



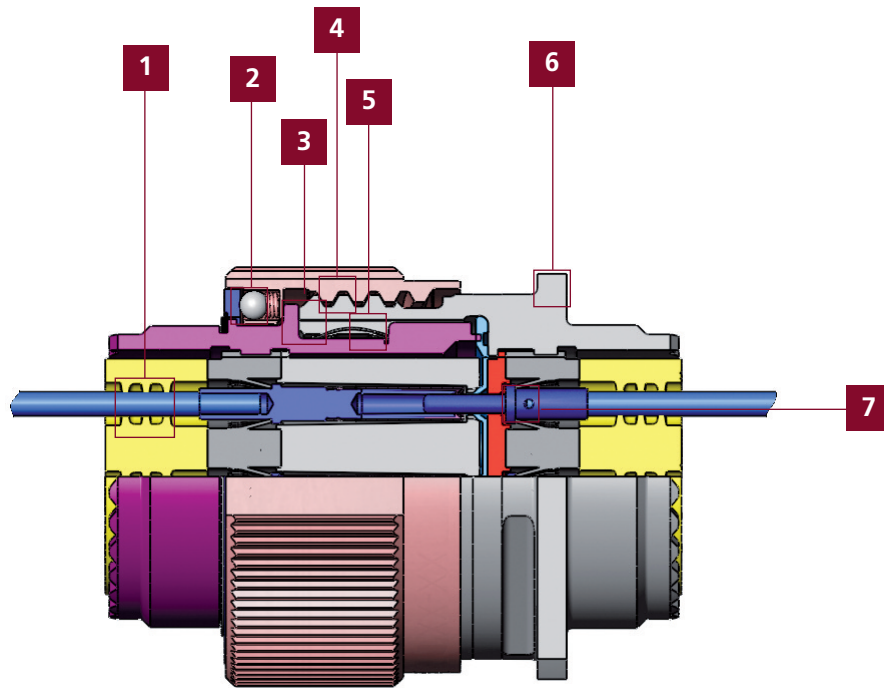
DEUTSCH



DTS series
MIL-DTL-38999 Aluminium

Serie III

Introduction / Présentation



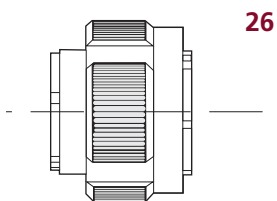
- | | |
|--|--|
| <p>1 Deutsch uses superior silicone seals providing maximum tear resistance and sealing memory.</p> <p>2 Threaded coupling with self locking...</p> <p>3 Provides 100 % metal-to-metal bottoming for maximum EMI grounding protection.</p> <p>4 Trapezoidal thread assures better shell to shell continuity.</p> <p>5 Grounding fingers providing EMI protection.</p> <p>6 Elongated mounting holes permit the DTS connector to intermount with existing standard MIL-DTL-38999 box or wall mount receptacles, giving it a design replacement advantage.</p> <p>7 Deutsch proven contact retention system provides superior contact retention under severe vibration.</p> | <p>1 L'Élastomère de silicone offre une résistance optimale au déchirement et une mémoire élastique.</p> <p>2 Verrouillage à vis auto-freinée à sens prépondérant au verrouillage ou déverrouillage.</p> <p>3 Butée métal-métal pour une protection EMI maximal.</p> <p>4 Filetage trapézoïdal assurant une meilleure continuité électrique entre boîtiers.</p> <p>5 Continuité électrique entre fiche et embase, par couronne de masse (R.F.I.).</p> <p>6 Collettes carrées avec 4 trous oblongs, permettant un montage en lieu et place des connecteurs existants, suivant MIL-DTL-38999.</p> <p>7 Clips moulés d'une seule pièce dans le bloc isolant réalisé en résine thermoplastique garantissant une rétention du contact optimale dans l'isolant.</p> |
|--|--|

DTS Advantages / Avantages

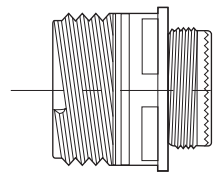
- 1** Threaded coupling with self locking.
 - 2** 100 % scoop-proof shells.
 - 3** High resistance mechanical aluminium shells.
 - 4** Stainless steel shells for hermetic version.
 - 5** Corrosion : 500 hours salt spray protection for class W.
 - 6** R.F.I. fingers.
 - 7** Plugs and receptacles are equipped with thermoplastic and elastomer insert.
 - 8** Thermoplastic clips molded directly with insert.
 - 9** Hermetic receptacle shells with glass insert.
 - 10** Removable crimping contacts (SAE-AS 39029).
 - 11** Sealing receptacle with contacts for printed circuit board.
 - 12** Hermetic receptacle with solder contacts, contacts for printed circuit board.
 - 13** Connector in accordance with specifications MIL-DTL-38999 series III.
 - 14** Connector QPL (to order as per QPL).
- 1** Verrouillage rapide à vis 3 filets.
 - 2** Boîtier 100 % scoop-proof.
 - 3** Boîtier en alliage d'aluminium à haute résistance mécanique.
 - 4** Boîtier en inox pour les hermétiques.
 - 5** Protection 500 heures au brouillard salin en finition W pour la version étanche.
 - 6** Fiches avec couronne de masse R.F.I.
 - 7** Fiches et embases étanches avec isolant en résine et élastomère de synthèse.
 - 8** Clips thermoplastiques de rétention des contacts, moulés dans l'isolant central.
 - 9** Embases hermétiques à scellement verre métal.
 - 10** Contacts à sertir démontables (SAE-AS 39029).
 - 11** Contacts à picots pour connecteur étanche.
 - 12** Contacts à souder et à picot pour embases hermétiques non démontables.
 - 13** Les connecteurs DTS répondent aux normes MIL-DTL-38999 série III.
 - 14** Connecteur QPL (commander suivant QPL)

DTS Synoptic / Synoptique

Plug / Fiche

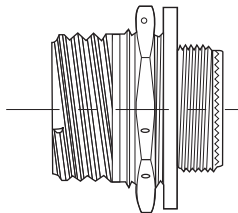


Sealed Receptacles / Embases Etanches



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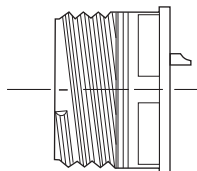
4 holes square wall
mounting
Collerette carrée
fixation 4 trous



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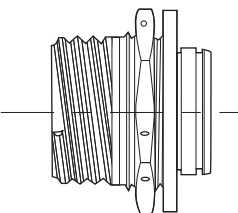
Jam-nut mounting
Collerette ronde fixation
par écrou

Hermetic receptacles / Embases hermétiques



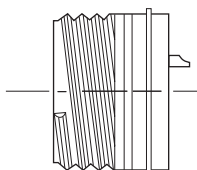
21

4 holes square wall
mounting
Collerette carrée fixation
4 trous



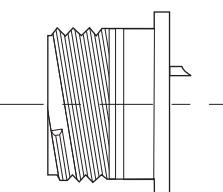
23

Jam-nut mounting
Collerette ronde fixation
par écrou



25

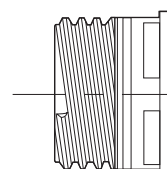
Solder mounting receptacle
Collerette à braser



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Solder box mounting
Collerette à souder

Dummy receptacle / Prise de repos



PR

DTS Technical Characteristics

Mechanical

| | | | |
|--------------------------------|---------------------------------|------------------|---|
| Shell | Material | Sealed version | Aluminium alloy |
| | | Hermetic version | Stainless steel |
| | Plating | Sealed version | W - Olive drab cadmium F - Nickel |
| | | Hermetic version | Y - Passived N - Nickel |
| RFI ring | Material | | Beryllium copper |
| | Plating | | Nickel/cadmium |
| Insert | Material | Sealed version | Thermoplastic and fluorinated silicone elastomer |
| | | Hermetic version | Sintered glass insert |
| Flat gasket and 'o'ring | | | |
| | Material | | Fluoronited silicone elastomer |
| Contacts | Material | Sealed version | Copper alloy |
| | | Hermetic version | Ferrous alloy |
| | Plating | | Gold |
| | | Type | Sealed version |
| Hermetic version | Solder type or pcb (consult us) | | |
| Retention | | | Size 22 D : 4,5 N Size 12 : 11,1 N Size 20 : 6,7 N Size 8 : 11,1 N Size 16 : 11,1 N |
| Vibrations | | | As per MIL-DTL-38999 |
| Physical shocks | | | 300 g, 3 ms in the 3 axes |
| Durability | | | 500 coupling and uncoupling cycles |

Climatic

| | | |
|------------------------------|------------------|---|
| Service temperature | Sealed version | Cadmium plating - 65° C to + 175° C Nickel plating - 65° C to + 200° C |
| | Hermetic version | Passived plating - 65° C to + 200° C |
| Thermal shocks | | As per MIL-DTL-38999 |
| Sealing | | Leakage ≤ 16 cm ³ /h on mated connecting under 2.1 bars |
| Air leakage | | ≤ 1.10·10 ⁻⁶ mbar. l/s under 1 bar vacuum |
| Salt spray resistance | Hermetic version | 500 hours class W and Y, as per MIL-DTL-38999 |
| | Sealed version | 48 hours class F and N, as per MIL-DTL-38999 |

Electrical

| | | |
|------------------------------|---|---|
| Withstanding voltage | At sea level | Service M : 1300 V |
| | | Service I : 1800 V |
| | | Service II : 2300 V |
| | At 70 000 ft altitude | Mated connector Unmated connector |
| | | Service M : 800 V Service M : 200 V |
| | | Service I : 1000 V Service I : 200 V |
| | Service II : 1000 V Service II : 200 V | |
| Insulation resistance | | ≥ 5000 MΩ to 25° C and 65 % HR max. |
| Voltage drop | Size 22 : test to 5 Amp. = 73 millivolts max. | |
| | Size 20 : test to 7,5 Amp. = 55 millivolts max. | |
| | Size 16 : test to 13 Amp. = 49 millivolts max. | |
| | Size 12 : test to 23 Amp. = 42 millivolts max. | |
| | Size 8 : test to 46 Amp. = 26 millivolts max. | |
| Shielding | | As per MIL-DTL-38999 |

| Size | Contacts current | | Diameter over insulation sheath in mm | Permitted wire Section in mm ² |
|------|------------------|------------------|---------------------------------------|---|
| | Sealed version | Hermetic version | | |
| 22 | 5 A | 3 A | 0,76 to 1,37 | 0,095 to 0,38 |
| 20 | 7,5 A | 5 A | 1,01 to 2,10 | 0,21 to 0,60 |
| 16 | 13 A | 10 A | 1,65 to 2,77 | 0,60 to 1,34 |
| 12 | 23 A | 17 A | 2,46 to 3,61 | 1,91 to 3,18 |
| 8 | 46 A | 40 A | 4,50 to 5,80 | 5,30 to 8,98 |

For more information, see MIL-DTL-38999 series III or consult us.

