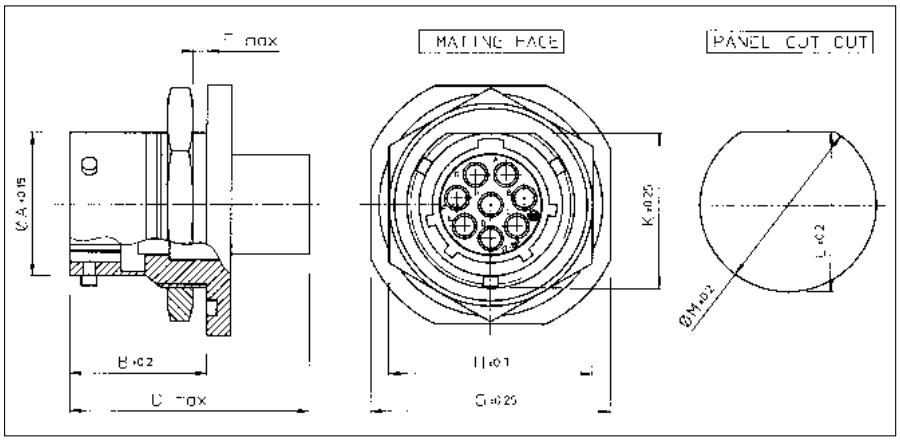
How to order

Connector family:	**UTGS**	**6**	**PG**	**14**	**12**	**P**	**H**	**–**	**N**
	UTGS	**0**		**14**	**12**	**S**		**–**	**N**

Body variation:	**0 :** Wall mounting receptacle **6 :** Cable plug **1 :** Free hanging receptacle
Shielded backshell:	
Shell size:	
Insert arrangement:	
Type of contacts:	**P :** Pin contacts **S :** Socket contacts
Application:	**No letter :** Standard version **H :** Water protected version (only receptacle)
Design variation:	**No letter :** Moulded-in contact marking (standard version) **others :** Special versions
Plating:	**N :** Nickel plated

Notes

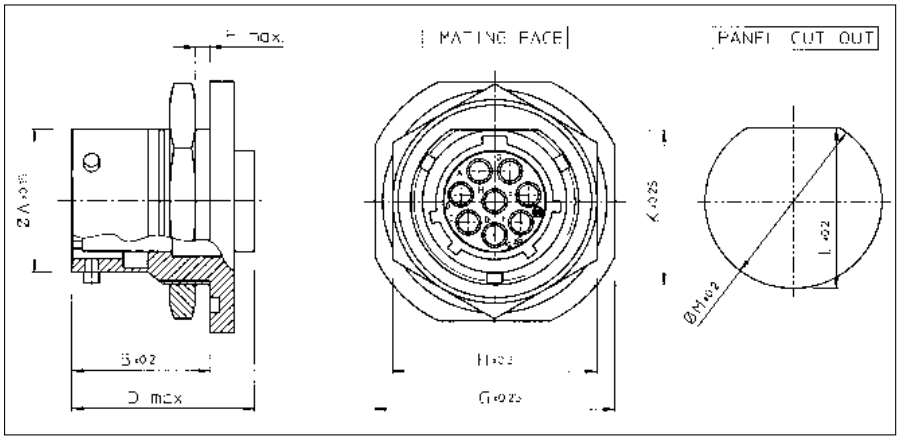
Bulk head receptacle for pin contacts (UT07- - - -PT) - suitable for rear panel mounting



Part number	Shell size	A ±0.15	B ±0.2	D max.	F max.	G ±0.25	H ±0.2	K ±0.2	L ±0.12	Ø M ±0.2
UT07104PT	**10**	14.9				27.0	22.2	16.6	17.0	17.7
UT07128PT	**12**	19.0				31.8	27.0	20.8	21.2	22.5
UT071412PT	**14**	22.2	18.0	31.7	3.2	34.9	30.2	23.9	24.3	25.7
UT071619PT	**16**	25.3				38.1	33.3	27.1	27.5	28.7
UT071823PT	**18**	28.5				41.3	36.5	30.3	30.6	32.0
UT072028PT	**20**	31.7	22.7			46.1	39.7	33.4	33.8	35.2
UT072235PT	**22**	34.9		33.3	6.4	49.2	42.9	36.6	37.0	38.4
UT072448PT	**24**	38.0	23.6			52.4	46.0	39.8	40.1	41.5

For waterprotected version add “H” behind “P” e.g. UT071412PHT

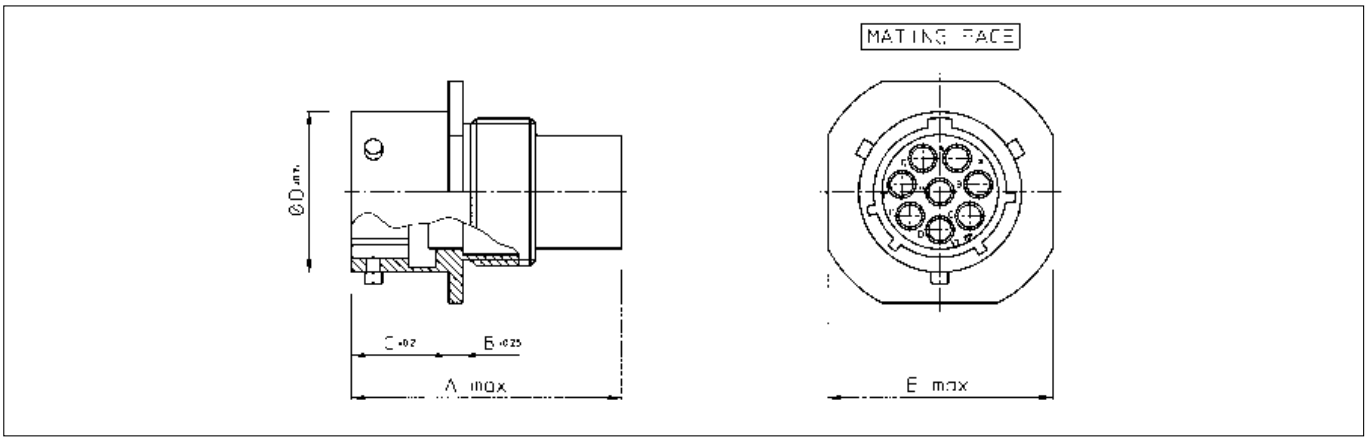
Bulk head receptacle for socket contacts (UT07- - - -ST) - suitable for rear panel mounting



Part number	Shell size	A ±0.15	B ±0.2	D max.	F max.	G ±0.25	H ±0.2	K ±0.2	L ±0.12	Ø M ±0.2
UT07104ST	**10**	14.9				27.0	22.2	16.6	17.0	17.7
UT07128ST	**12**	19.0				31.8	27.0	20.8	21.2	22.5
UT071412ST	**14**	22.2	18.0	24.3	3.2	34.9	30.2	23.9	24.3	25.7
UT071619ST	**16**	25.3				38.1	33.3	27.1	27.5	28.7
UT071823ST	**18**	28.5				41.3	36.5	30.3	30.6	32.0
UT072028ST	**20**	31.7	22.7			46.1	39.7	33.4	33.8	35.2
UT072235ST	**22**	34.9		25.9	6.4	49.2	42.9	36.6	37.0	38.4
UT072448ST	**24**	38.0	23.6			52.4	46.0	39.8	40.1	41.5

For waterprotected version add “H” behind “S” e.g. UT071412SHT

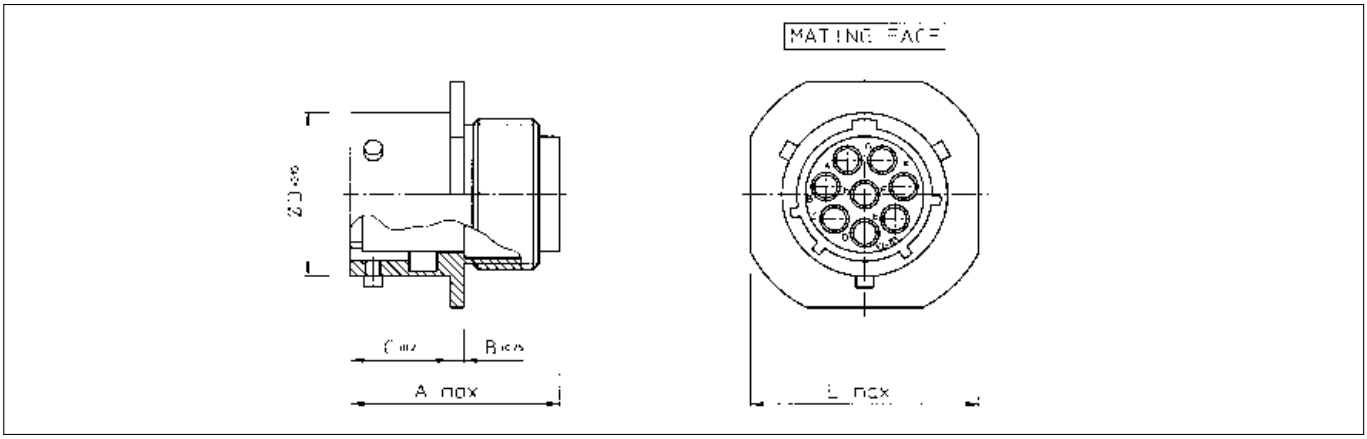
Free hanging receptacle for pin contacts (UT01- - - -PT) - suitable for cable to cable applications



Part number	Shell size	A max.	B ±0.25	C ±0.2	Ø D ±0.15	Ø E max.
UT01104PT	10	31.7	1.6	11.3	14.9	24.1
UT01128PT	12				19.0	26.4
UT011412PT	14				22.2	28.8
UT011619PT	16				25.3	31.2
UT011823PT	18				28.5	33.6
UT012028PT	20	33.3	2.4	14.5	31.7	36.8
UT012235PT	22				34.9	39.9
UT012448PT	24			15.3	38.0	43.1

For waterprotected version add “H” behind “P” e.g. UT011412PHT

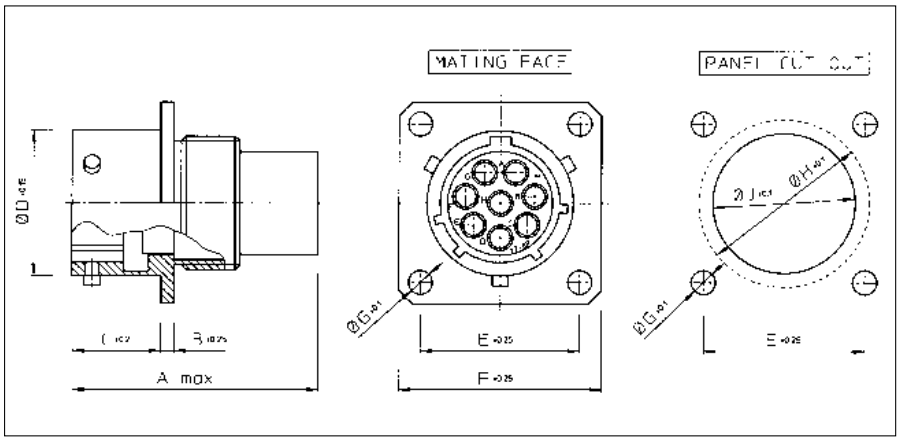
Free hanging receptacle for socket contacts (UT01- - - -ST) - suitable for cable to cable applications



Part number	Shell size	A max.	B ±0.25	C ±0.2	Ø D ±0.15	Ø E max.
UT01104ST	10	24.3	1.6	11.3	14.9	24.1
UT01128ST	12				19.0	26.4
UT011412ST	14				22.2	28.8
UT011619ST	16				25.3	31.2
UT011823ST	18				28.5	33.6
UT012028ST	20	25.9	2.4	14.5	31.7	36.8
UT012235ST	22				34.9	39.9
UT012448ST	24			15.3	38.0	43.1

For waterprotected version add “H” behind “S” e.g. UT011412SHT

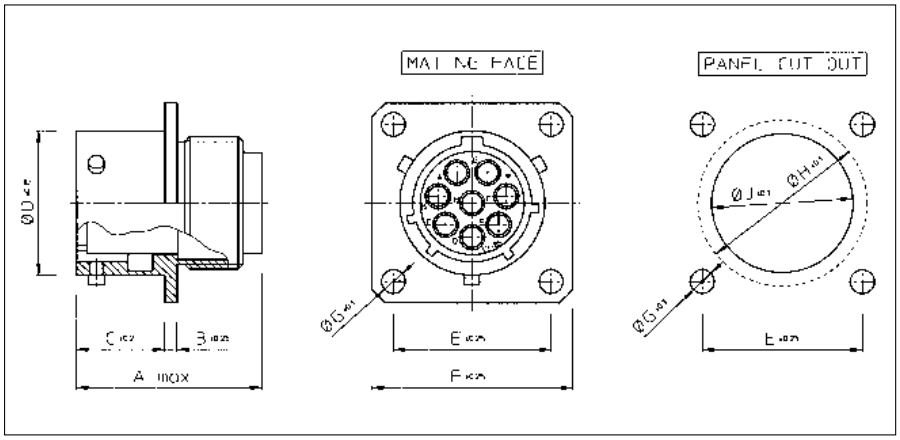
Wall mounting receptacle for pin contacts (UT00- - - -PT)



Part number	Shell size	A max.	B ±0.25	C ±0.2	Ø D ±0.15	E ±0.25	F ±0.25	Ø G ±0.1	Ø H ±0.1	Ø J ±0.1
UT00104PT	10	31.7	1.6	11.3	15.0	18.3	23.8	3.2	17.3	15.1
UT00128PT	12				19.0	20.6	26.2		21.8	18.2
UT001412PT	14				22.2	23.0	28.6		25.0	21.4
UT001619PT	16				25.3	24.6	31.0		28.1	24.6
UT001823PT	18				28.5	26.9	33.3		31.3	27.8
UT002028PT	20	33.3	2.4	14.5	31.7	29.4	36.5		34.5	30.9
UT002235PT	22				34.9	31.8	39.7		37.7	34.1
UT002448PT	24			15.3	38.0	34.9	42.9	3.9	40.9	37.3

For waterprotected version add “H” behind “P” e.g. UT001412PHT

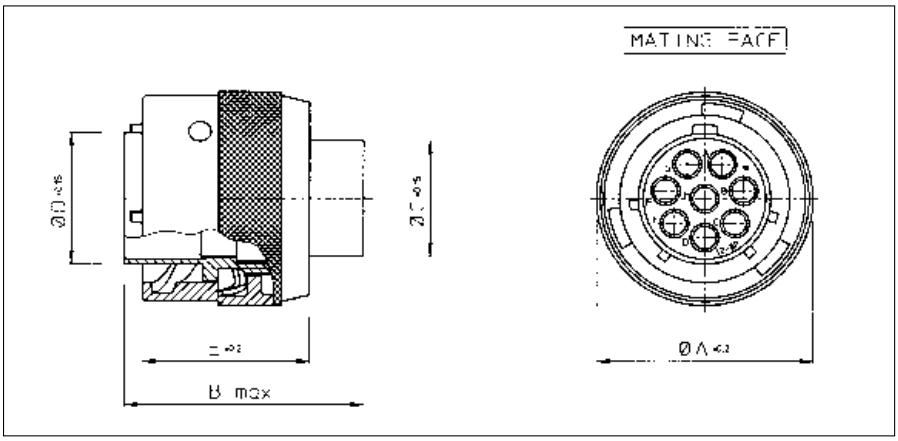
Wall mounting receptacle for socket contacts (UT00- - - -ST)



Part number	Shell size	A max.	B ±0.25	C ±0.2	Ø D ±0.15	E ±0.25	F ±0.25	Ø G ±0.1	Ø H ±0.1	Ø J ±0.1
UT00104ST	10	24.3	1.6	11.3	15.0	18.3	23.8	3.2	17.3	15.1
UT00128ST	12				19.0	20.6	26.2		21.8	18.2
UT001412ST	14				22.2	23.0	28.6		25.0	21.4
UT001619ST	16				25.3	24.6	31.0		28.1	24.6
UT001823ST	18				28.5	26.9	33.3		31.3	27.8
UT002028ST	20	25.9	2.4	14.5	31.7	29.4	36.5		34.5	30.9
UT002235ST	22				34.9	31.8	39.7		37.7	34.1
UT002448ST	24			15.3	38.0	34.9	42.9	3.9	40.9	37.3

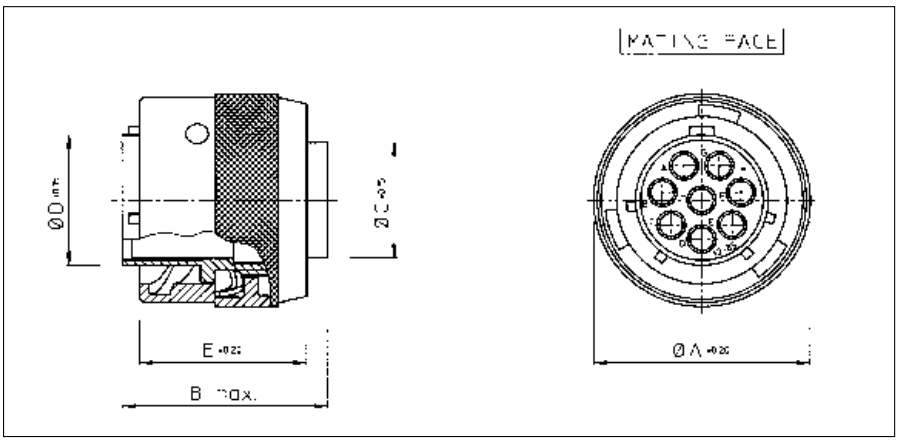
For waterprotected version add “H” behind “S” e.g. UT001412SHT

Cable plug for pin contacts (UT06- - - -PT)



Part number	Shell size	Ø A ±0.2	B max.	Ø C ±0.15	Ø D ±0.15	E ±0.2
UT06104PT	10	21.6	31.8	10.2	12.3	19.1
UT06128PT	12	24.8		13.4	15.1	
UT061412PT	14	28.0		16.7	18.3	
UT061619PT	16	31.2		19.7	21.5	
UT061823PT	18	34.3		21.7	24.0	
UT062028PT	20	37.5		24.9	27.2	
UT062235PT	22	40.7		28.1	30.4	
UT062448PT	24	43.9		31.2	33.5	

Cable plug for socket contacts (UT06- - - -ST)



Part number	Shell size	Ø A ±0.2	B max.	Ø C ±0.15	Ø D ±0.15	E ±0.2
UT06104ST	10	21.6	31.8	10.2	12.3	19.1
UT06128ST	12	24.8		13.4	15.1	
UT061412ST	14	28.0		16.7	18.3	
UT061619ST	16	31.2		19.7	21.5	
UT061823ST	18	34.3		21.7	24.0	
UT062028ST	20	37.5	24.9	24.9	27.2	
UT062235ST	22	40.7		28.1	30.4	
UT062448ST	24	43.9	26.2	31.2	33.5	

Metal circular connector

(Suitable for EMC requirements)

Description

"UT0" Bantam industrial circular connectors are a range of multiway connectors available in 8 shell sizes and 8 insert arrangements all intermateable, interchangeable and intermountable with the Trim-Trio "UTG" , "UTGS" and "UTP industrial connector families.
"UT0" is equipped with identical shells from military connectors complying to MIL-C-26482 spec.
Strong and rugged built to resist every environmental and mechanical requirement for indoor and outdoor applications.
In combination with the shielded backshell , "UT0" offers the perfect solution to EMC requirements.

Features and benefits

- Suitable for EMC requirements.
- Shielded backshell is independent of the cable diameter and its shielding.
- Available in 8 shell sizes and 8 insert arrangements.
- Available in plug and receptacle version for both male and female contacts.
- Shells and accessories are made from tin plated corrosion resistant Aluminium.
- Plastic inserts with flammability rating: UL94-V0.
- Alu. bayonet ring:
  - Metal wave spring loaded.
  - Locks with audible positive "click"
  - Assures 500 matings and unmatings

Performance characteristics

Operating temperature:	-55°C to +125°C
Insulation resistance:	5000 MΩ min.
Test potential:	2000 VAC
Durability:	500 matings and unmatings.
Vibration resistance:	Per MIL-STD202 method 204
Thermal shock:	Per MIL-STD202 method 207
Corrosion:	Salt spray per MIL-STD 202 method 101

Shielding effectiveness: 95 dB at 1 Mhz (see shielded connectors section)

Degree of protection per DIN 40050: IP65 in mated condition. "H" version used with UTG-PG cable clamp

Construction

Shells and accessories: Alumimium alloy
Coupling ring: Aluminium alloy
Tri-lock pins: Stainless steel
Coupling spring: Spring steel
Insert: Glass-filled thermoplast UL94-V0
Finish: Bright tin (standard)

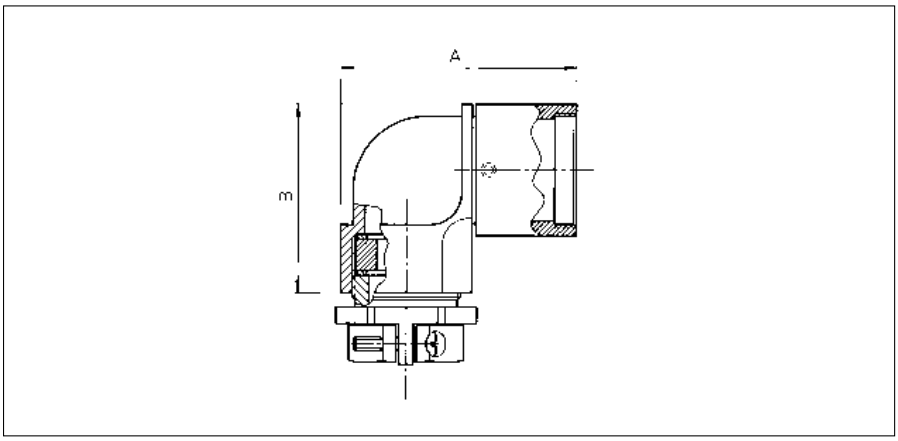
Contact accommodation

- "UT0" connectors accept Trim-Trio removable snap-lock contacts (see contacts section)
- Contacts to be ordered seperately.

How to order

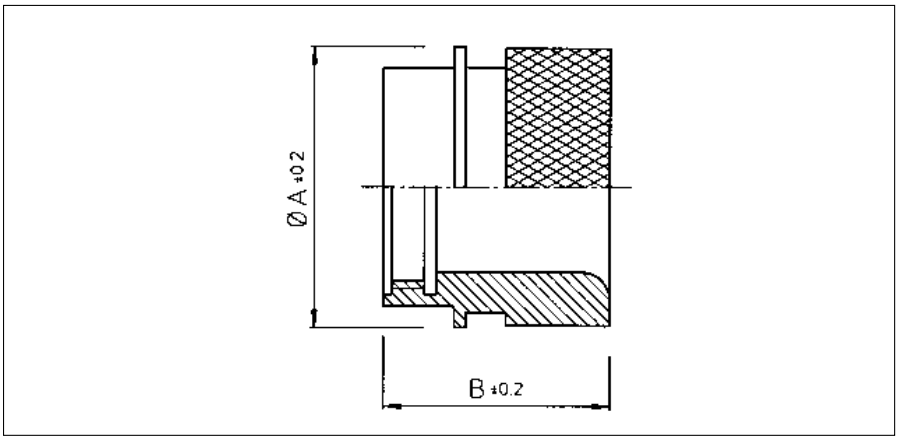
		UT0 UT0	0 6	14 14	12 12	P S	– –	H	– –	T
Body variation:	**0 :** Wall mounting receptacle **6 :** Cable plug **1 :** Free hanging receptacle **7 :** Bulk head receptacle for rear panel mounting									
Shell size:										
Insert arrangement:										
Type of contacts:	**P :** Pin contacts **S :** Socket contacts									
Insert polarisation:	**No letter :** Standard version									
Application:	**No letter :** Standard version **H :** Water protected version (only receptacle)									
Design variation:	**No letter :** Standard version **Others :** Special versions									
Plating:	**T :** Bright tin (Standard version)									

Metal right angle cable clamp with strain relief nut (UTO--LPGN)



Part number	Shell size	A max	B max	Cable range
UTO10LPGN	**10**	42.5	29.5	13.5 x 5 x 8
UTO12LPGN	**12**	43.5	31.5	16 x 7 x 10.5 x 13
UTO14LPGN	**14**	46.5	35.5	18.5 x 7 x 10.5 x 13 x 16
UTO16LPGN	**16**	53.0	39.5	20.5 x 8 x 10.5 x 13 x 16
UTO18LPGN	**18**	57.0	455.	20.5 x 8 x 10.5 x 13 x 16
UTO20LPGN	**20**	58.0	46.5	26 x 11 x 15 x 18 x 22
UTO22LPGN	**22**	58.0	48.0	26 x 11 x 15 x 18 x 22
UTO24LPGN	**24**	67.0	54.0	35 x 19 x 23 x 27 x 31

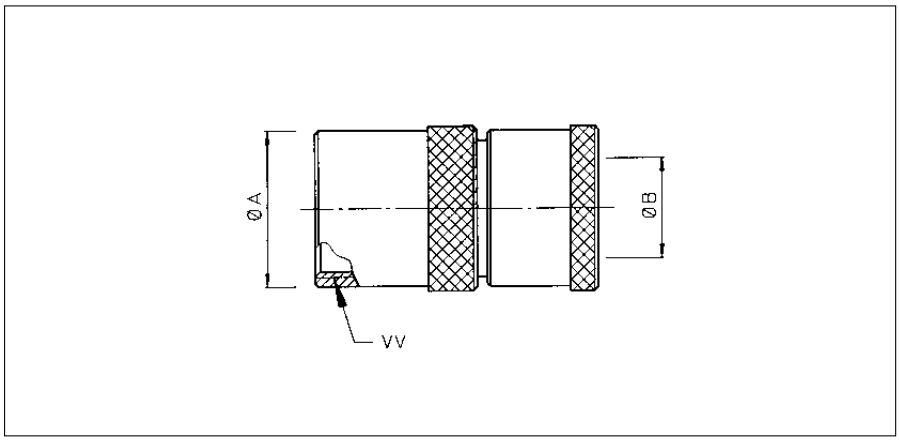
Metal shrink boot adaptor (UTG--AD)



Part number	Shell size	Ø A$^{\pm 0.2}$	B
UTG10AD	**10**	21.0	19.2
UTG12AD	**12**	24.0	
UTG14AD	**14**	27.0	
UTG16AD	**16**	30.0	21.5
UTG18AD	**18**	33.3	
UTG20AD	**20**	36.5	22.8
UTG22AD	**22**	39.7	
UTG24AD	**24**	42.9	21.9

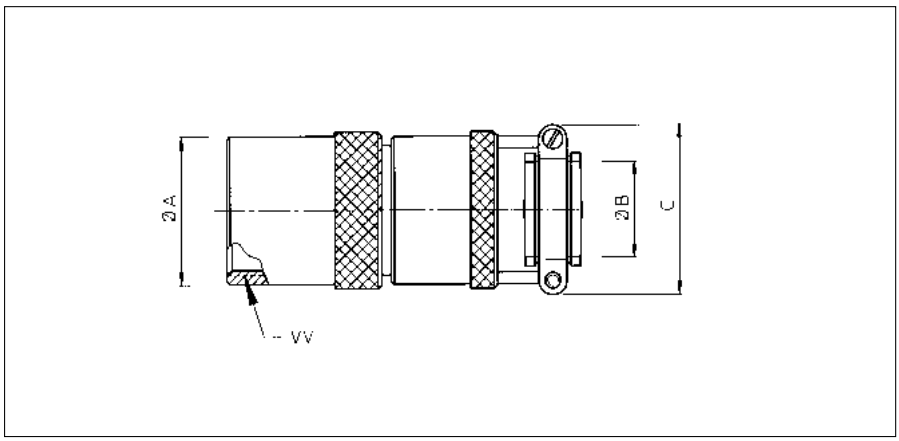
Standard plating is anodised black. For tin plating add “T” at the end of the part number e.g. UTG12ADT