DTS Caractéristiques Techniques

Mécaniques

| | | | |
|--|-------------------|--------------------------------------|--|
| Boîtier | Matière | Version étanche | Alliage d'aluminium |
| | | Version hermétique | Acier inoxydable |
| | Revêtement | Version étanche | W : Cadmié vert olive, F : Nickelé |
| | | Version hermétique | Y : Passivé, N : Nickelé |
| Couronne de masse RFI | Matière | | Cuivre au béryllium |
| | Revêtement | | Nickelé / cadmié |
| Isolant | Matière | Version étanche | Thermoplastique et élastomère de silicone fluoré |
| | | Version hermétique | Verre fritté monobloc |
| Joint périphérique et torique | | | |
| | Matière | | Elastomère de silicone fluoré |
| Contact | Matière | Version étanche | Alliage de cuivre |
| | | Version hermétique | Alliage ferreux |
| | Revêtement | | Or |
| | Type | Version étanche | A sertir ou à picot (nous consulter) |
| Version hermétique | | A souder ou à picot (nous consulter) | |
| Rétention mécanique des contacts dans l'isolant | | | Taille 22 : 4,5 daN Taille 12 : 11,1 daN |
| | | | Taille 20 : 6,7 daN Taille 8 : 11,1 daN |
| | | | Taille 16 : 11,1 daN |
| Vibrations | | | Suivant MIL-DTL-38999 |
| Chocs | | | 300 g, 3 ms dans les 3 axes |
| Endurance mécanique | | | 500 cycles accouplement / désaccouplement |

Climatiques

| | | |
|----------------------------------|--------------------|---|
| Température d'utilisation | Version étanche | Revêtement cadmié - 65° C à + 175° C |
| | | Revêtement nickelé - 65° C à + 200° C |
| | Version hermétique | Revêtement passivé - 65° C à + 200° C |
| Chocs thermiques | | Suivant MIL-DTL-38999 |
| Etanchéité | | Fuite ≤ 16 cm ³ /h sur connecteur accouplé sous 2.1 bars |
| Herméticité | | ≤ 1.10 ⁻⁶ mbar l/s sous une dépression de 1 bar |
| Tenue au brouillard salin | Version étanche | 500 heures classe W et Y, suivant MIL-DTL-38999, |
| | | 48 heures classe F et N, suivant MIL-DTL-38999 |

Electriques

| | | |
|-------------------------------|----------------------------|---|
| Tension de tenue | Au niveau de la mer | Service M : 1300 V eff. |
| | | Service I : 1800 V eff. |
| | | Service II : 2300 V eff. |
| | A 30 500 mètres d'altitude | Connecteur accouplé Connecteur désaccouplé |
| | | Service M : 800 V eff. Service M : 200 V eff. |
| | | Service I : 1000 V eff. Service I : 200 V eff. |
| | | Service II : 1000 V eff. Service II : 200 V eff. |
| | | |
| Résistance d'isolement | | ≥ 5000 MΩ à 25° C et 60% HR max. |
| Chute de tension | | Taille 22 : test à 5 Amp. = 73 millivolts max. |
| | | Taille 20 : test à 7,5 Amp. = 55 millivolts max. |
| | | Taille 16 : test à 13 Amp. = 49 millivolts max. |
| | | Taille 12 : test à 23 Amp. = 42 millivolts max. |
| | | Taille 8 : test à 46 Amp. = 26 millivolts max. |
| Blindage | | Suivant MIL-DTL-38999 |

| Taille | Intensité max. des contacts | | Ø sur gaine en mm | Câble utilisable section en mm ² |
|--------|-----------------------------|--------------------|-------------------|---|
| | Version étanche | Version hermétique | | |
| 22 | 5 A | 3 A | 0,76 à 1,37 | 0,095 à 0,38 |
| 20 | 7,5 A | 5 A | 1,01 à 2,10 | 0,21 à 0,60 |
| 16 | 13 A | 10 A | 1,65 à 2,77 | 0,60 à 1,34 |
| 12 | 23 A | 17 A | 2,46 à 3,61 | 1,91 à 3,18 |
| 8 | 46 A | 40 A | 4,50 à 5,80 | 5,30 à 8,98 |

Pour plus d'informations techniques, se reporter à la norme MIL-DTL-38999 série III ou nous consulter.

HOW TO ORDER DTS/D38999 SERIES CONNECTORS

| | | | | | |
|--------------------|---------------|---------------|----------------|---|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| DTS20 | F | 9-35 | P | A | -L/C |
| SHELL STYLE | FINISH | LAYOUT | CONTACT | POLARIZATION <small>(OMIT FOR NORMAL)</small> | MODIFIER |

(Commerical part number example)

| | | | | | |
|--------------------|---------------|---------------|----------------|---------------------|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| D38999/20 | F | A35 | P | A | -L/C |
| SHELL STYLE | FINISH | LAYOUT | CONTACT | POLARIZATION | MODIFIER |

(Military part number example)

STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE



STEP 2: SELECT FINISH

F= Electroless Nickel
K= Stainless Steel -45dB
G= Space Grade, Outgassed

W= Olive Drab Chromate over Cadmium over Electroless Nickel
S= Stainless Steel / Electorless Nickel -65B

STEP 3: SELECT LAYOUT

See page 3 for listing by # of contacts

| MILITARY D38999 LAYOUT | COMMERICAL DTS LAYOUT | SERVICE RATING | CONTACTS | | | | | |
|------------------------------|--------------------------|-------------------|-----------------|-----|----|----|----|-----|
| | | | TOTAL NUMBER | 22D | 20 | 16 | 12 | 8 |
| A35 | 9-35 | M | 6 | 6 | | | | |
| A98 | 9-98 | I | 3 | | 3 | | | |
| - | 11-01 | | 1 | | | | | 1 |
| B5 | 11-5 | I | 5 | | 5 | | | |
| - | 11-12 | | 1 | | | | 1 | |
| B35 | 11-35 | M | 13 | 13 | | | | |
| B98 | 11-98 | I | 6 | | 6 | | | |
| B99 | 11-99 | I | 7 | | 7 | | | |
| C4 | 13-4 | I | 4 | | | 4 | | |
| C8 | 13-8 | I | 8 | | 8 | | | |
| C35 | 13-35 | M | 22 | 22 | | | | |
| C98 | 13-98 | I | 10 | | 10 | | | |
| D5 | 15-5 | II | 5 | | | 5 | | |
| D15 | 15-15 | I | 15 | | 14 | 1 | | |
| D18 | 15-18 | I | 18 | | 18 | | | |
| D19 | 15-19 | I | 19 | | 19 | | | |
| D35 | 15-35 | M | 37 | 37 | | | | |
| D97 | 15-97 | I | 12 | | 8 | 4 | | |
| E6 | 17-6 | I | 6 | | | | 6 | |
| E8 | 17-8 | II | 8 | | | 8 | | |
| E26 | 17-26 | I | 26 | | 26 | | | |
| E35 | 17-35 | M | 55 | 55 | | | | |
| - | 17-75 | I | 2 | | | | | 2 |
| E99 | 17-99 | I | 23 | | 21 | 2 | | |
| F11 | 19-11 | II | 11 | | | 11 | | |
| F32 | 19-32 | I | 32 | | 32 | | | |
| F35 | 19-35 | M | 66 | 66 | | | | |
| G11 | 21-11 | I | 11 | | | | 11 | |
| G16 | 21-16 | II | 16 | | | 16 | | |
| G35 | 21-35 | M | 79 | 79 | | | | |
| G39 | 21-39 | I | 39 | | 37 | 2 | | |
| G41 | 21-41 | I | 41 | | 41 | | | |
| G75 | 21-75 | N | 4 | | | | | 4* |
| H21 | 23-21 | II | 21 | | | 21 | | |
| H35 | 23-35 | M | 100 | 100 | | | | |
| H53 | 23-53 | I | 53 | | 53 | | | |
| H55 | 23-55 | I | 55 | | 55 | | | |
| J4 | 25-4 | I | 56 | | 48 | 8 | | |
| J19 | 25-19 | I | 19 | | | | 19 | |
| J20 | 25-20 | N | 30 | | 10 | 13 | 4* | 3** |
| J24 | 25-24 | I | 24 | | | 12 | 12 | |
| J29 | 25-29 | I | 29 | | | 29 | | |
| J35 | 25-35 | M | 128 | 128 | | | | |
| - | 25-36 | | 39 | | 24 | 10 | 2 | 3 |
| - | 25-41 | | 46 | | 40 | 4 | | 2 |
| J46 | 25-46 | I | 46 | | 40 | 4 | | 2* |
| J61 | 25-61 | I | 61 | | 61 | | | |

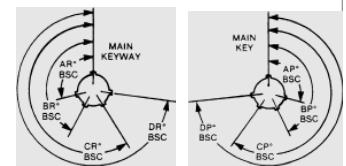
* Coax ** Twinax

STEP 4: SELECT CONTACT

- P** = Pin
- S** = Socket
- H** = 1500 cycle Pin contacts (military only)
- J** = 1500 cycle Socket contacts (military only)
- Note:** See Step 6 if you are not ordering contacts with part.
- A** = Less Pin Contacts
- B** = Less Socket Contacts
May be used for special contact types (PC Pin, Thermocouple, Fibre Optic).
- U** = PCB Pin contacts (commercial only)
- M** = PCB socket contacts (commercial only)

STEP 5: SELECT POLARIZATION

- N** = Normal (Standard)
- A** = Next Most Popular
- B** = Not Popular (limited availability)
- C** = Check for availability
- D** = Check for availability
- E** = Check for availability



Receptacle

Plug

| SHELL SIZE | POLARI- ZATION | MINOR KEY LOCATIONS | | | |
|---------------|-------------------|---------------------|---------|---------|---------|
| | | AR & AP | BR & BP | CR & CP | DR & DP |
| 9 | N | 105 | 140 | 215 | 265 |
| | A | 102 | 132 | 248 | 320 |
| | B | 80 | 118 | 230 | 312 |
| | C | 35 | 140 | 205 | 275 |
| | D | 64 | 155 | 234 | 304 |
| 11 | E | 91 | 131 | 197 | 240 |
| | N | 95 | 141 | 208 | 236 |
| 13 | A | 113 | 156 | 182 | 292 |
| | B | 90 | 145 | 195 | 252 |
| 15 | C | 53 | 156 | 220 | 255 |
| | D | 119 | 146 | 176 | 298 |
| | E | 51 | 141 | 184 | 242 |
| 17 | N | 80 | 142 | 196 | 293 |
| | A | 135 | 170 | 200 | 310 |
| 19 | B | 49 | 169 | 200 | 244 |
| | C | 66 | 140 | 200 | 257 |
| | D | 62 | 145 | 180 | 280 |
| | E | 79 | 153 | 197 | 272 |
| 21 | N | 80 | 142 | 196 | 293 |
| 23 | A | 135 | 170 | 200 | 310 |
| | B | 49 | 169 | 200 | 244 |
| 25 | C | 66 | 140 | 200 | 257 |
| | D | 62 | 145 | 180 | 280 |
| | E | 79 | 153 | 197 | 272 |

STEP 6: SELECT MODIFIER

For other commercial modification, i.e., less tools, with pc contact or with endbell, call.

Omit for standard contacts

L/C = for use with standard contacts, but supplied without contacts, seal plugs or tools (PO must state Less Contacts)

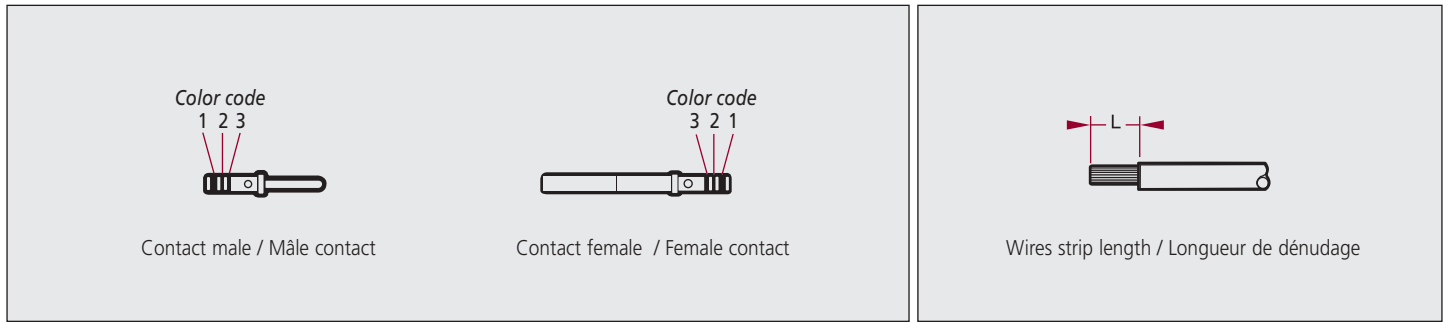
Note: L/C is not marked on part

LAYOUTS BY NUMBER OF CONTACTS

•=#22 ○=#20 ◦=#16 ◐=#12 ⊕=#8

| | | | | | | | |
|---------------|-----------|----------|----------------------|-------------------|----------|--|-------------------|
| | | | | | | | |
| Layout | 09-35 | 09-98 | 11-01 * | 11-05 | 11-12 * | 11-35 | 11-98 |
| # of Contacts | 6 - #22 | 3 - #20 | 1 - #8 | 5 - #20 | 1 - #12 | 13 - #22 | 6 - #20 |
| | | | | | | | |
| Layout | 11-99 | 13-04 | 13-08 | 13-35 | 13-98 | 15-05 | 15-15 * |
| # of Contacts | 7 - #20 | 4 - #16 | 8 - #20 | 22 - #22 | 10 - #20 | 5 - #16 | 14 - #20, 1 - #16 |
| | | | | | | | |
| Layout | 15-18 | 15-19 | 15-35 | 15-97 * | 17-06 | 17-08 * | 17-26 |
| # of Contacts | 18 - #20 | 19 - #20 | 37 - #22 | 8 - #20, 4 - #16 | 6 - #12 | 8 - #16 | 26 - #20 |
| | | | | | | | |
| Layout | 17-35 | 17-75 * | 17-99 * | 19-11 * | 19-32 | 19-35 | 21-11 * |
| # of Contacts | 55 - #22 | 2 - #8 | 21 - #20, 2 - #16 | 11 - #16 | 32 - #20 | 66 - #22 | 11 - #12 |
| | | | | | | | |
| Layout | 21-16 | 21-35 | 21-39 | 21-41 | 21-75 * | 23-21 * | |
| # of Contacts | 16 - #16 | 79 - #22 | 2 - #16, 37 - #20 | 41 - #20 | 4 - #8 | 21 - #16 | |
| | | | | | | | |
| Layout | 23-35 * | 23-53 | 23-55 * | 25-04 * | 25-19 * | 25-20 * | |
| # of Contacts | 100 - #22 | 53 - #20 | 55 - #20 | 48 - #20, 8 - #16 | 19 - #12 | 10 - #20, 13 - #16, 4 - #12, 3 - #8 | |

DTS Contacts



| CONTACTS | | | | | | | CABLES | | | |
|---|---------------|----------------|----------------------------|---------------|---------------|---------------------------------------|---|-----------------------|------------------------------|------------------|
| Commercial pn Référence Commerciale | Type Genre | Size Taille | Color code Code couleur | | | Observations Observations | Section ² in / en mm ² | AWG wire Taille | Ø over sheath Ø sur gaine | L |
| | | | 1 | 2 | 3 | | | | | |
| 724-0001-22 | P | 22 | Orange/orange | Blue/Bleu | Black/Black | Standard contact | 0,10 to / à 0,38 | 22 to / à 28 | 0,76 to / à 1,37 | 5,00 to / à 5,80 |
| 724-0007-22 | S | | Orange/Orange | Yellow/Jaune | Grey/Gris | | | | | |
| 724-0001-20 | P | 20 | Orange/orange | Blue/Bleu | Orange/orange | Standard contact | 0,21 to / à 0,60 | 20 to / à 24 | 1,02 to / à 2,11 | 5,80 to / à 6,60 |
| 724-0007-20 | S | | Orange/orange | Green/Vert | Brown/Marron | | | | | |
| 724-0001-16 | P | 16 | Orange/orange | Blue/Bleu | Yellow/Jaune | Standard contact | 0,60 to / à 1,34 | 16 to / à 20 | 1,65 to / à 2,77 | 5,80 to / à 6,60 |
| 724-0007-16 | S | | Orange/orange | Green/Vert | Red/Rouge | | | | | |
| 724-0001-12 | P | 12 | Orange/orange | Blue/Bleu | Green/Vert | Standard contact | 1,93 to / à 3,18 | 12 to / à 14 | 2,46 to / à 3,61 | 5,80 to / à 6,60 |
| 724-0007-12 | S | | Orange/orange | Green/Vert | Orange/orange | | | | | |
| 182-0001-08 | P | 8 | - | - | - | Power contact Contact de puissance | 5,30 to / à 8,98 | 8 | 4,50 to / à 5,80 | 9,20 to / à 9,80 |
| 182-0003-08 | S | | | | | | | | | |
| 182-0068-20 | P | 20 | Yellow/Jaune | Purple/Violet | Green/Vert | Alumel contact | 0,21 to / à 0,60 | 20 to / à 24 | 1,02 to / à 2,11 | 5,80 to / à 6,60 |
| 182-0009-20 | S | | Yellow/Jaune | Grey/Gris | Purple/Violet | | | | | |
| 182-0069-20 | P | 20 | Yellow/Jaune | Purple/Violet | Blue/Bleu | Chromel contact | 0,21 to / à 0,60 | 20 to / à 24 | 1,02 to / à 2,11 | 5,80 to / à 6,60 |
| 182-0010-20 | S | | Yellow/Jaune | Grey/Gris | Grey/Gris | | | | | |
| 182-0068-22 | P | 22 | Yellow/Jaune | Purple/Violet | Brown/Marron | Alumel contact | 0,10 to / à 0,38 | 22 to / à 28 | 0,76 to / à 1,37 | 5,00 to / à 5,80 |
| 182-0009-22 | S | | Yellow/Jaune | White/Blanc | Green/Vert | | | | | |
| 182-0069-22 | P | 22 | Yellow/Jaune | Purple/Violet | Red/Rouge | Chromel contact | 0,10 to / à 0,38 | 22 to / à 28 | 0,76 to / à 1,37 | 5,00 to / à 5,80 |
| 182-0010-22 | S | | Yellow/Jaune | White/Blanc | Blue/Bleu | | | | | |

Standards contacts delivered with connector. Contacts standards livrés avec le connecteur.

NRG band thermocouple contacts, consult us / Contacts thermocouple avec NRJ band, nous consulter.