J – Gland Seal Termination



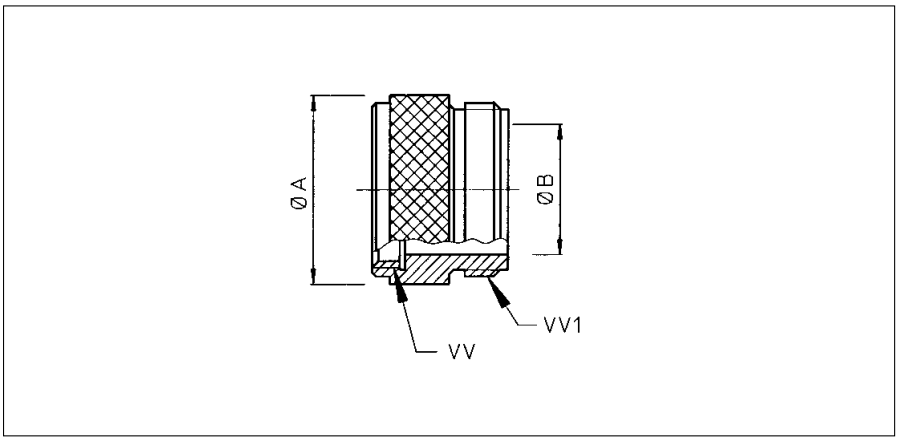
Part number	Shell size	Ø A	Ø max	VV - Thread UNEF	
B10P442E	**10**	18.6	7.9	9/16-24	
B12P442E	**12**	21.8	11.2	11/16-24	
B14P164E	**14**	25.0	13.7	13/16-20	
B16P164E	**16**	28.2	15.6	15/16-20	
B18P164E	**18**	31.3	17.1	1 1/16-18	
B20P164E	**20**	34.5	19.0	1 3/16-18	
B22P164E	**22**	37.7	21.5	1 5/16-18	
B24P164E	**24**	40.9	22.7	1 7/16-18	

JF – Gland Seal Termination with Strain Relief



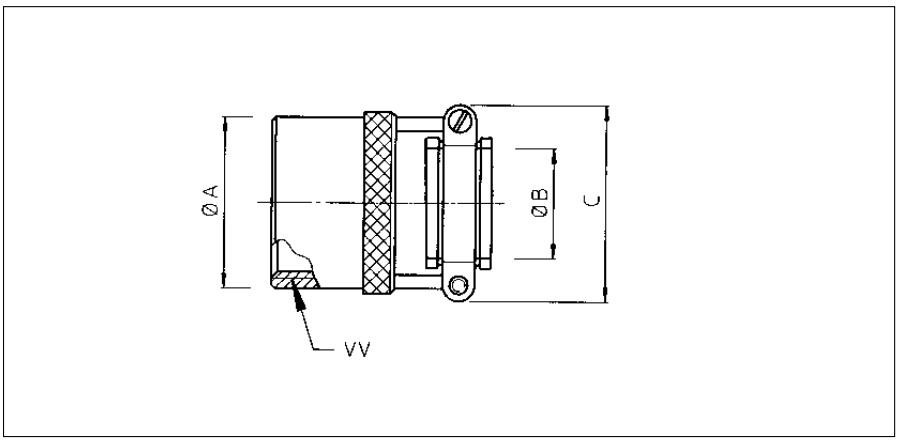
Part number	Shell size	Ø A	Ø B	C	VV - Thread UNEF
B10P443E	**10**	18.6	7.9	22.6	9/16-24
B12P443E	**12**	21.8	11.2	25.8	11/16-24
B14P184E	**14**	25.0	13.7	29.0	13/16-20
B16P184E	**16**	28.2	15.6	30.6	15/16-20
B18P184E	**18**	31.3	17.1	37.3	1 1/16-18
B20P184E	**20**	34.5	19.0	37.3	1 3/16-18
B20P184E	**22**	37.7	21.5	42.1	1 5/16-18
B24P184E	**24**	40.9	22.7	44.4	1 7/16-18

A – General duty Termination



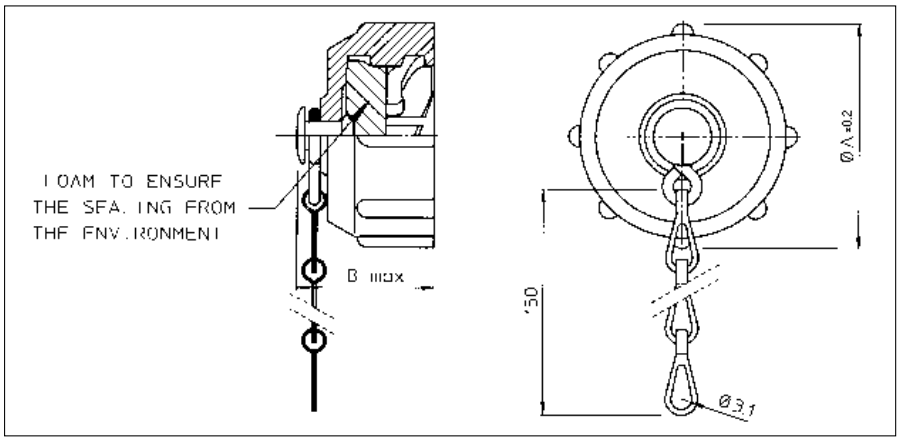
Part number	Shell size	Ø A	Ø B	VV - Thread UNEF	VV1 - Thread UNEF
B10P36E	**10**	18,2	11,3	9/16-24	5/8-24
B12P36E	**12**	21,1	14,2	11/16-24	3/8-20
B14P36E	**14**	24,6	17,4	13/16-20	7/8-20
B16P36E	**16**	27,6	20,6	15/16-20	1-20
B18P36E	**18**	30,8	22,9	1 1/16-18	1 3/8-18
B20P36E	**20**	33,8	26,1	1 3/16-18	1 3/8-18
B22P36E	**22**	37,0	29,3	1 5/16-18	1 7/16-18
B24P36E	**24**	40,3	32,4	1 7/16-18	1 7/16-18

F – Strain Relief Clamp Termination



Part number	Shell size	Ø A	Ø B	C	VV - Thread UNEF
B10SRE	**10**	18,2	4,8	22,6	9/16-24
B12SRE	**12**	21,1	7,9	25,8	11/16-24
B14SRE	**14**	24,6	9,7	29,0	13/16-20
B16SRE	**16**	27,6	12,7	30,6	15/16-20
B18SRE	**18**	30,8	15,9	35,6	1 1/16-18
B20SRE	**20**	33,8	15,9	35,6	1 3/16-18
B20SRE	**22**	37,0	19,1	40,4	1 5/16-18
B24SRE	**24**	40,3	20,3	41,9	1 7/16-18

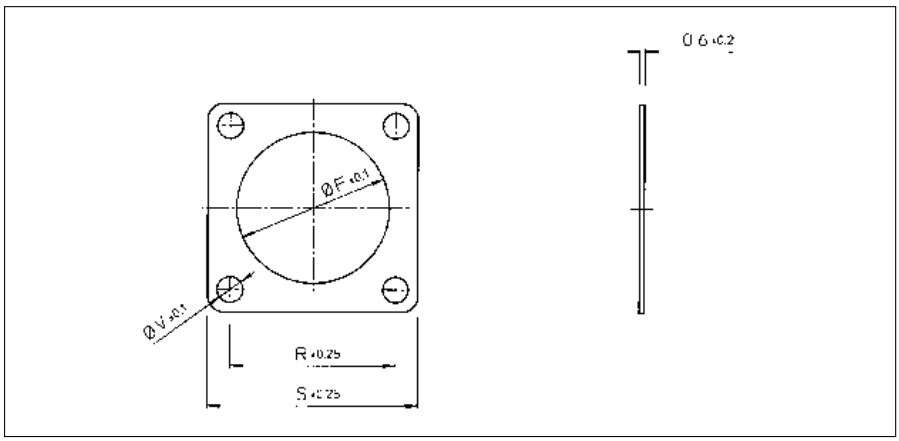
Plastic environmental dustcap for receptacles (UTP--DCG)



Part number	Shell size	Ø A ±0.2	B max.
UTP10DCG	**10**	26.7	19.3
UTP12DCG	**12**	31.4	20.0
UTP14DCG	**14**	34.5	20.2
UTP16DCG	**16**	37.8	
UTP18DCG	**18**	40.8	
UTP20DCG	**20**	43.9	21.8
UTP22DCG	**22**	47.0	
UTP24DCG	**24**	50.1	

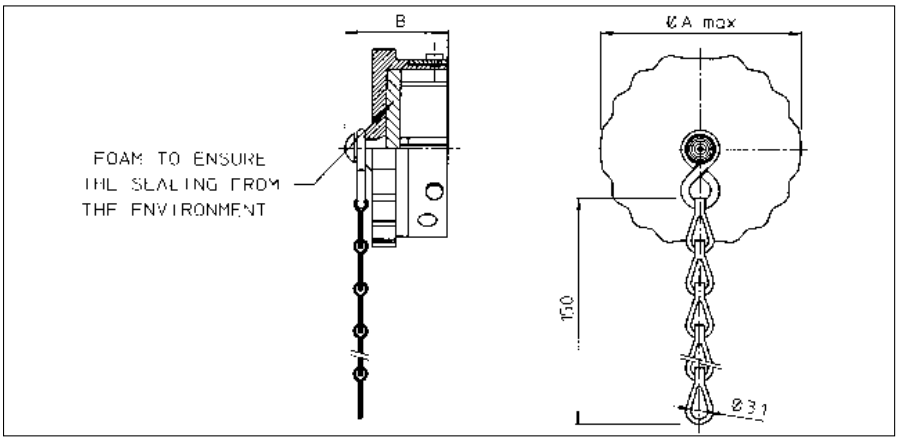
For dustcap without chain skip “G” e.g. UTP12DC

Sealing for square flange receptacle (UTFD1-B)



Part number	Shell size	Ø F ±0.1	R ±0.25	S ±0.25	Ø V
UTFD12B	**10**	15.9	18.3	23.8	3.3
UTFD13B	**12**	19.0	20.6	26.2	
UTFD14B	**14**	22.2	23.0	28.6	
UTFD15B	**16**	25.4	24.6	31.0	
UTFD16B	**18**	28.6	27.0	33.3	
UTFD17B	**20**	31.8	29.4	36.5	
UTFD18B	**22**	34.9	31.8	39.7	
UTFD19B	**24**	38.1	34.9	42.9	4.0

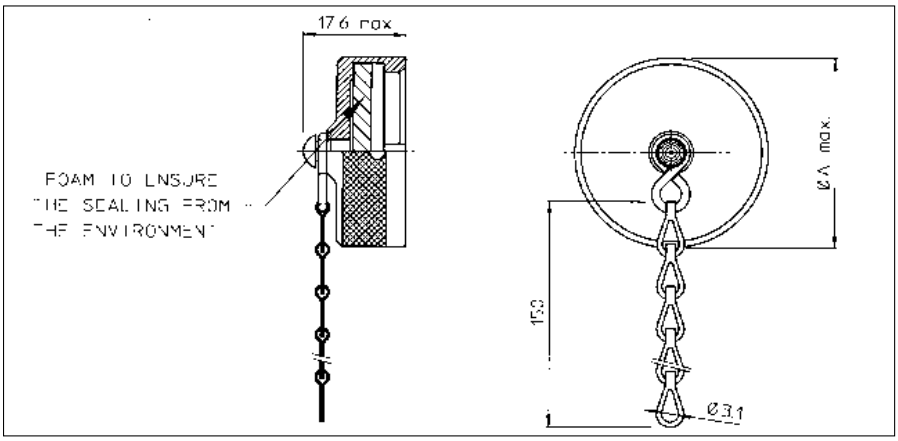
Environmental dustcap for plugs (UTG6--DCG)



Part number	Shell size	A max.	B
UTG610DCG	**10**	20.0	20.8
UTG612DCG	**12**	24.0	
UTG614DCG	**14**	27.5	
UTG616DCG	**16**	30.5	
UTG618DCG	**18**	33.5	
UTG620DCG	**20**	36.5	22.5
UTG622DCG	**22**	40.0	
UTG624DCG	**24**	43.0	

For dustcap without chain skip “G” e.g. UTG612DC

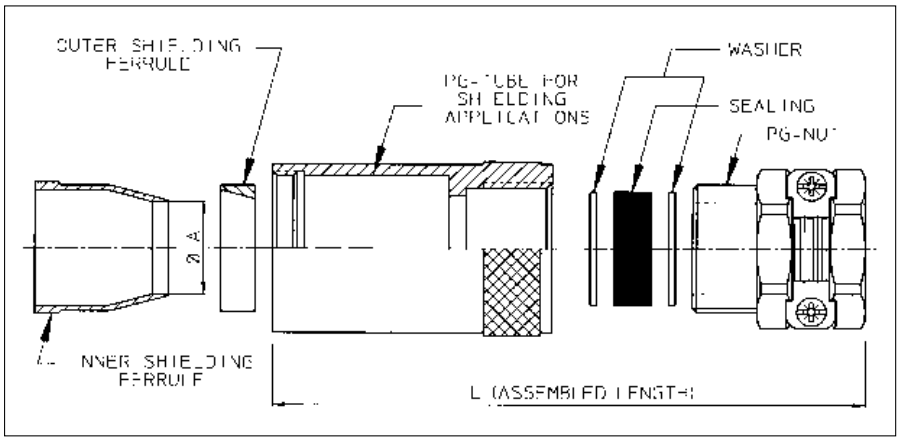
Metal environmental dustcap for receptacles (UTG--DCG)



Part number	Shell size	A max.
UTG10DCG	**10**	20.8
UTG12DCG	**12**	24.9
UTG14DCG	**14**	28.1
UTG16DCG	**16**	31.3
UTG18DCG	**18**	34.4
UTG20DCG	**20**	37.6
UTG22DCG	**22**	40.8
UTG24DCG	**24**	43.9

For dustcap without chain skip “G” e.g. UTG12DC

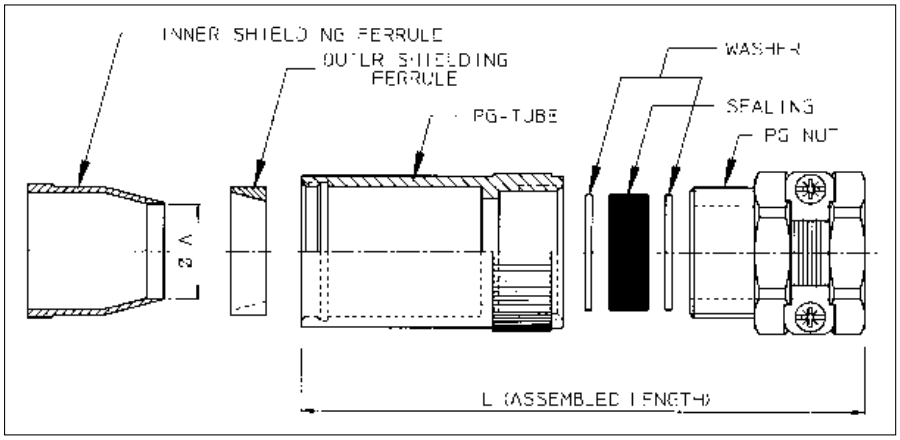
Shielded cable clamp only suitable for UTGS connectors (UTGS----PGN)



Part number		Shell			Sealing*
For pin contacts	For socket contacts	size	Ø A	L	outer dia x inner dia's
UTGS10PGN		10	8.8	54	13.5 x 5 x 8
UTGS12PGN		12	12.0	57	16 x 7 x 10.5 x 13
UTGS14PGN		14	14.4	62	18.5 x 7 x 105 x 13 x 16
UTGS16PGN		16	16.4	68	20.5 x 8 x 10.5 x 13 x 16
UTGS18PGN		18	16.8	71	20.5 x 8 x 10.5 x 13 x 16
UTGS20PGPN	UTGS20PGSN	20	22.3	82	26 x 11 x 15 x 18 x 22
UTGS22PGPN	UTGS22PGSN	22	22.3	88	26 x 11 x 15 x 18 x 22
UTGS24PGPN	UTGS24PGSN	24	30.0	103	35 x 19 x 23 x 27 x 31

*In order to accommodate different cable dia's, the sealing exisits of different layers which can be pulled out easily.