Databus contacts size 8 (twisted pair) as per MIL-DTL-38999 series I, III and IV standard Contact Databue taille 8 (paire blindée) conforme à la norme MIL-DTL-38999 séries I, III et IV

| CONTACTS | | | | CABLES | | | SLEEVE / MANCHONS | TOOLS / OUTILLAGE | | |
|---|---------------|----------------|----------------------------|---|--|-------------------------------------|--|---------------------------------|-------------------------------------|-----------------------------------|
| PN commercial Référence Commerciale | Type Genre | Size Taille | Color code Code couleur | Types Types | Conducteur max. section Section max. conducteur | Braid Ø max. Ø max. tresse | Type Type | Crimping tool Pince à sertir | | |
| | | | | | | | | Conductor Conducteur | Ferrule Ferrule | Extraction Extraction |
| 182-0034-03 182-0035-03 | P S | 8 | Brown-red Marron-rouge | Braid simple Simple tresse | 0,86 mm ² | 3,48 | Thermosetting and silicone Silicone et thermodurcissable | TDB-CT-08 | TDB-CT-HEX Mark C Empreinte C | 114-008 or/ou M 81969/14-06 |
| 182-0034-04 182-0035-04 | P S | 8 | Red-red Rouge-rouge | High immunity double braid Double tresse haute immunité | 0,86 mm ² | 3,91 | Thermosetting and silicone Silicone et thermodurcissable | TDB-CT-08 | TDB-CT-HEX Mark D Empreinte D | 114-008 or/ou M 81969/14-06 |
| 182-0347-01 182-0346-01 | P S | 8 | Brown-red Marron-rouge | Braid simple Simple tresse | 0,86 mm ² | 3,48 | Thermosetting and silicone Silicone et thermodurcissable | TDB-CT-08 | TDB-CT-HEX Mark D Empreinte D | 114-008 or/ou M 81969/14-06 |
| 182-0347-02 182-0346-02 | P S | 8 | Red-red Rouge-rouge | High immunity double braid Double tresse haute immunité | 0,86 mm ² | 3,91 | Thermosetting and silicone Silicone et thermodurcissable | TDB-CT-08 | TDB-CT-HEX Mark D Empreinte D | 114-008 or/ou M 81969/14-06 |

Note : Size 8 and Bus contacts are delivered with protect sleeve. / Les contacts taille 8 et Bus, sont livrés avec le manchon de protection arrière "Tétine"

DTS Tools / Outillages



| SEALING PLUG / OBTURATEURS | | TOOLS / OUTILLAGE | | | | STANDARDIZATION / NORMES |
|----------------------------|----------------------------|--------------------------|----------------------------|---------------------------------|--|--|
| Part number Référence | Color code code couleur | Tools / Outils | | Crimping tool Pince à sertir | Pilot stop for crimping tool Butée pour pince à sertir | CONTACTS |
| | | Insertion d'insertion | Extraction D'extraction | | | |
| 028-0102-22 | Yellow/Jaune | M 81969/14-01 | | M 22520/2-01 | M22520/2-09 M 2250/2-07 | SAE-AS 39029/58-360 SAE-AS 39029/56-348 |
| 006-0893-20 | Red/Rouge | M 15570-20 | | M 22520/1-01 | M 22520/1-04 | SAE-AS 39029/58-363 SAE-AS 39029/56-351 |
| 006-0893-16 | Blue/Bleu | M 15570-16 | | M 22520/1-01 | M 22520/01-04 | SAE-AS 39029/58-364 SAE-AS 39029/56-352 |
| 006-0893-12 | Yellow/Jaune | M 15570-12 | | M 22520/1-01 | M 22520/1-04 | SAE-AS 39029/58/365 SAE-AS 39029/56-353 |
| 182-0064-08 | - | Manual/Manuel | M 81969/14-6 | M 300 BT | SP 593 | |
| 006-0893-20 | Red/Rouge | M 15570-20 | | M 22520/1-01 | M 22520/1-04 | SAE-AS 39029/87-475 SAE-AS 39029/88-487 |
| 006-0893-20 | Red/Rouge | M 15570-20 | | M 22520/1-01 | M 22520/1-04 | SAE-AS 39029/87-476 SAE-AS 39029/88-488 |
| 028-0102-22 | Yellow/Jaune | M 81969/14-01 | | M 22520/2-01 | M 22520/2-09 M 22520/2-07 | SAE-AS 39029/87-471 SAE-AS 39029/89-495 |
| 028-0102-22 | Yellow/Jaune | M 81969/14-01 | | M 22520/2-01 | M 22520/2-09 M 22520/2-07 | SAE-AS 39029/87-472 SAE-AS 39029/89-496 |

| PCB contacts / Contacts à picot | | |
|---------------------------------|----------------|--------------------------|
| Genre Type | Size Taille | Part number Référence |
| P | 22 | 724-0902-22 |
| | 20 | 724-0902-20 |
| | 16 | 724-0902-16 |
| | 12 | 724-0902-12 |
| S | 22 | 724-0904-22 |
| | 20 | 724-0904-20 |
| | 16 | 724-0904-16 |
| | 12 | 724-0904-12 |

| Coaxial contacts / Contacts coaxiaux | | | |
|--------------------------------------|---------------|---------------|--------------------------|
| Size Taille | Genre Type | SAE-AS 39029/ | Part number Référence |
| 16 | P | 76 | 724-0004-16 |
| | S | 77 | 182-0013-16 |
| 12 | P | 102 | 182-0100-12 |
| | S | 103 | 182-0101-12 |
| 8 | P | 59 | 182-0127-68 |
| | S | 60 | 182-0128-68 |

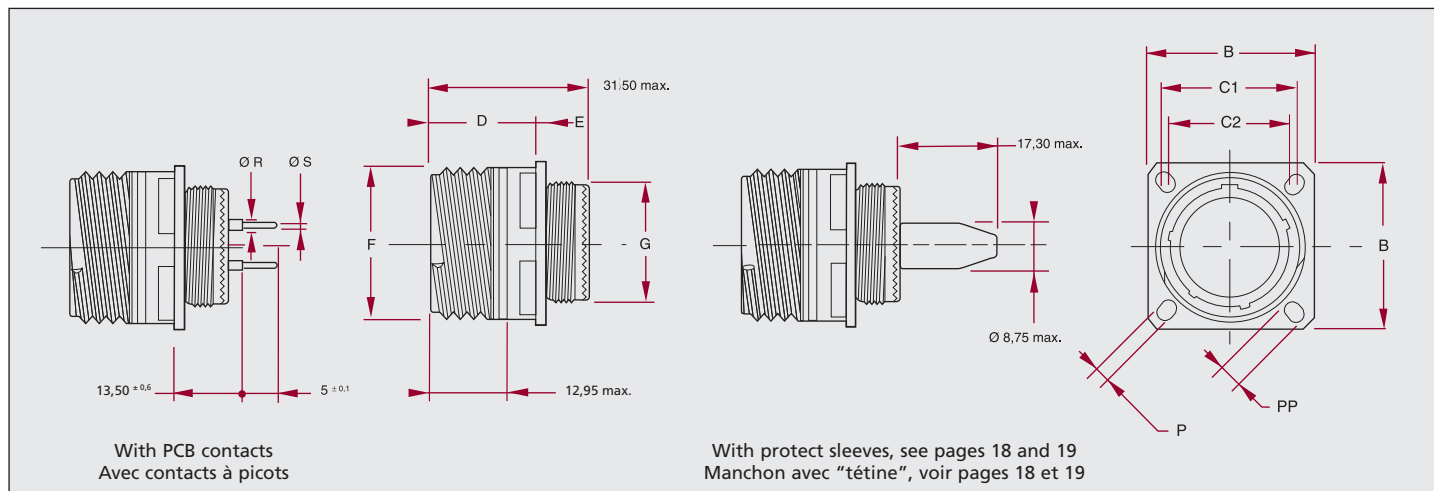
| Shielded contacts / Contacts blindés | | | |
|--------------------------------------|---------------|---------------|--------------------------|
| Size Taille | Genre Type | SAE-AS 39029/ | Part number Référence |
| 12 | P | 28 | 182-0098-12 |
| | S | 52 | 182-0099-12 |

| TOOLS / OUTILLAGE | | | | | | | |
|---|-----------------------|---------------------------------|-----------------------|--------------------------------|---|--|--------------------------------|
| Intermediate contact Contact intermédiaire | | Ferrule | | Tool Outillage | Dynamometric key Clef dynamométrique | Arrangements for contact size 8 Arrangements pour contacts taille 8 | |
| Crimping tool Pince à sertir | Mark B Empreinte B | Crimping tool Pince à sertir | Mark A Empreinte A | Extraction D'extraction | | Version | Arrangements |
| TDB-CT-08 | 057-0782-00 | M 22520/5-01 | 057-0782-00 | 114-008 or/ou M 81969-14-06 | DF 57 095-02 | A | 21-30 21-46 |
| TDB-CT-08 | 057-0782-00 | M 22520/5-01 | 057-0782-00 | 114-008 or/ou M 81969-14-06 | DF 57 095-02 | A | 21-30 21-46 |
| M 22520/2-01 | 057-0782-00 | M 22520/5-01 | 057-0782-00 | 114-008 or/ou M 81969-14-06 | DF 57 095-02 | B | 11-01 - 11-75 17-28 - 21-75 |
| M 22520/2-01 | 057-0782-00 | M 22520/5-01 | 057-0782-00 | 114-008 or/ou M 81969/14-6 | DF 57-095-20 | B | 11-01 - 11-75 17-28 - 21-75 |

Note : Cabling notice. Notice de câblage Version A : PN. NC 187.013 Cabling notice. Notice de câblage Version B : Ref. NC 182.021.

DTS Receptacles / Embases

Square flange / Colletette carrée Type 20



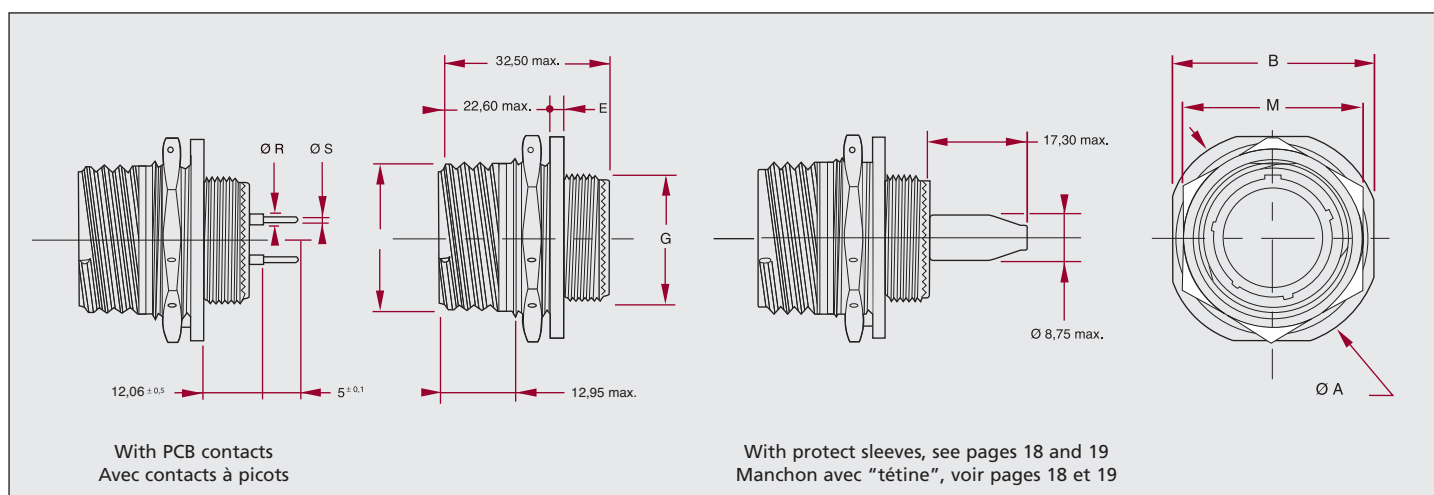
| Contact size Taille contact | R ± 0,05 | S +0 -0,05 |
|--------------------------------|-------------|------------------|
| 22 | 1,0 | 0,50 |
| 20 | 1,5 | 0,70 |
| 16 | 2,2 | 1,15 |
| 12 | 3,80 ± 0,04 | 1,50 ± 0,1 |

PCB contacts part number
Référence contacts à picot
See/page 21

| Size Taille | B ± 0,3 | C1 | C2 | D max. | E +0 -0,4 | F ± 0,1 | G ± 0,1 | P ± 0,2 | PP ± 0,2 | Mass/Masse Alu * |
|----------------|------------|-------|-------|-----------|-----------------|------------|------------|------------|-------------|---------------------|
| 09 | 23,80 | 18,26 | 15,09 | 20,90 | 2,10 / 2,50 | 15,75 | 11,90 | 3,25 | 5,49 | 10,00 |
| 11 | 26,20 | 20,62 | 18,26 | 20,90 | 2,10 / 2,50 | 18,90 | 14,90 | 3,25 | 4,93 | 16,00 |
| 13 | 28,60 | 23,01 | 20,62 | 20,90 | 2,10 / 2,50 | 22,10 | 17,90 | 3,25 | 4,93 | 22,00 |
| 15 | 31,00 | 24,61 | 23,01 | 20,90 | 2,10 / 2,50 | 25,25 | 21,90 | 3,25 | 4,93 | 31,00 |
| 17 | 33,30 | 26,97 | 24,61 | 20,90 | 2,10 / 2,50 | 29,95 | 24,90 | 3,25 | 4,93 | 46,00 |
| 19 | 36,50 | 29,36 | 26,97 | 20,90 | 2,10 / 2,50 | 31,55 | 27,90 | 3,25 | 4,93 | 51,00 |
| 21 | 39,70 | 31,75 | 29,36 | 20,10 | 2,10 / 3,20 | 34,70 | 30,90 | 3,25 | 4,93 | 65,00 |
| 23 | 42,90 | 34,93 | 31,75 | 20,10 | 2,10 / 3,20 | 37,90 | 33,90 | 3,91 | 6,15 | 78,00 |
| 25 | 46,00 | 38,10 | 34,93 | 20,10 | 2,10 / 3,20 | 41,10 | 36,90 | 3,91 | 6,15 | 97,00 |

* Mass without contact. Poids sans contact

Jam-nut mounting / Colletette ronde Type 24



| Contact size Taille contact | R ± 0,05 | S +0 -0,05 |
|--------------------------------|-------------|------------------|
| 22 | 1,0 | 0,50 |
| 20 | 1,5 | 0,70 |
| 16 | 2,2 | 1,15 |
| 12 | 3,80 ± 0,04 | 1,50 ± 0,1 |

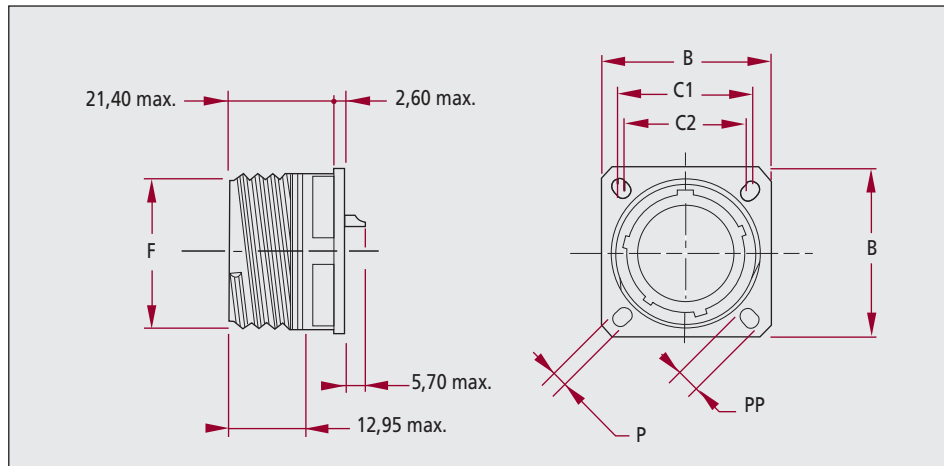
PCB contacts part number
Référence contacts à picot
See/page 21

| Size Taille | A ± 0,3 | B ± 0,4 | E +0,1 -0,7 | F ± 0,1 | G ± 0,1 | M mini / max. | Mass/Masse Alu * |
|----------------|------------|------------|-------------------|------------|------------|------------------|---------------------|
| 09 | 30,20 | 27,00 | 2,20 | 15,75 | 11,90 | 21,82 / 24,00 | 16,00 |
| 11 | 34,90 | 31,80 | 2,20 | 18,90 | 14,90 | 24,99 / 27,00 | 23,00 |
| 13 | 38,10 | 34,90 | 2,20 | 22,10 | 17,90 | 29,77 / 32,00 | 31,00 |
| 15 | 41,30 | 38,10 | 2,20 | 25,25 | 21,90 | 32,91 / 36,00 | 48,00 |
| 17 | 44,50 | 41,30 | 2,20 | 29,95 | 24,90 | 36,12 / 37,00 | 55,00 |
| 19 | 49,20 | 46,00 | 3,00 | 31,55 | 27,90 | 39,25 / 41,00 | 67,00 |
| 21 | 52,40 | 49,20 | 3,00 | 34,70 | 30,90 | 42,47 / 46,00 | 81,00 |
| 23 | 55,60 | 52,40 | 3,00 | 37,90 | 33,90 | 45,61 / 50,00 | 93,00 |
| 25 | 58,70 | 55,60 | 3,00 | 41,10 | 36,90 | 49,25 / 51,23 | 111,00 |

* Mass without contact
Poids sans contact

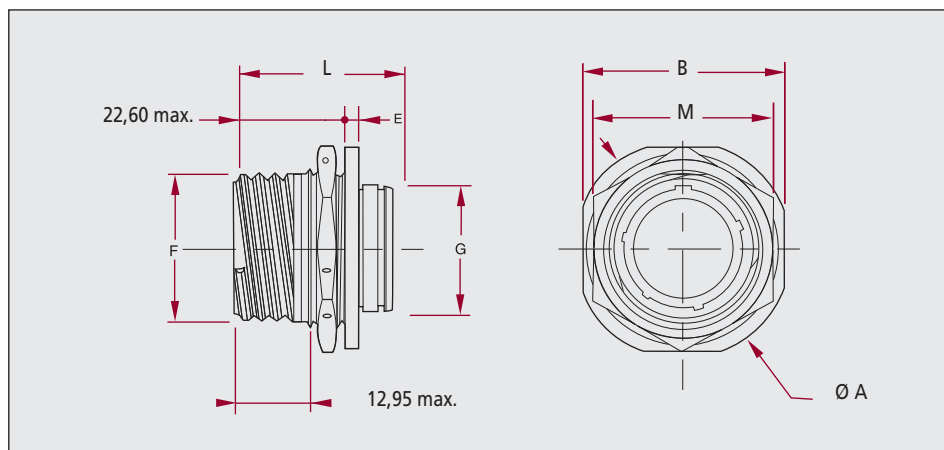
DTS Hermetic receptacles / Embases hermétiques