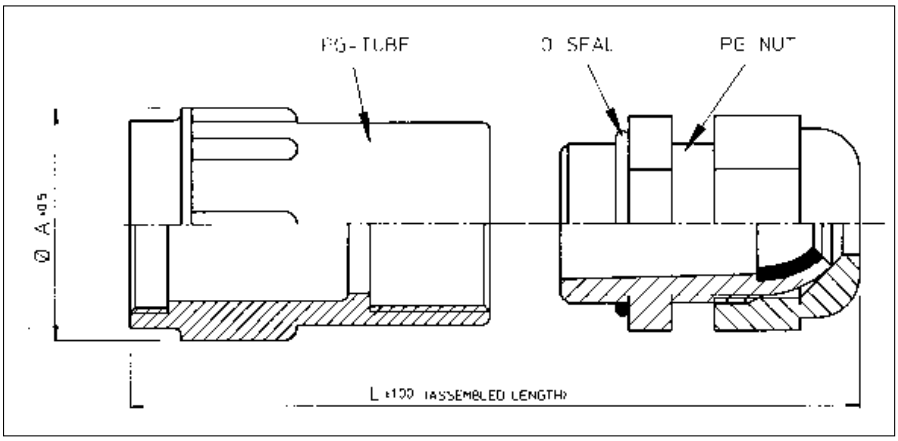
Shielded cable clamp only suitable for UT0 connectors (UT0S----PG00T)



Part number		Shell			Sealing*
For pin contacts	For socket contacts	size	Ø A	L	outer dia x inner dia's
UT0S10PG00T		10	8.8	54	13.5 x 5 x 8
UT0S12PG00T		12	12.0	57	16 x 7 x 10.5 x 13 x 16
UT0S14PG00T		14	14.4	62	18.5 x 7 x 105 x 13 x 16
UT0S16PG00T		16	16.4	68	20.5 x 8 x 10.5 x 13 x 16
UT0S18PG00T		18	16.8	71	20.5 x 8 x 10.5 x 13 x 16
UT0S20PGP00T	UT0S20PGS00T	20	22.3	82	26 x 11 x 15 x 18 x 22
UT0S22PGP00T	UT0S22PGS00T	22	22.3	88	26 x 11 x 15 x 18 x 22
UT0S24PGP00T	UT0S24PGS00T	24	30.0	103	35 x 19 x 23 x 27 x 31

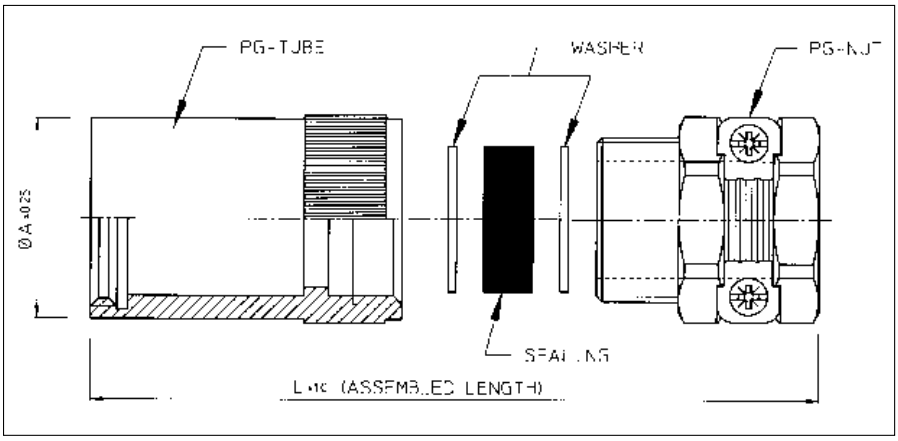
*In order to accommodate different cable dia's, the sealing exisits of different layers which can be pulled out easily.

Plastic cable clamp with strain relief nut for waterprotected (IP67) applications (UTG--ST)



Part number	Shell size	Cable range	Dia. A ±0.5	L ±1
UTG10ST	**10**	2 - 6	21.0	64
UTG12ST	**12**	3 - 7	24.0	64
UTG14ST	**14**	6 - 9	27.0	69
UTG16ST	**16**	7 - 12	30.2	72
UTG18ST	**18**		33.3	76
UTG20ST	**20**	9 - 16	36.5	80
UTG22ST	**22**		39.7	86
UTG24ST	**24**	13 - 20	42.9	91

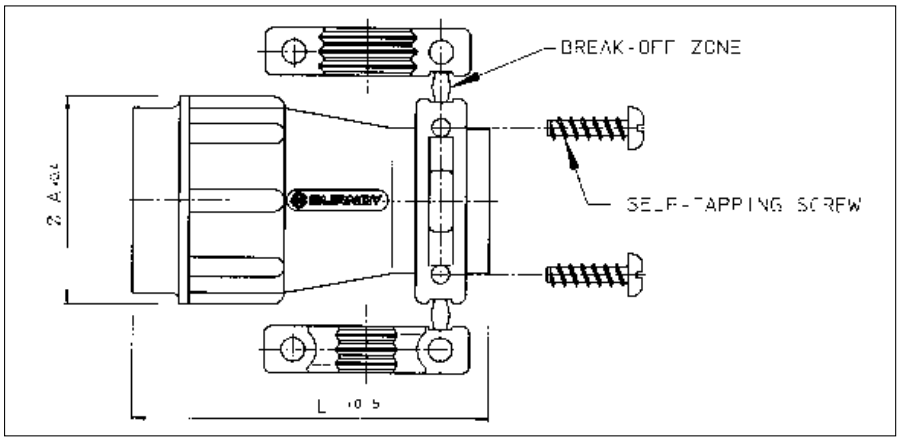
Metal cable clamp with strain relief nut for waterprotected applications (UT0--PGT)



Part number	Shell size	Sealing* outer dia x inner dia's	L ±1	A ±0.25
UT010PGT	**10**	13.5 x 5 x 8	53	16.7
UT012PGT	**12**	16 x 7 x 10.5 x 13 x 16	57	20.1
UT014PGT	**14**	18.5 x 7 x 105 x 13 x 16	62	23.0
UT016PGT	**16**	20.5 x 8 x 10.5 x 13 x 16	68	26.2
UT018PGT	**18**	20.5 x 8 x 10.5 x 13 x 16	71	29.6
UT020PGT	**20**	26 x 11 x 15 x 18 x 22	82	32.5
UT022PGT	**22**	26 x 11 x 15 x 18 x 22	88	35.7
UT024PGT	**24**	35 x 19 x 23 x 27 x 31	103	39.2

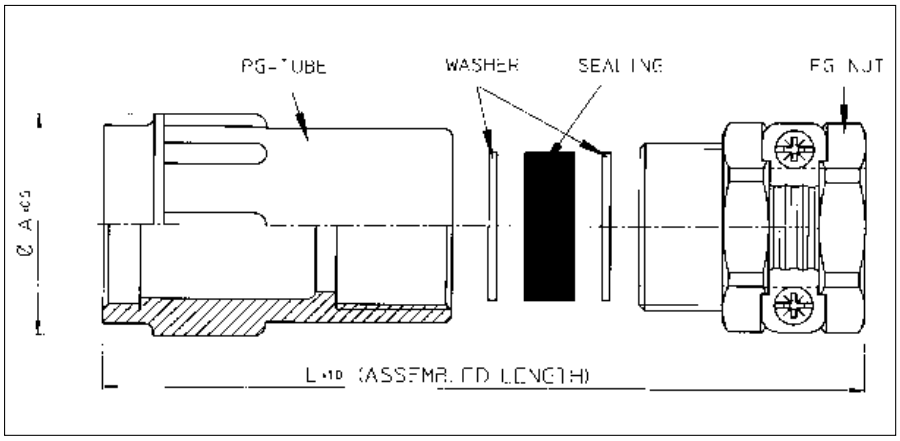
*In order to accommodate different cable dia's, the sealing exisits of different layers which can be pulled out easily.

Plastic cable clamp with strain relief (UTG--AC)



Part number	Shell size	Cable range Ø	Ø A ±0.4	L ±0.5
UTG10AC	**10**	3.0 - 8.7	21.0	40.0
UTG12AC	**12**	3.0 - 12.8	24.0	40.0
UTG14AC	**14**	4.0 - 13.8	27.0	46.0
UTG16AC	**16**	5.0 - 17.0	30.2	46.0
UTG18AC	**18**	5.0 - 19.0	33.3	50.0
UTG20AC	**20**	5.0 - 21.0	36.5	55.0
UTG22AC	**22**	5.0 - 23.0	39.7	60.0
UTG24AC	**24**	8.0 - 27.0	42.9	65.0

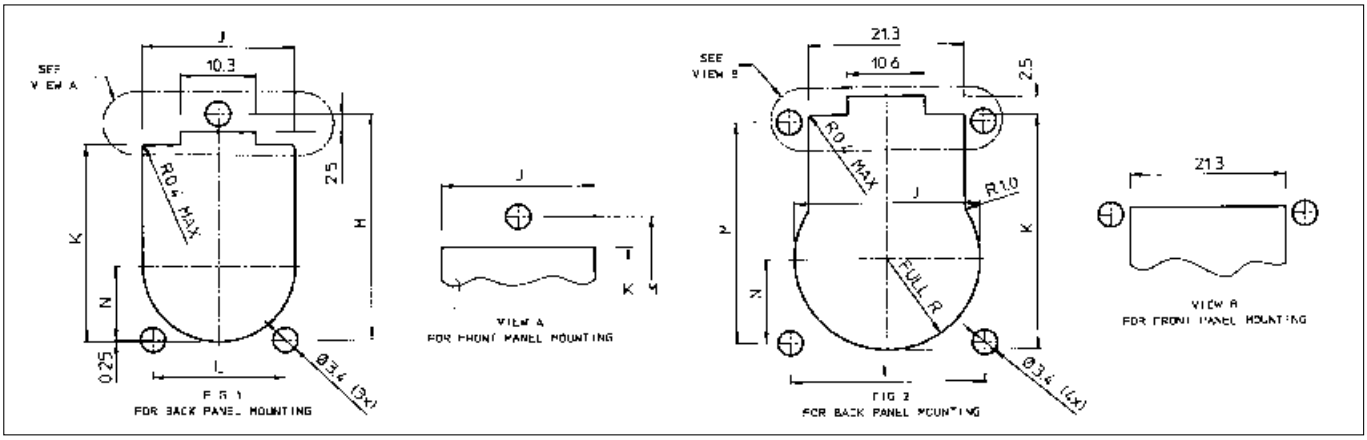
Plastic cable clamp with strain relief nut for waterprotected (IP65) applications (UTG--PG)



Part number	Shell size	Sealing* outer dia x inner dia's	L ±1	A ±0.5
UTG10PG	**10**	13.5 x 5 x 8	54	21.0
UTG12PG	**12**	16 x 7 x 10.5 x 13 x 16	57	24.0
UTG14PG	**14**	18.5 x 7 x 105 x 13 x 16	62	27.0
UTG16PG	**16**	20.5 x 8 x 10.5 x 13 x 16	68	30.2
UTG18PG	**18**	20.5 x 8 x 10.5 x 13 x 16	71	33.3
UTG20PG	**20**	26 x 11 x 15 x 18 x 22	82	36.5
UTG22PG	**22**	26 x 11 x 15 x 18 x 22	88	39.7
UTG24PG	**24**	35 x 19 x 23 x 27 x 31	103	42.9

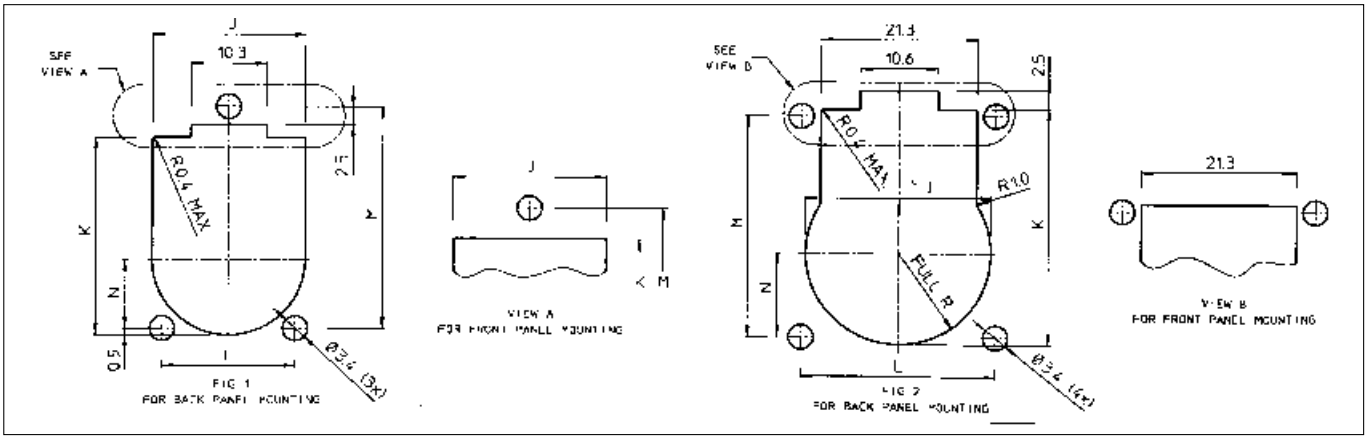
*In order to accommodate different cable dia's, the sealing exisits of different layers which can be pulled out easily.