Square flange / Colletette carrée Type 21



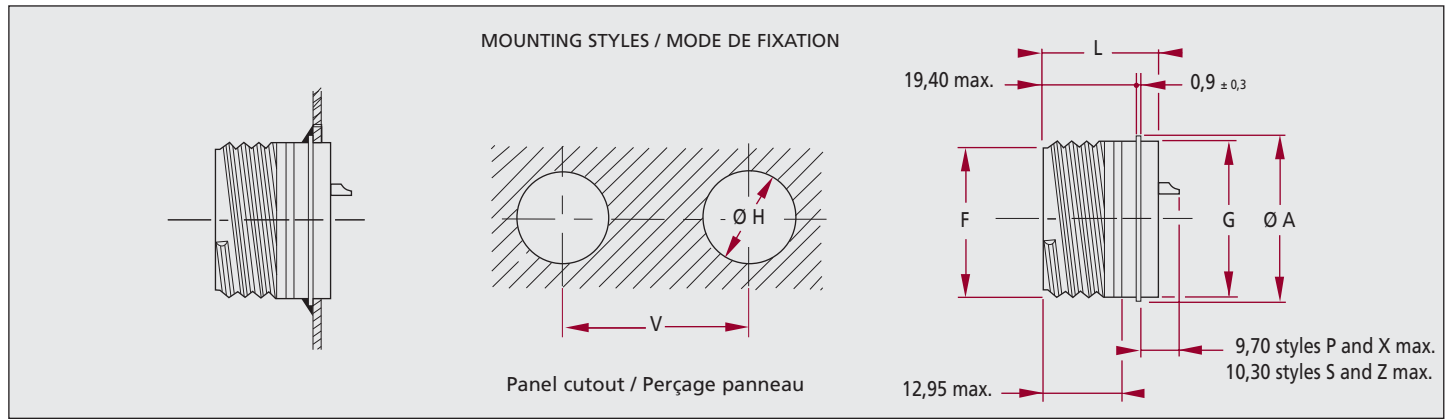
| Size Taille | B ± 0,3 | C1 | C2 | F ± 0,1 | P ± 0,2 | PP ± 0,2 | Mass/Masse Stainless steel/Acier inox. |
|----------------|------------|-------|-------|------------|------------|-------------|---|
| 09 | 23,80 | 18,26 | 15,09 | 15,75 | 3,25 | 5,49 | 25,00 |
| 11 | 26,20 | 20,62 | 18,26 | 18,90 | 3,25 | 4,93 | 35,00 |
| 13 | 28,60 | 23,01 | 20,62 | 22,10 | 3,25 | 4,93 | 45,00 |
| 15 | 31,00 | 24,61 | 23,01 | 25,25 | 3,25 | 4,39 | 59,00 |
| 17 | 33,30 | 26,97 | 24,61 | 29,95 | 3,25 | 4,93 | 83,00 |
| 19 | 36,50 | 29,36 | 26,97 | 31,55 | 3,25 | 4,93 | 89,00 |
| 21 | 39,70 | 31,75 | 29,36 | 34,70 | 3,25 | 4,93 | 110,00 |
| 23 | 42,90 | 34,93 | 31,75 | 37,90 | 3,91 | 6,15 | 127,00 |
| 25 | 46,00 | 38,10 | 34,93 | 41,10 | 3,91 | 6,15 | 148,00 |

Jam-nut mounting / Colletette ronde Type 23

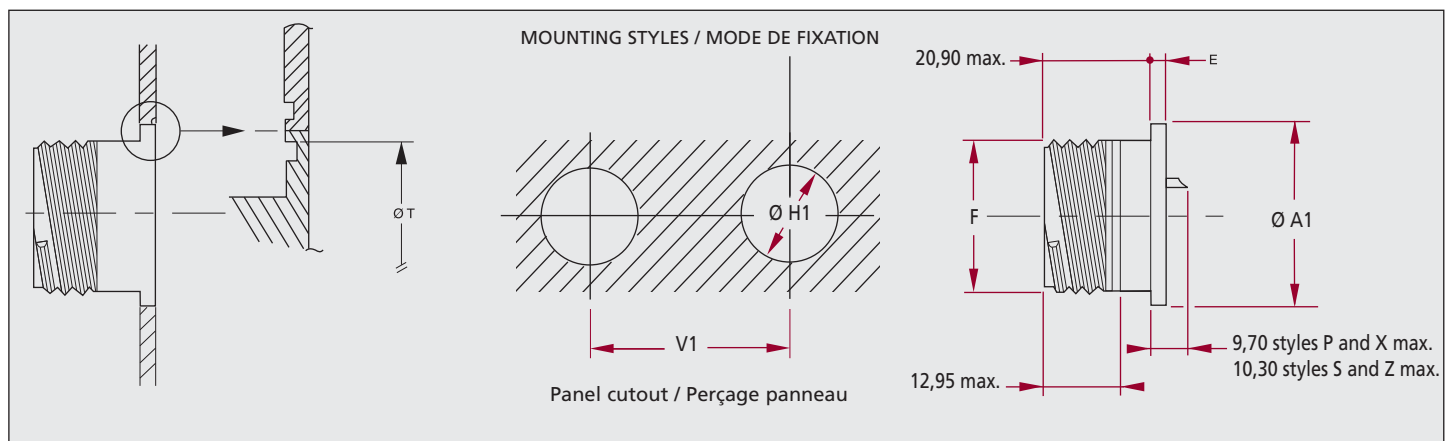


| Size Taille | A ± 0,3 | B ± 0,4 | E $\begin{matrix} +0,3 \\ -0,1 \end{matrix}$ | F ± 0,1 | G $\begin{matrix} +0,3 \\ -0 \end{matrix}$ | L max. | M | Mass/Masse Stainless steel/Acier inox. |
|----------------|------------|------------|---|------------|---|-----------|-------|---|
| 09 | 30,20 | 27,00 | 2,60 | 15,75 | 16,30 | 29,20 | 21,82 | 38,00 |
| 11 | 34,90 | 31,80 | 2,60 | 18,90 | 19,40 | 29,20 | 24,99 | 49,00 |
| 13 | 38,10 | 34,90 | 2,60 | 22,10 | 22,70 | 29,30 | 29,77 | 67,00 |
| 15 | 41,30 | 38,10 | 2,60 | 25,25 | 25,90 | 29,30 | 32,91 | 76,00 |
| 17 | 44,50 | 41,30 | 2,60 | 29,95 | 29,00 | 29,30 | 36,12 | 108,00 |
| 19 | 49,20 | 46,00 | 3,40 | 31,55 | 32,20 | 30,10 | 39,25 | 128,00 |
| 21 | 52,40 | 49,20 | 3,40 | 34,70 | 35,40 | 30,10 | 42,47 | 148,00 |
| 23 | 55,60 | 52,40 | 3,40 | 37,90 | 38,60 | 30,10 | 45,61 | 154,00 |
| 25 | 58,70 | 55,60 | 3,40 | 41,10 | 41,70 | 30,10 | 49,25 | 190,00 |

Hard solder receptacle / Colerette à braser - Type 25



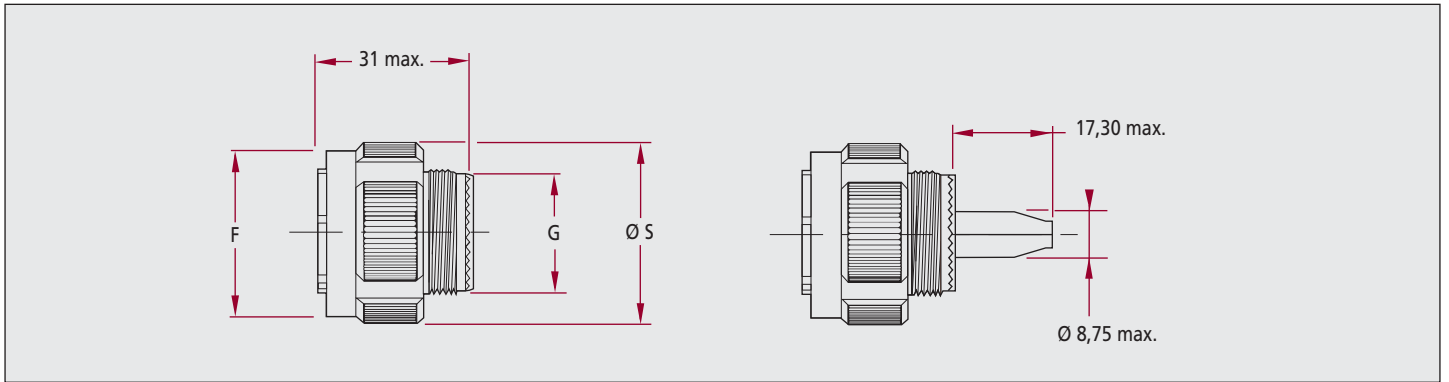
Soldered box mounting / Colerette à souder - Type 27



| Size Taille | A max. | A1 +0,3 -0 | E ± 0,2 | F ± 0,21 | G max. | H +0 -0,25 | H1 mini. | L max. | V mini. | V1 +0 -0,25 | Ø T +0 -0,3 | Mass/Masse Stainless steel/Acier inox. |
|----------------|-----------|------------------|------------|-------------|-----------|------------------|-------------|-----------|------------|-------------------|-------------------|---|
| 09 | 19,40 | 24,70 | 3,20 | 15,75 | 17,10 | 17,58 | 25,06 | 23,80 | 22,60 | 27,00 | 23,90 | 25,00 |
| 11 | 21,80 | 27,80 | 3,20 | 18,90 | 19,90 | 20,35 | 28,16 | 23,80 | 25,80 | 29,50 | 27,00 | 35,00 |
| 13 | 25,10 | 31,00 | 3,20 | 22,10 | 23,10 | 23,52 | 31,36 | 23,80 | 30,20 | 32,50 | 30,20 | 45,00 |
| 15 | 28,10 | 34,20 | 3,20 | 25,25 | 26,20 | 26,70 | 34,56 | 23,80 | 33,30 | 35,60 | 33,40 | 59,00 |
| 17 | 31,30 | 36,40 | 3,20 | 29,95 | 29,40 | 29,87 | 36,76 | 23,80 | 36,50 | 37,80 | 35,60 | 83,00 |
| 19 | 33,60 | 40,10 | 3,20 | 31,55 | 31,80 | 32,26 | 40,46 | 23,80 | 39,30 | 41,50 | 39,30 | 89,00 |
| 21 | 36,80 | 43,70 | 3,20 | 34,70 | 35,00 | 35,43 | 44,06 | 23,80 | 42,50 | 45,10 | 42,90 | 110,00 |
| 23 | 40,00 | 47,90 | 4,00 | 37,90 | 38,20 | 38,60 | 48,26 | 24,60 | 45,70 | 49,30 | 47,10 | 127,00 |
| 25 | 43,20 | 50,10 | 4,00 | 41,10 | 41,30 | 41,80 | 50,46 | 24,60 | 48,80 | 51,50 | 49,30 | 148,00 |

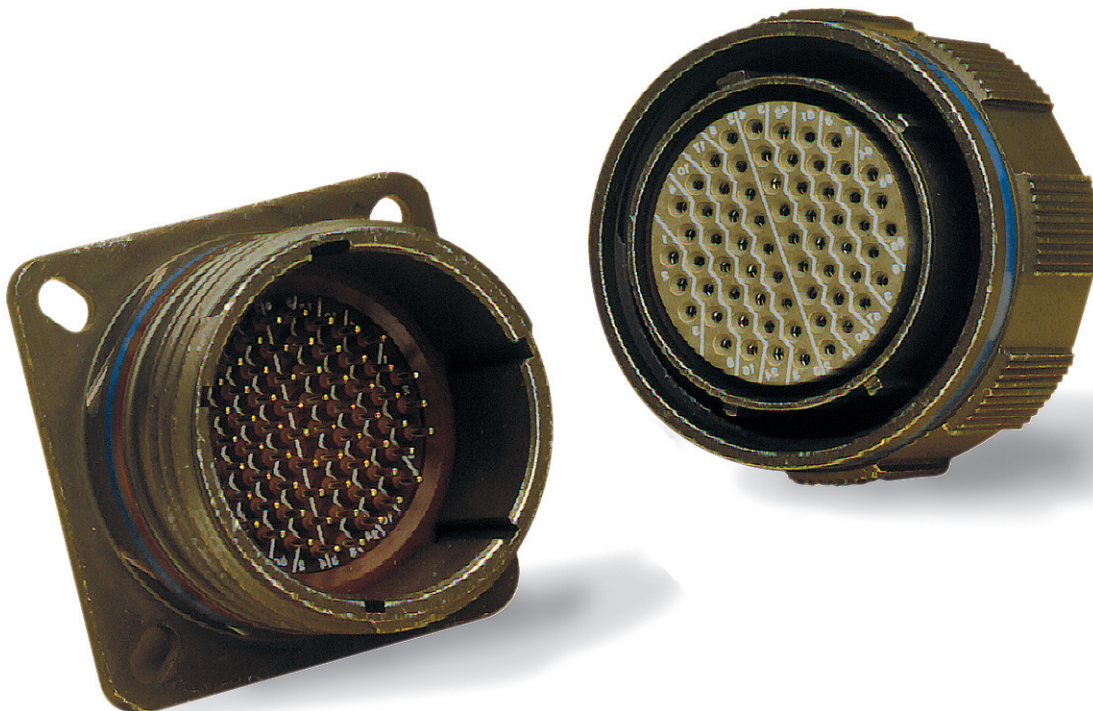
DTS Plugs / Fiches

TYPE 26



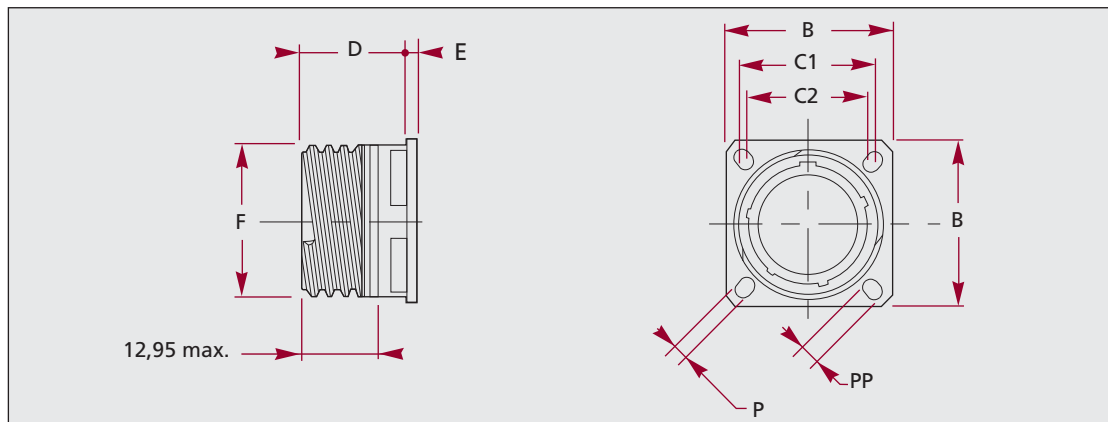
| Size Taille | F $+0,2$ -0 | G $\pm 0,1$ | S max. | Mass/Masse max. * |
|----------------|---------------------|----------------|-----------|----------------------|
| 09 | 18,40 | 11,90 | 21,80 | 15,00 |
| 11 | 21,10 | 14,90 | 25,00 | 20,00 |
| 13 | 25,40 | 17,90 | 29,40 | 31,00 |
| 15 | 28,70 | 21,90 | 32,50 | 42,00 |
| 17 | 32,20 | 24,90 | 35,70 | 55,00 |
| 19 | 34,90 | 27,90 | 38,50 | 63,00 |
| 21 | 38,10 | 30,90 | 41,70 | 79,00 |
| 23 | 41,10 | 33,90 | 44,90 | 88,00 |
| 25 | 44,30 | 36,90 | 48,00 | 109,00 |

* Mass without contact
Poids sans contact



DTS Dummy receptacle / Embase de repos

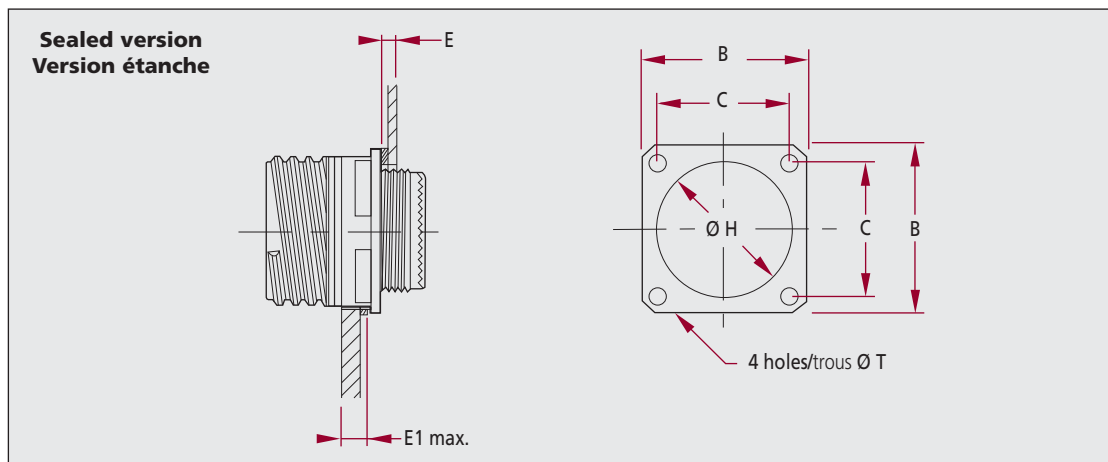
Type PR



| Size Taille | B ± 0,3 | C1 | C2 | D max. | E max. | F ± 0,1 | P ± 0,2 | PP | Mass/Masse max. |
|----------------|------------|-------|-------|-----------|-----------|------------|------------|------|--------------------|
| 09 | 23,80 | 18,26 | 15,09 | 20,90 | 2,50 | 15,73 | 3,25 | 5,49 | 10,00 |
| 11 | 26,20 | 20,62 | 18,26 | 20,90 | 2,50 | 18,91 | 3,25 | 4,93 | 16,00 |
| 13 | 28,60 | 23,01 | 20,62 | 20,90 | 2,50 | 22,08 | 3,25 | 4,93 | 22,00 |
| 15 | 31,00 | 24,61 | 23,01 | 20,90 | 2,50 | 25,26 | 3,25 | 4,93 | 31,00 |
| 17 | 33,30 | 26,97 | 24,61 | 20,90 | 2,50 | 29,96 | 3,25 | 4,93 | 46,00 |
| 19 | 36,50 | 29,36 | 26,97 | 20,90 | 2,50 | 31,54 | 3,25 | 4,93 | 51,00 |
| 21 | 39,70 | 31,75 | 29,36 | 20,10 | 3,20 | 34,72 | 3,25 | 4,93 | 65,00 |
| 23 | 42,90 | 34,93 | 31,75 | 20,10 | 3,20 | 37,90 | 3,91 | 6,15 | 78,00 |
| 25 | 46,00 | 38,10 | 34,93 | 20,10 | 3,20 | 41,07 | 3,91 | 6,15 | 97,00 |

Panel seal / Joint plat

For square flange receptacle / Pour embase collerette carrée

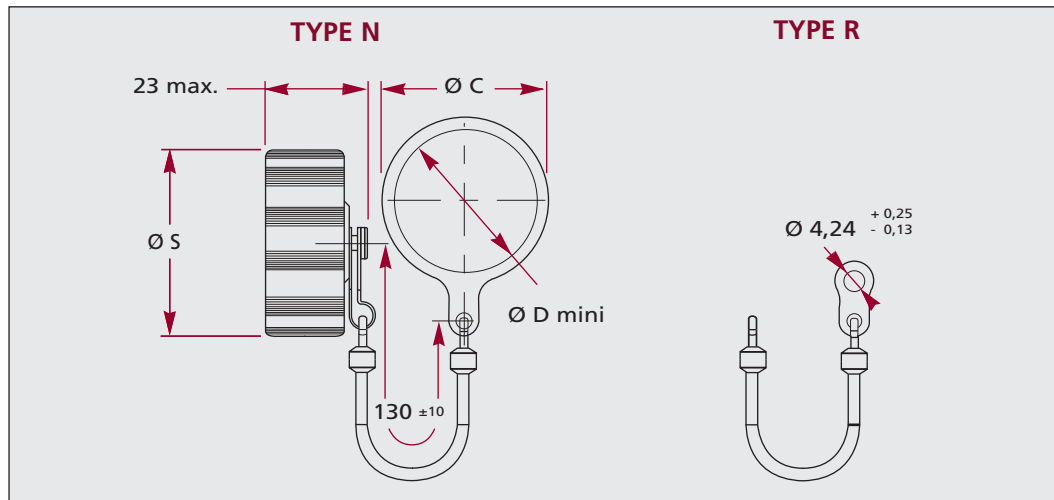


| Front flange mounting Joint avant collerette | | | | | | | | Rear flange mounting Joint arrière collerette | | |
|---|--------------------------|-----------|-----------|------------|-----------|------------|-----------|--|--------------------------|----------------|
| Size Taille | Part number Référence | H max. | B max. | C ± 0,1 | E max. | E1 max. | T max. | H max. | Part number Référence | Size Taille |
| 09 | 108-0003-10 | 15,40 | 24,30 | 18,30 | 3,00 | 5,92 | 3,30 | 14,10 | 108-0004-10 | 09 |
| 11 | 108-0001-12 | 18,40 | 26,70 | 20,60 | 3,00 | 5,92 | 3,30 | 17,20 | 108-0004-12 | 11 |
| 13 | 108-0001-14 | 22,70 | 29,10 | 23,00 | 3,00 | 5,92 | 3,30 | 20,40 | 108-0004-14 | 13 |
| 15 | 108-0001-16 | 25,90 | 31,30 | 24,60 | 3,00 | 5,92 | 3,30 | 23,60 | 108-0004-16 | 15 |
| 17 | 108-0003-18 | 29,10 | 33,70 | 27,00 | 3,00 | 5,92 | 3,30 | 26,80 | 108-0004-18 | 17 |
| 19 | 108-0003-20 | 32,30 | 36,90 | 29,40 | 3,00 | 5,92 | 3,30 | 30,60 | 108-0001-20 | 19 |
| 21 | 108-0003-22 | 35,40 | 40,10 | 31,75 | 3,00 | 5,16 | 3,30 | 33,50 | 108-0001-22 | 21 |
| 23 | 108-0003-24 | 38,60 | 43,30 | 34,90 | 3,00 | 5,16 | 4,30 | 36,30 | 108-0004-24 | 23 |
| 25 | 108-0001-25 | 41,10 | 46,00 | 38,10 | 3,00 | 4,87 | 3,90 | 37,70 | 108-0012-25 | 25 |