Panel cut-out dimensions for receptacle - Standard version (MBG--R1)



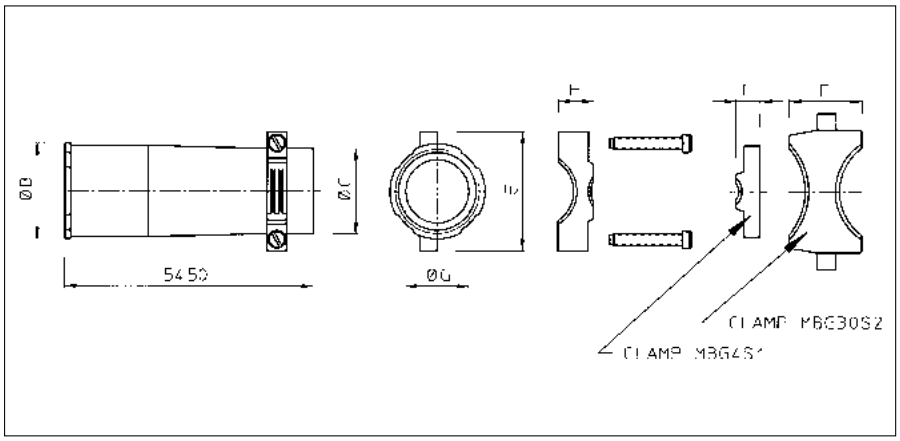
Part number	Fig.	J	K	L	M	N
MBG4R1	**1**	20.86	27.41	18.08	31.45	10.16
MBG12R1	**2**	25.30	32.74	26.54	30.76	11.65
MBG19R1	**2**	28.50	35.89		34.04	13.32
MBG30R1	**2**	33.73	40.97	28.65	38.00	15.49
MBG46R1	**2**	40.36	47.22	35.13	46.94	18.85

Panel cut-out dimensions for receptacle - Reversed version (MBG--R11)



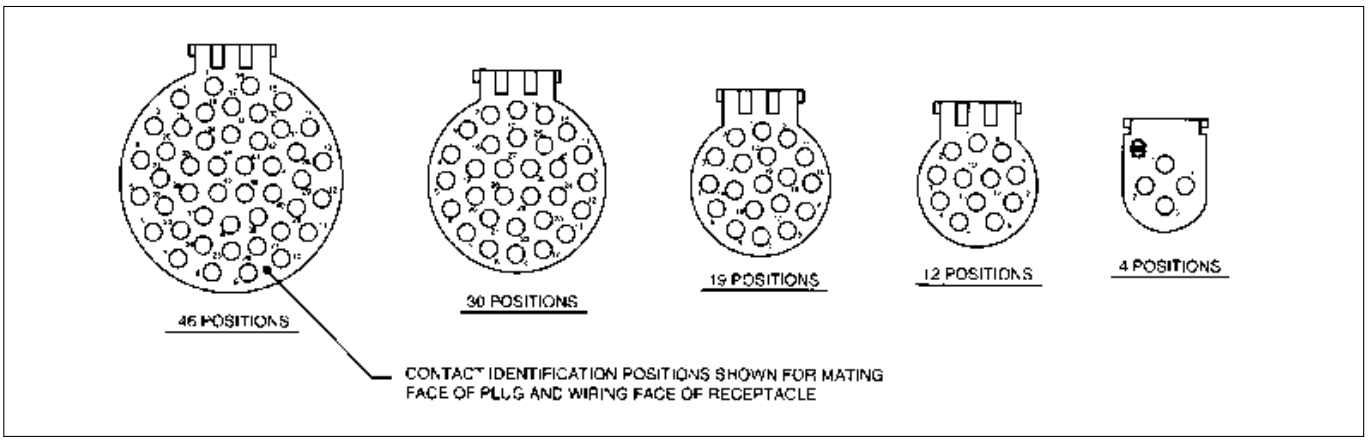
Part number	Fig.	J	K	L	M	N
MBG4R11	**1**	20.86	27.41	18.08	31.45	10.16
MBG12R11	**2**	25.30	32.74	26.54	30.76	11.65
MBG19R11	**2**	28.50	35.89		34.04	13.32
MBG30R11	**2**	33.73	40.97	28.65	38.00	15.49
MBG46R11	**2**	40.36	47.22	35.13	46.94	18.85

Strain relief (MBG--S1)



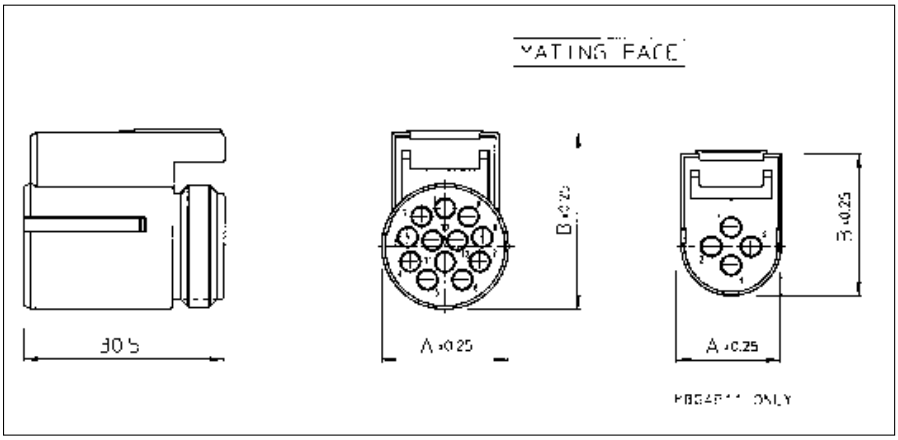
Part number	Ø C	Ø D	E	F	Cable range Ø G side A	Cable range Ø G side B
MBG4S1	12.2	15.0	20.1	5.3	8.51/6.35	–
MBG12S1	18.8	21.1	26.4	7.9	11.30/7.65	14.99/11.38
MBG19S1	21.3	24.4	29.0	9.4	13.08/8.66	17.53/13.12
MBG30S1	26.7	29.0	34.5	16.3	19.02/15.88	22.86/19.05
MBG30S2	26.7	29.0	34.5	15.9	12.67/10.01	15.85/12.70
MBG46S1	Not available					

Insert arrangements and moulded-in contact identification



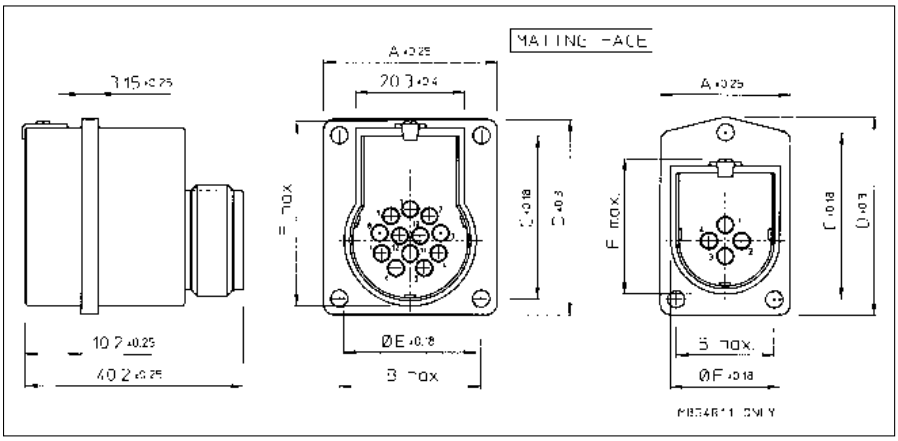
Contact identification positions shown are for mating face of plug and wiring face of receptacle.

Female plug connector for socket contacts (MBG--P1) - Standard version
Male plug connector for pin contacts (MBG--P11) - Reversed version



Female plug Part number / Male plug	Ø A ±0.25	B ±0.25
MBG4P1 / MBG4P11	15.08	21.90
MBG12P1 / MBG12P11	19.43	27.25
MBG19P1 / MBG19P11	22.83	30.53
MBG30P1 / MBG30P11	27.94	35.51
MBG46P1 / MBG46P1	34.42	41.91

Panel mounting male receptacle connector for pin contacts (MBG--R1) - Standard version
Panel mounting female receptacle connector for socket contacts (MBG--R11) - Reversed version



Female plug Part number / Male plug	Ø A ±0.25	B max.	C ±0.18	D ±0.30	Ø E ±0.18	F max.
MBG4R1 / MBG4R11	23.90	18.08	31.45	37.36	20.07	29.46
MBG12R1 / MBG12R11	32.49	26.54	30.76	36.86	24.64	34.93
MBG19R1 / MBG19R11	32.44	26.54	34.04	40.13	27.86	38.10
MBG30R1 / MBG30R11	35.61	28.65	38.00	44.91	33.10	43.31
MBG46R1 / MBG46R11	42.24	35.13	46.94	54.05	39.70	49.61

MBG - Bantamate II 5000

Plastic connector with quick mating feature

Description

The BANTAMATE II cylindrical plastic connector has been designed for use in applications requiring a high number of mating cycles and rapid connections and disconnections.
BANTAMATE II meets minimum durability requirements of **5000 mating/unmating cycles** by using a unique contact wiping system consisting of a lubricant saturated foam pad bonded to a spring loaded stripper plate within the receptacle or plug. On mating, the stripper plate is pushed deep into the connector wiping a thin film of lubricant onto the male contacts.
A distinctive shape provides mating ease in blind or difficult to reach applications.
Some typical applications would include test equipment, medical diagnostic equipment, or any of the hardware interconnections found in the modern electronic office.

Features and benefits

- 5000 mating / unmating cycles
- Lubricated male contacts with spring actuated foam plate
- Quick and easy installation with latching mechanism
- Easy mating due to the positive polarisation, even in blind spots
- Unmated male contacts are protected by the spring actuated plate
- Available with 4, 12, 19, 30, and 46 contact positions.
- Applicable for front or rear panel mounting as well as free hanging applications
- UL recognised File number E31151
- CSA certified LR54977

Performance characteristics

Operating temperature:	-55°C to +125°C
Insulation resistance:	5000 MΩ min.
Test potential:	2000 VAC
Durability:	Min. 5000 matings cycles
Vibration resistance:	5-50Hz, 0,5 dA; 8 hours axis
Thermal shock:	5 cycles -55°C to +105°C
Humidity:	10 days at 85% RH, +85°C

Construction

Connector body and strain relief:
Glass filled thermoplast UL94-V0
Colour: black

Locking latch and hook:	Stainless steel, passivated
Compression Spring:	Music wire, Nickel plated
Lubricating pad:	Polyurethane foam
Rivet:	Brass, Tin plated
Strain relief screws:	Steel, Cadmium plated

Contact accommodation

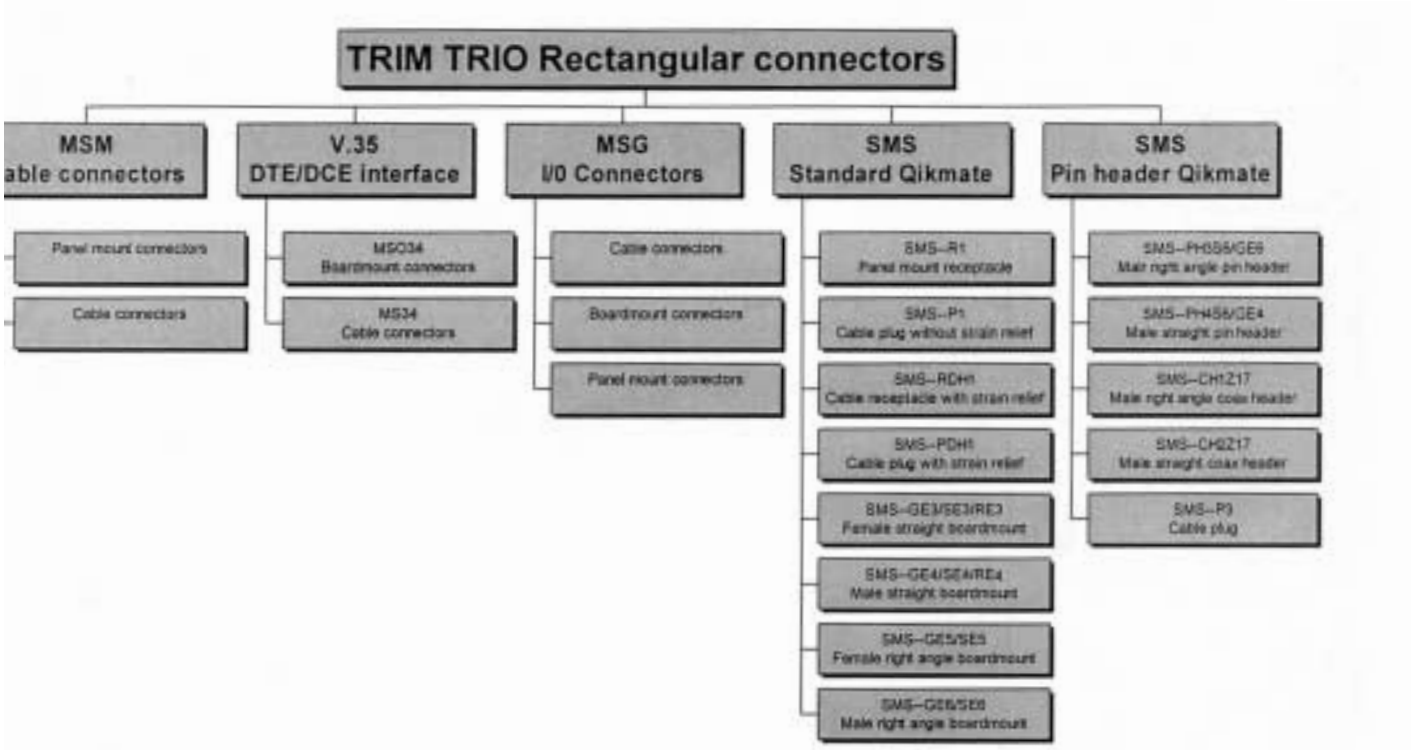
- "MBG" connectors accept Trim-Trio removable snap-lock contacts (see contact section)
- Contacts to be ordered seperately.

How to order

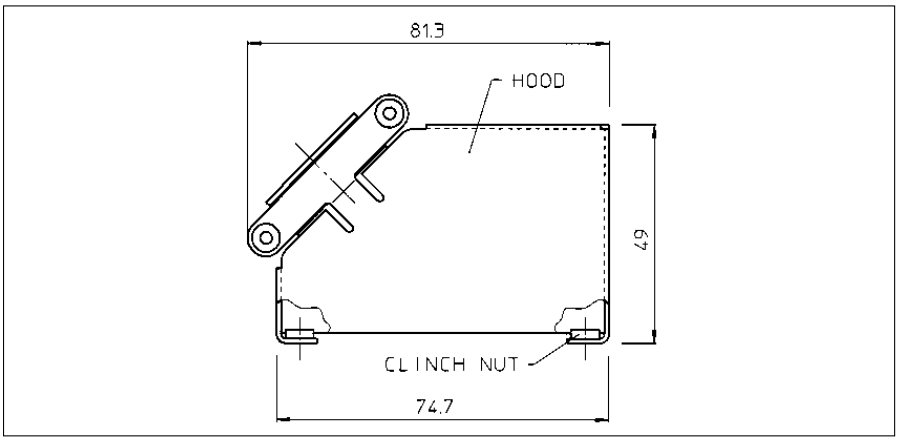
Connector family		**MBG**	**12**	**P**	**1**
Insert arrangement:	4, 12, 19, 30, 46 positions				
Body variation:	**P:** Plug body **R:** Receptacle body **S:** Strain relief				
Design variation:	**1:** Standard version with male contacts in receptacle **11:** Reversed version with male contacts in plug				

Overview rectangular TRIM TRIO connectors

Selection matrix Rectangular connectors

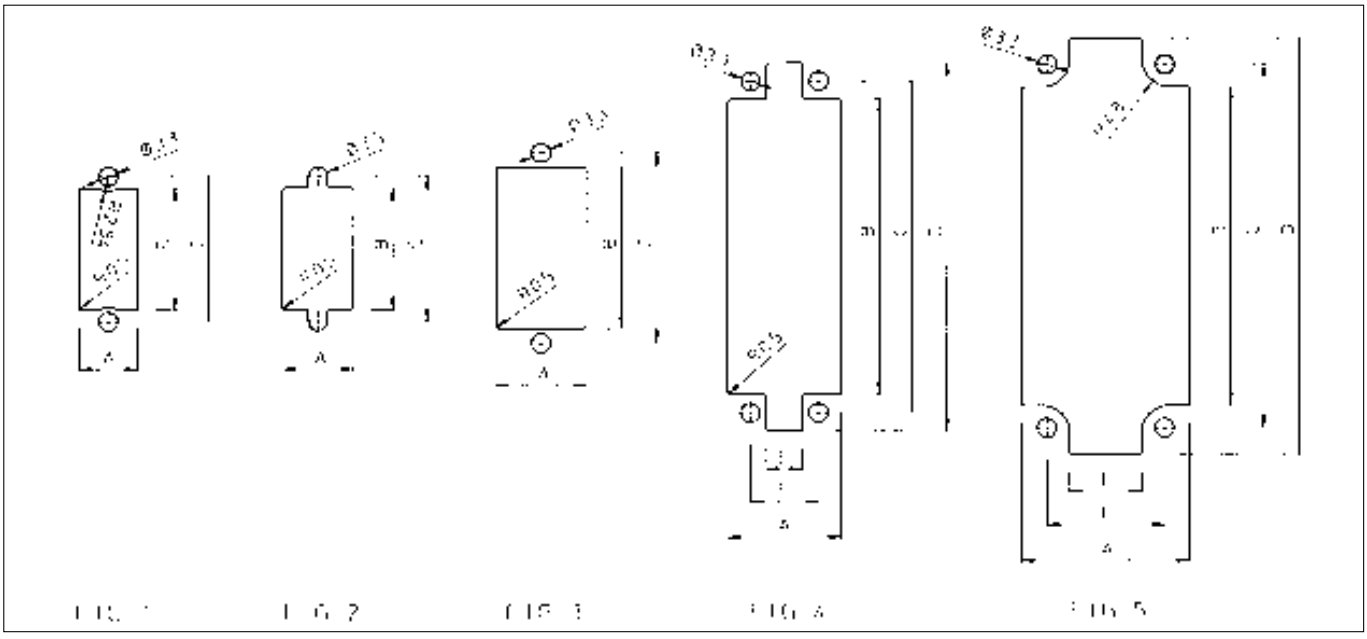


MSD104 cable hood with cable clamp (MSH104M1)



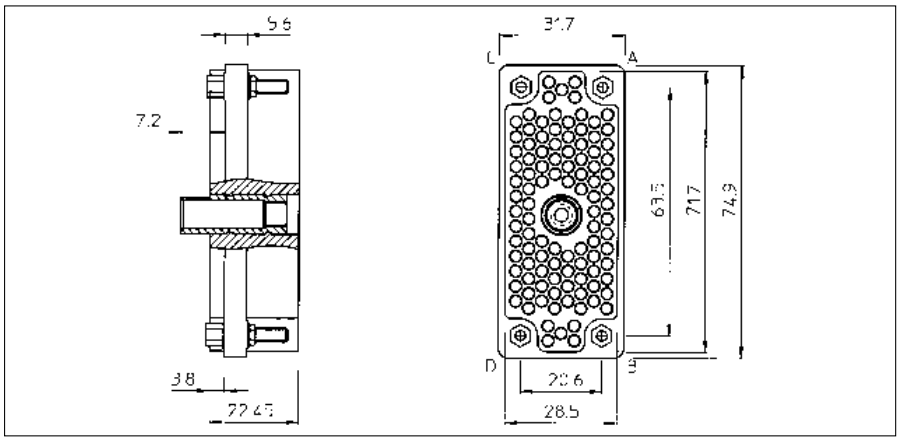
Connector size	Part number	Orientation of guide sockets
104	MSH104M1	A combination hood and cable clamp assembly which can be used on MSD104 receptacle or cable plug connector

MS-M panel cut-out dimensions



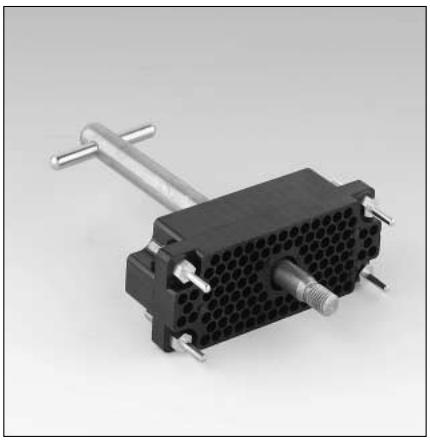
Connector size	Fig.	A	B	C	D	E	F
14	1 or 2	12.45	20.83	23.80	---	---	---
20	1 or 2	12.45	28.70	31.75			
26	2 or 3	15.75	28.20	33.30			
34	4	19.80	36.60	42.80	49.30	6.35	11.90
42	4		43.70	50.55	56.90		
50	4		51.60	57.95	64.30		
75	4	29.10				14.20	19.40
104	5	29.50	55.60	63.50	72.64	12.70	20.62

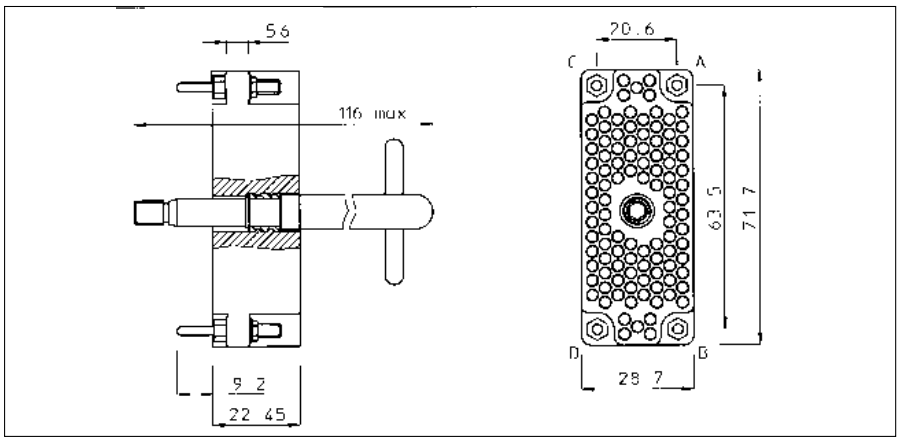
MSD104 receptacle cable connector with central jackscrew (MSD104RM)



Connector size	Part number	Orientation of guide sockets
104	MSD104RM489	A, B, C, D

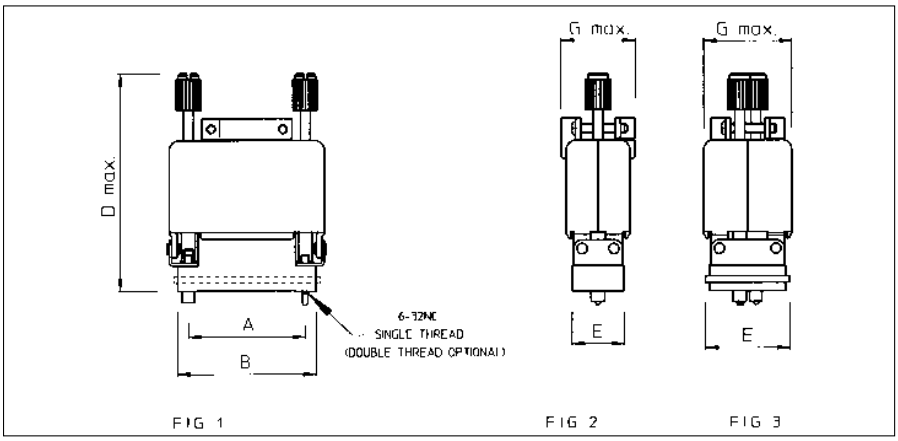
MSD104 plug cable connector without cable clamp (MSD104PM)





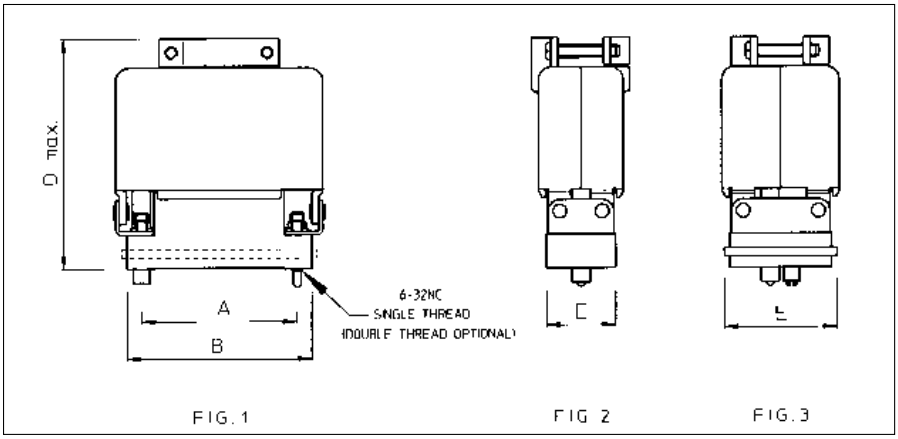
Connector size	Part number	Orientation of guide sockets
104	MSD104PM494	A, B, C, D

Cable connector with die cast hood and turnable jackscrew hardware (MS—MJD10)



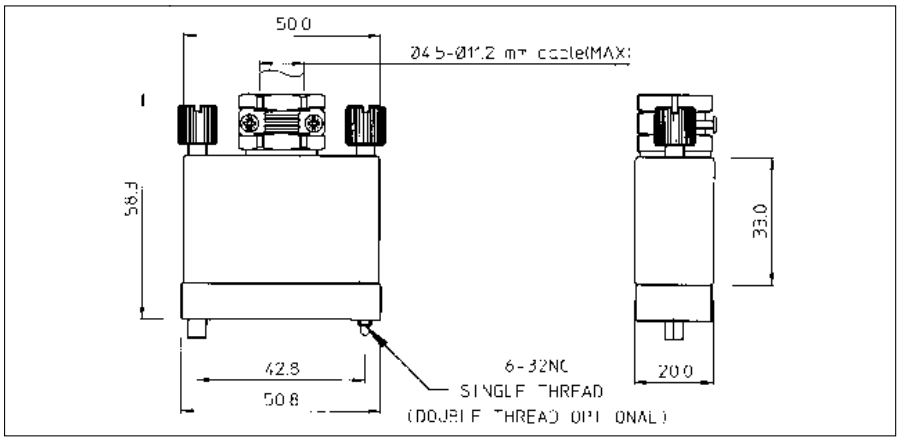
Connector size	Part number Plug version for male contacts	Part number Receptacle version female contacts	A	B	C	D max	E	G max	Fig.
20	MS20PMJD10	MS20RMJD10	31.75	39.65			11.7	22	
26	MS26PMJD10	MS26RMJD10	33.3	41.3	44.3	71	15		
34	MS34PMJD10	MS34RMJD10	42.8	50.8					1-2
42	MS42PMJD10	MS42RMJD10	50.55	58.65	61,5	80	19.1	26.5	
50	MS50PMJD10	MS50RMJD10	57.95	69.1	69		22.1	27.5	
75	MS75PMJD10	MS75RMJD10			72		31.2	33	1-3

Cable connector with diecast hood and fixed jackscrew hardware (MS—MJD58)



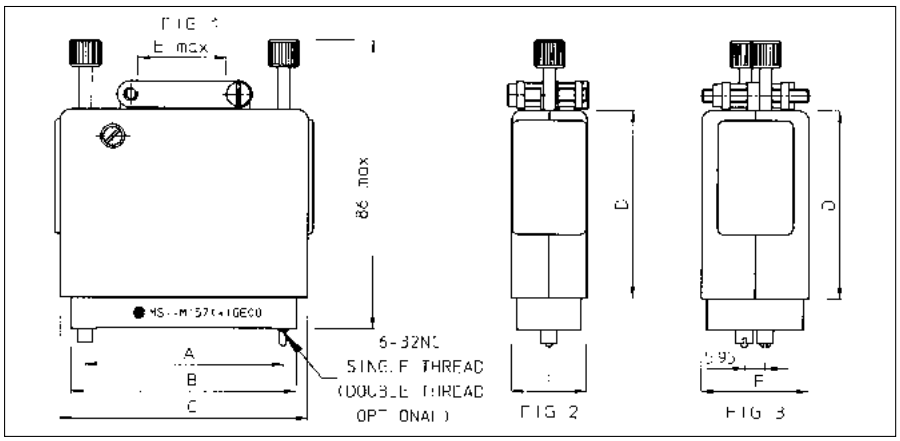
Connector size	Part number Plug version for male contacts	Part number Receptacle version female contacts	A	B	C	D max	E	G max	Fig.
20	MS20PMJD58	MS20RMJD58	31.75	39.65	44,3	55	11.7	22	
34	MS34PMJD58	MS34RMJD58	42.8	50.8	61,5				1-2
42	MS42PMJD58	MS42RMJD58	50.55	58.65		63	19.1	26.5	
50	MS50PMJD58	MS50RMJD58	57.95	69.1	69		22.1	27.5	
75	MS75PMJD58	MS75RMJD58			72	65	31.2	33	1-3

MS34 Cable connector with 1 piece metal suitcase hood (MS34--MEHM)



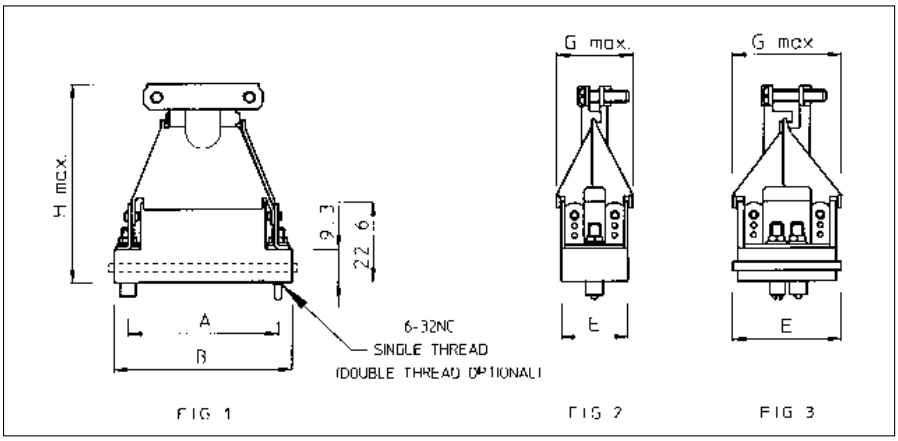
Part number		Description
Plug version for male contacts	Receptacle version for female contacts	
MS34PMEHM	MS34RMEHM	Anodised hood, plastic strain relief and turnable hardware.
MS34PMSEHM	MS34RMSEHM	Shielded version with nickel plated hood, metal strain relief and turnable hardware

Cable connector with Alu die cast hood (MS-M157GE00)



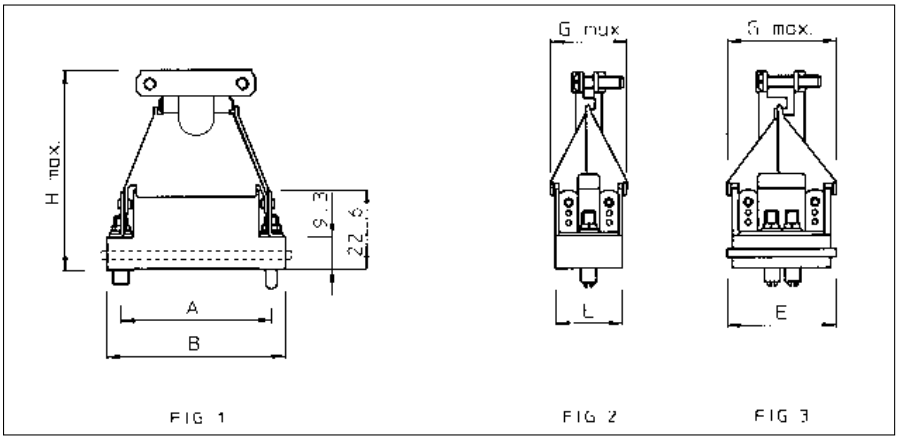
Connector size	Part number		A	B	C	D	E max.	F	Fig.
	Plug version for male contacts	Receptacle version for female contacts							
50	MS50PM157GE00	MS50RM157GE00	57.95	65.85	73.0	56.0	20.0	22.2	1-2
75	MS75PM157GE00	MS75RM157GE00	57.95	65.85	73.0	56.0	25.0	31.2	1-3

Cable connector with metal butterfly hood and fixed jackscrew hardware (MS--M140)



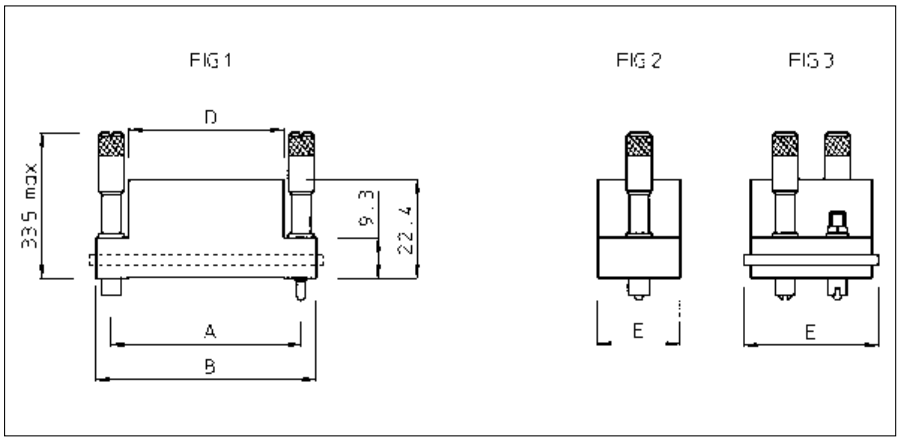
Connector size	Part number Plug version for male contacts	Part number Receptacle version female contacts	A	B	E	G max	H	Fig.
14	MS14PM140	MS14RM140	23.8	31.8	11.7	14.7	48.7	1-2
20	MS20PM140	MS20RM140	31.75	39.65				
26	MS26PM140	MS26RM140	33.3	41.3	15.0	18		
34	MS34PM140	MS34RM140	42.8	50.8	19.1	22.2	56.7	
42	MS42PM140	MS42RM140	50.55	58.65				
50	MS50PM140	MS50RM140	57.95	69.1	22.1			1-3
75	MS75PM140	MS75RM140			31.2	31.8		

Cable connector with metal butterfly hood and guiding hardware (MS--M120)



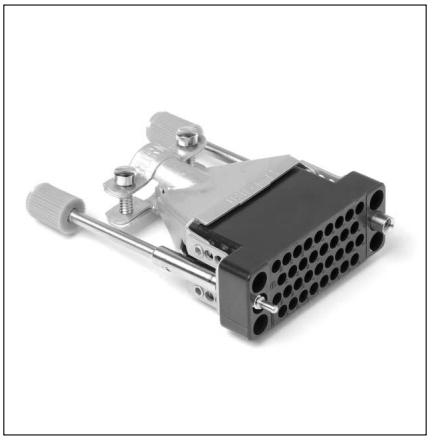
Connector size	Part number Plug version for male contacts	Part number Receptacle version female contacts	A	B	E	G max	H	Fig.
14	MS14PM120	MS14RM120	23.8	31.8	11.7	14.7	48.7	1-2
20	MS20PM120	MS20RM120	31.75	39.65				
26	MS26PM120	MS26RM120	33.3	41.3	15.0	18		
34	MS34PM120	MS34RM120	42.8	50.8	19.1	22.2	56.7	
42	MS42PM120	MS42RM120	50.55	58.65				
50	MS50PM120	MS50RM120	57.95	69.1	22.1			1-3
75	MS75PM120	MS75RM120			31.2	31.8		

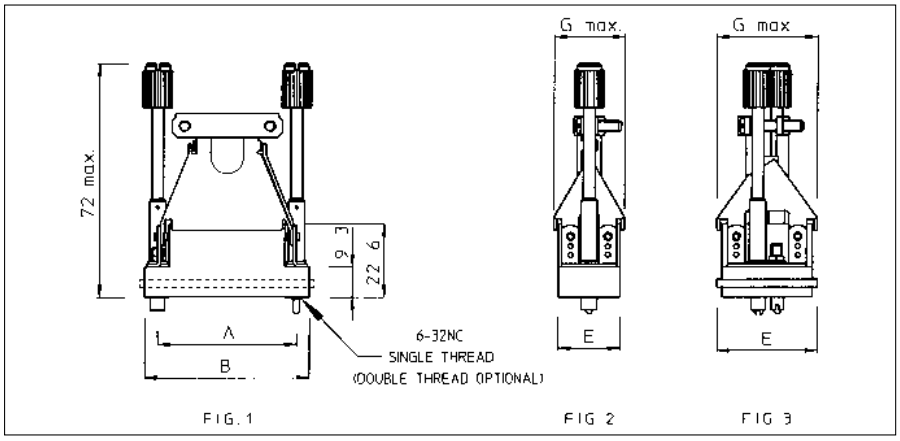
Cable connector without strain relief and turnable jackscrew hardware (MS—M57)



Connector size	Part number: Plug version for male contacts	Part number: Receptacle version for female contacts	A	B	D	E	Fig.
14	MS14PM57	MS14RM57	23.8	31.8	20.1		1-2
20	MS20PM57	MS20RM57	31.75	39.65	27.95	11.7	
26	MS26PM57	MS26RM57	33.3	41.3	27.2	15.0	
34	MS34PM57	MS34RM57	42.8	50.8	35.7	19.1	
42	MS42PM57	MS42RM57	50.55	58.65	42.95		
50	MS50PM57	MS50RM57	57.95	69.1	50.85	22.1	
75	MS75PM57	MS75RM57				31.2	1-3

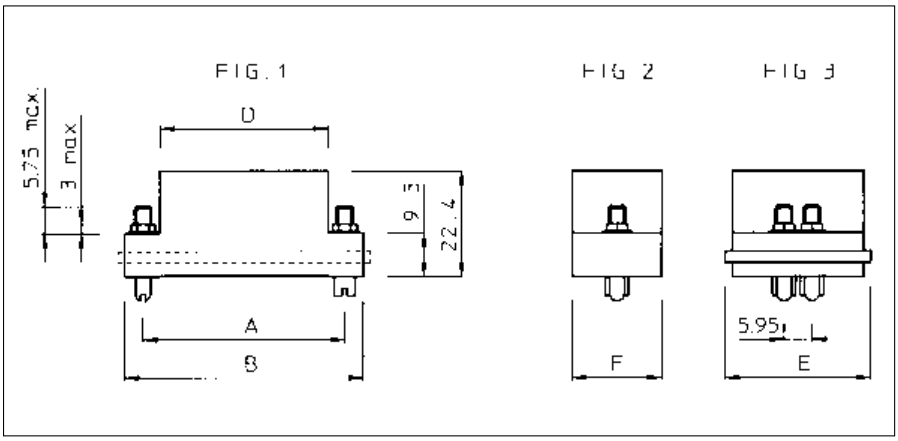
Cable connector with metal butterfly hood and turnable jackscrew hardware (MS--M124K)





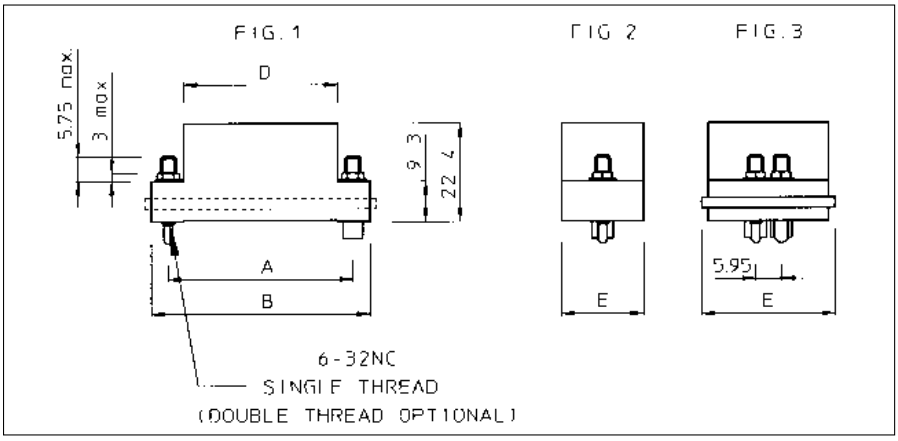
Connector size	Part number: Plug version for male contacts	Part number: Receptacle version for female contacts	A	B	E	G max	Fig.
14	MS14PM124K	MS14RM124K	23.8	31.8	11.7	14.7	
20	MS20PM124K	MS20RM124K	31.75	39.65			
26	MS26PM124K	MS26RM124K	33.3	41.3	15.0	18	1-2
34	MS34PM124K	MS34RM124K	42.8	50.8	19.1		
42	MS42PM124K	MS42RM124K	50.55	58.65		22.2	
50	MS50PM124K	MS50RM124K	57.95	69.1	22.1		
75	MS75PM124K	MS75RM124K			31.2	31.8	1-3

Panel mount connectors with guiding hardware (MS--M1)



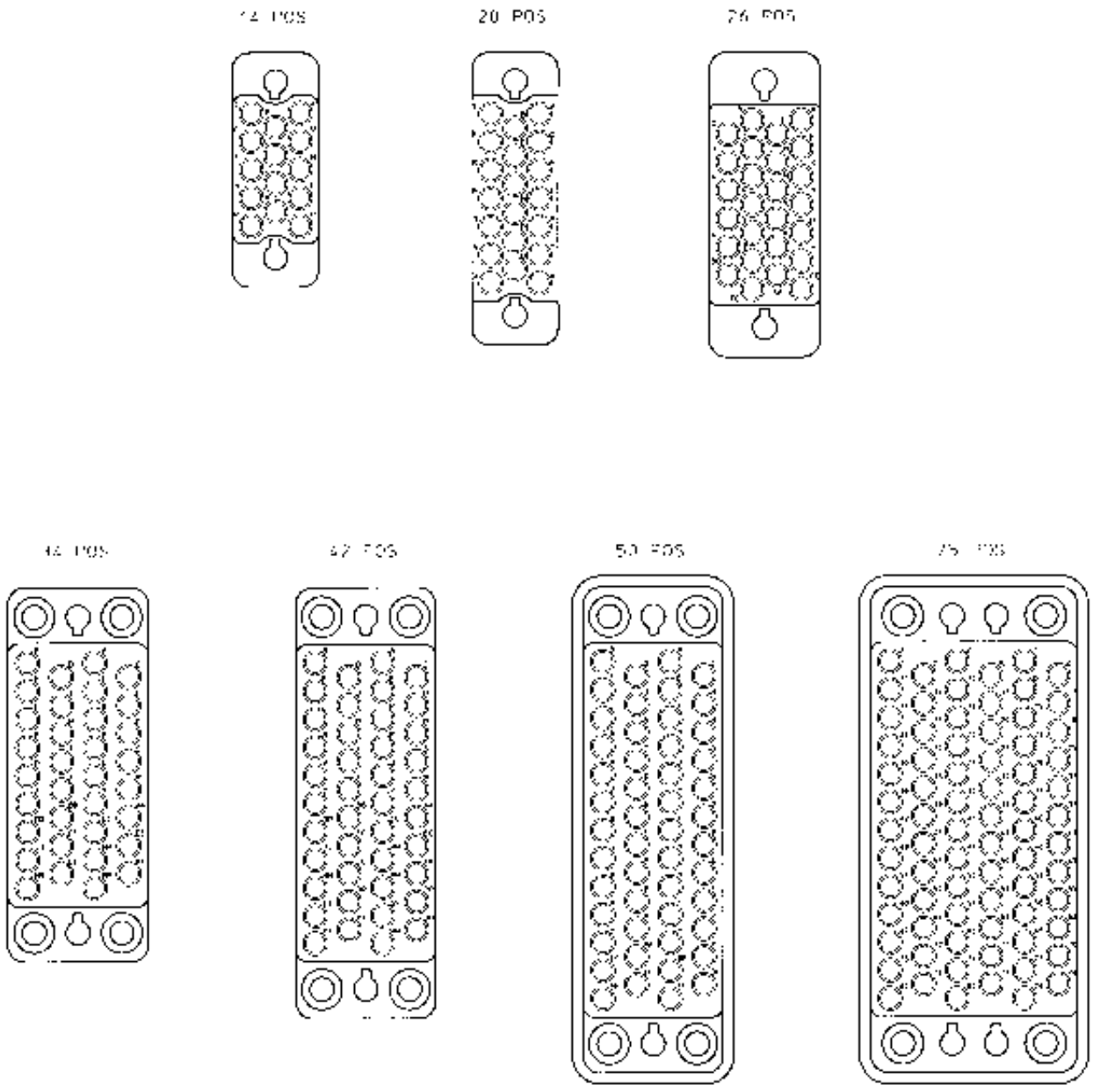
Connector size	Part number Plug version for male contacts	Part number Receptacle version for female contacts	A	B	D	E	Fig.
14	MS14PM1	MS14RM1	23.8	31.8	20.1		
20	MS20PM1	MS20RM1	31.75	39.65	27.95	11.7	1-2
26	MS26PM1	MS26RM1	33.3	41.3	27.2	15.0	
34	MS34PM1	MS34RM1	42.8	50.8	35.7	19.1	
42	MS42PM1	MS42RM1	50.55	58.65	42.95		
50	MS50PM1	MS50RM1	57.95	69.1	50.85	22.1	
75	MS75PM1	MS75RM1				31.2	1-3

Panel mount connectors with fixed jackscrew hardware (MS--M58)



Connector size	Part number Plug version for male contacts	Part number Receptacle version for female contacts	A	B	D	E	Fig.
14	MS14PM58	MS14RM58	23.8	31.8	20.1		
20	MS20PM58	MS20RM58	31.75	39.65	27.95	11.7	1-2
26	MS26PM58	MS26RM58	33.3	41.3	27.2	15.0	
34	MS34PM58	MS34RM58	42.8	50.8	35.7	19.1	
42	MS42PM58	MS42RM58	50.55	58.65	42.95		
50	MS50PM58	MS50RM58	57.95	69.1	50.85	22.1	
75	MS75PM58	MS75RM58				31.2	1-3

Contact arrangement



The contact position identification letters or numbers shown in the above diagrams apply to MS-M plug and receptacle connectors. Dimensionally, corresponding types of plug and receptacle mouldings are the same and differ only in that the contact position lettering/numbering of the plug (MS-PM) is a mirror image of that of the receptacle (MS-RM). Note that pins and/or sockets can be used in either the plug or receptacle moulding.

Note: Contact identification is shown for wiring face of the receptacle and mating face at plug connector.

High performance hyfen rectangular cable connectors

Description

MSM rectangular connectors offers an extremely reliable, rugged, and versatile connection system .
They are a range of multiway connectors available in 8 sizes from 14 to 104 positions.
MS-M cable connectors can be offered with a full range of hardware and accessories. Guiding pins and sockets, turnable jackscrews, a variety of cable hoods, pin protection shrouds and discrimination pins make this connector range a truly versatile system.

Features and benefits

- Connectors supplied pre-assembled except for panel mount versions.
- Available in 14-20-26-34-42-50-75 and 104 positions.
- **34 contact positions suitable for V.35 applications (see V.35 section)**
- Full range of accessories available including hoods, strain relief clamps, guide pins, jackscrews and pin protection shrouds.
- MS-M hyfen complies with NFC 93426 - HE 621-622 and MIL-C-28748 specifications.

Performance characteristics

Operating temperature:	-55°C to +125°C
Insulation resistance:	5000 MΩ min.
Test potential:	2000 VAC
Durability:	500 matings and unmatings.
Vibration resistance	Per MIL-STD 202 method 204
Shock:	Per MIL-C-STD 202 method 207

Construction

Connector Material : Glass filled Phenolic
Flammability rating : UL94-V0
Hoods: Aluminium alloy
gold chromate or anodized
Polyamide 6.6 - black - UL94-V2
Cable clamps: Stainless steel
Polarizing hardware: Brass nickel plated
Shrouds: Aluminium alloy
gold chromate or anodized

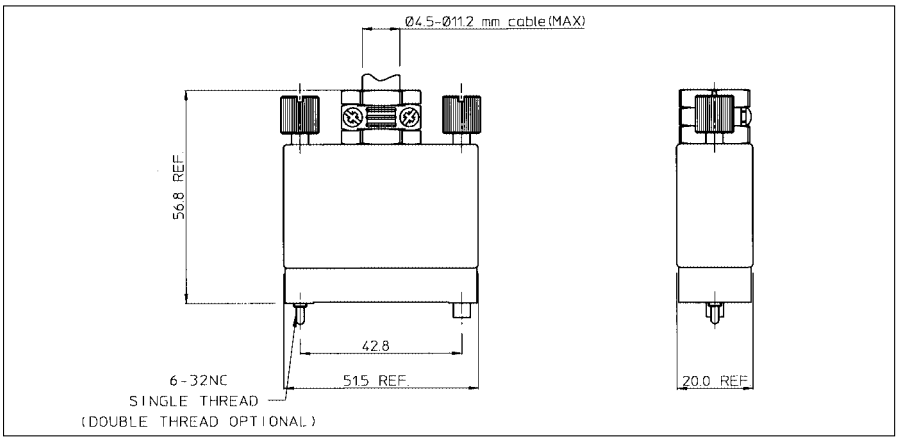
Contact accommodation

- "MS-M" Hyfen connectors accept Trim-Trio removable snap-lock contacts (see contact section)
- Contacts to be ordered seperately.

How to order

Connector family		**MS** **MS**	**34** **34**	**P** **P**	**M** **M**	**124** **120**	**S** **S-**	**GE** **--**	**16** **--**
Contact arrangement									
Type of housing:	**P:** plug body for male contacts **S:** Receptacle housing for female contacts								
N° 16 contact									
Design variation									
Pin protection shroud									
GE = plastic turnable jackscrews									
Code for special variations									

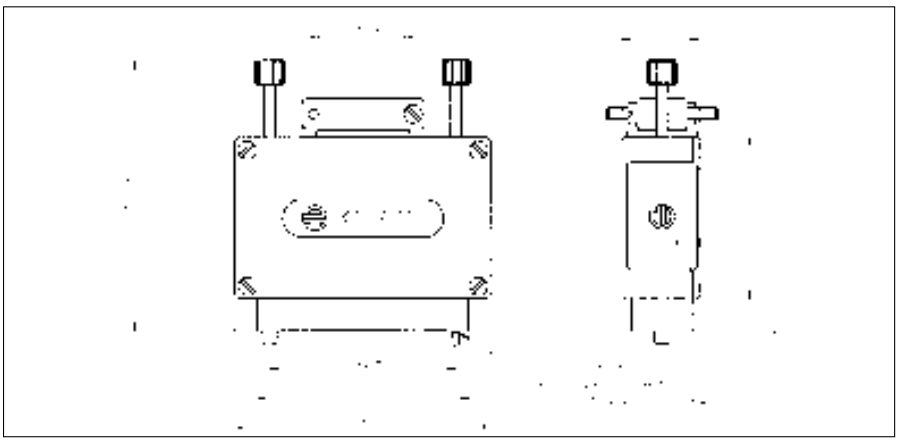
MS34 Cable connectors with metal suitcase hood



Part number		Description
Version with male contacts	Version with female contacts	
MS34PMEHM(*)	**MS34RMEHM(*)**	Anodised hood, plastic strain relief and turnable hardware.
MS34PMSEHM(*)	**MS34RMSEHM(*)**	Shielded version with nickel plated hood, metal strain relief and turnable hardware.

(*) Complete catalogue number with " S " for connector with protective shroud.

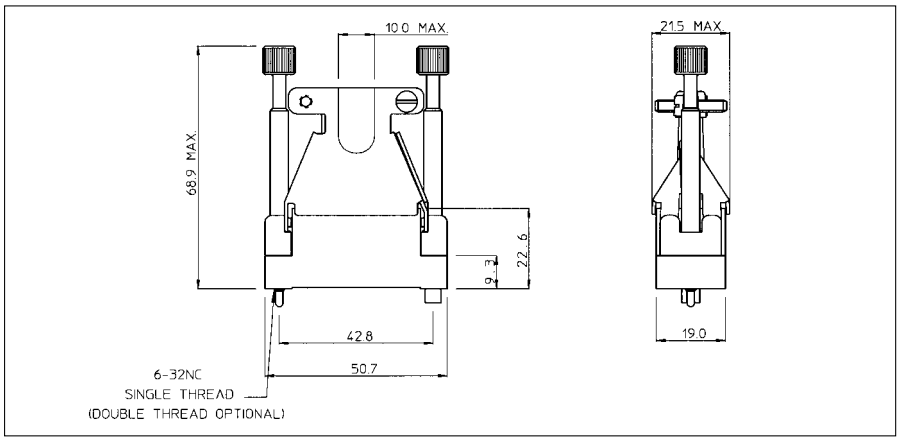
MS34 Cable connectors with plastic suitcase hood



Part number		Description
Version with male contacts	Version with female contacts	
MS34PMEH2(*)	**MS34RMEH2(*)**	Guide pin, guide socket and plastic suitcase hood.
MS34PMEH3(*)	**MS34RMEH3(*)**	Jackscrew pin, jackscrew socket and plastic suitcase hood.
MS34PMEH0(*)	**MS34RMEH0(*)**	Turnable jackscrew pin, turnable jackscrew socket and plastic suitcase hood.

(*) Complete catalogue number with "S" for connector with protective shroud.

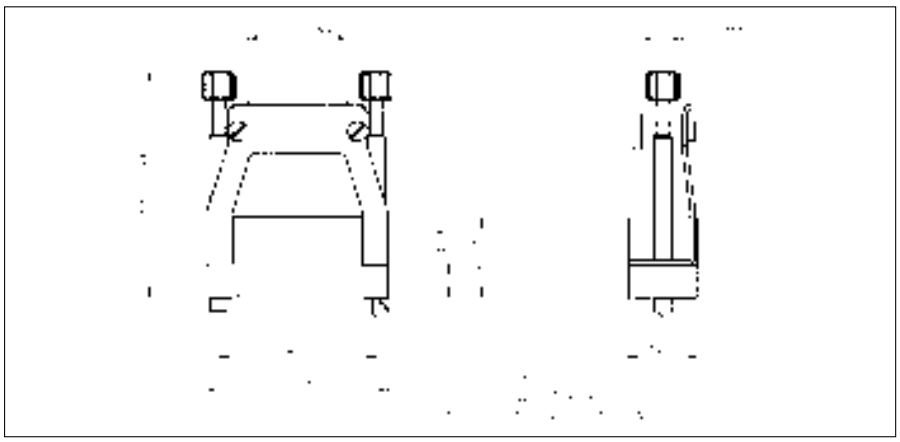
MS34 Cable connectors with metal butterfly hood



Part number		Description
Version with male contacts	Version with female contacts	
MS34PM120(*)GE00	**MS34RM120(*)GE00**	Guide pin, guide socket and butterfly hood.
MS34PM140(*)GE00	**MS34RM140(*)GE00**	Jackscrew pin , jackscrew socket and butterfly hood.
MS34PM124(*)GE00	**MS34RM124(*)GE00**	Turnable jackscrew pin, turnable jackscrew socket and butterfly hood.
MS34PM1(*)GE00	**MS34RM1(*)GE00**	Guide pin and guide socket. No strain relief hood
MS34PM58(*)GE00	**MS34RM58(*)GE00**	Jackscrew pin and jackscrew socket. No strain relief hood.
MS34PM007(*)GE00	**MS34RM007(*)GE00**	Turnable jackscrew pin and turnable jackscrew socket. No strain relief hood.

(*) Complete catalogue number with " S " for connector with protective shroud.

MS34 Cable connectors with cable clamp



Part number		Description
Version with male contacts	Version with female contacts	
MS34PM117(*)GE00	**MS34RM117(*)GE00**	Guide pin, guide socket and cable clamp
MS34PM127(*)GE00	**MS34RM127(*)GE00**	Jackscrew pin, jackscrew socket and cable clamp
MS34PM107(*)GE10	**MS34RM107(*)GE10**	Turnable jackscrew pin, turnable jackscrew socket and cable clamp.

(*) Complete catalogue number with "S" for connector with protective shroud.