Nota : The panel seal is never delivered with receptacle. To be ordered separately.
Les joints plats ne sont jamais livrés avec les embases, les commander séparément.

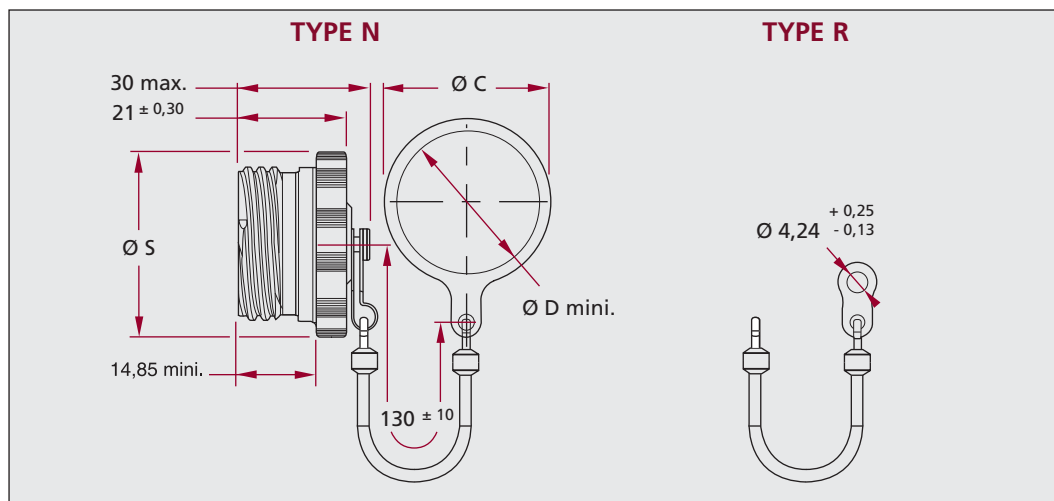
DTS-K / DTS-S Protective Cover / Bouchons de protection

For receptacle / Pour embase - Type 20



| Size Taille | C max. | D mini. | S max. |
|----------------|-----------|------------|-----------|
| 09 | 24,00 | 13,00 | 23,00 |
| 11 | 27,00 | 18,00 | 26,00 |
| 13 | 30,00 | 20,00 | 31,00 |
| 15 | 31,00 | 23,00 | 33,00 |
| 17 | 37,00 | 26,00 | 37,00 |
| 19 | 40,00 | 29,00 | 40,00 |
| 21 | 44,00 | 32,00 | 44,00 |
| 23 | 46,00 | 34,00 | 46,00 |
| 25 | 49,00 | 39,00 | 50,00 |

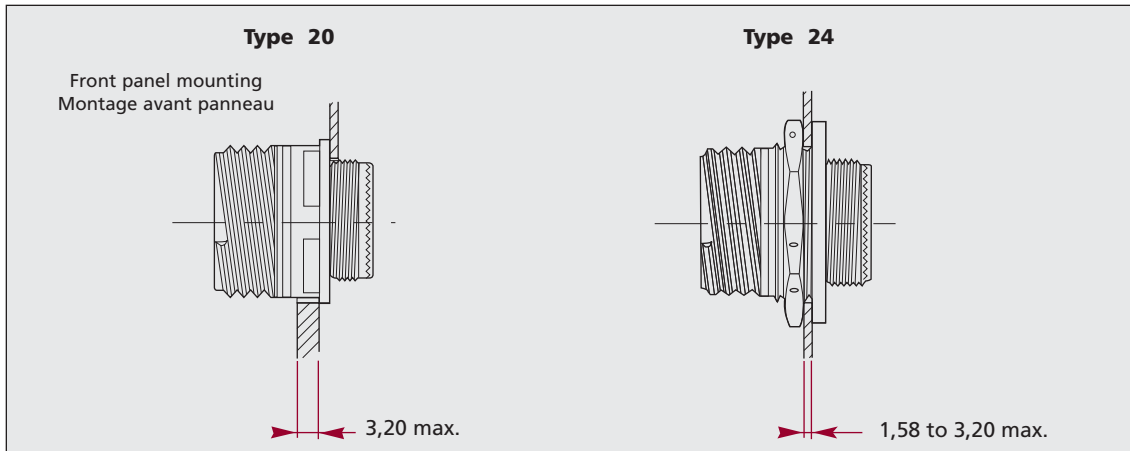
For plug / Pour fiche - Type 26



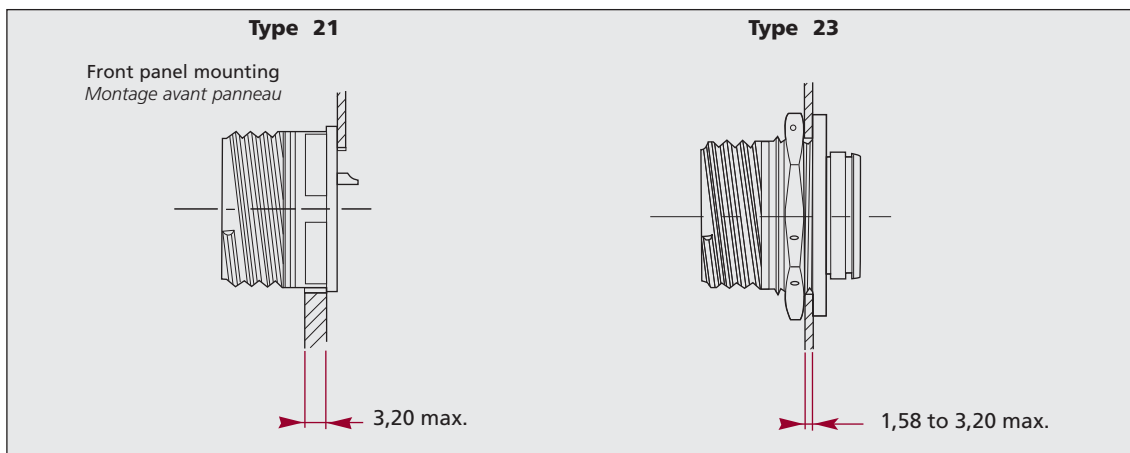
| Size Taille | C max. | D mini. | S max. |
|----------------|-----------|------------|-----------|
| 09 | 24,00 | 13,00 | 23,00 |
| 11 | 27,00 | 18,00 | 26,00 |
| 13 | 30,00 | 20,00 | 31,00 |
| 15 | 31,00 | 23,00 | 33,00 |
| 17 | 37,00 | 26,00 | 37,00 |
| 19 | 40,00 | 29,00 | 40,00 |
| 21 | 44,00 | 32,00 | 44,00 |
| 23 | 46,00 | 34,00 | 46,00 |
| 25 | 49,00 | 39,00 | 50,00 |

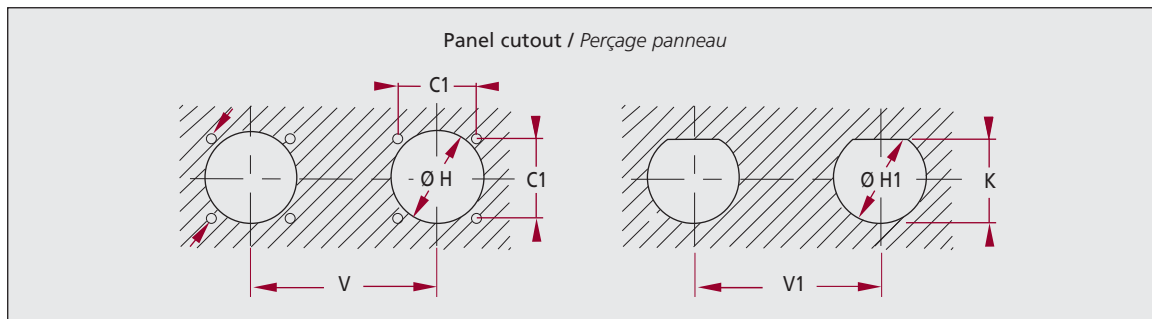
DTS Mounting styles / Modes de fixation

For sealed receptacles / Pour embases étanches - TYPE 20 - 24



For hermetic receptacles / Pour embases hermétiques - TYPE 21 - 23





| Size Taille | C1 | H mini | | H1 $+0,25$ -0 | K $+0,25$ -0 | V mini. | V1 mini. | Coupling torque Couple de serrage | |
|----------------|-------|----------------|-----------------|-----------------------|----------------------|------------|-------------|--------------------------------------|---------|
| | | Front Avant | Rear Arrière | | | | | Nm mini. | Nm max. |
| 09 | 18,26 | 13,11 | 16,66 | 17,70 | 16,99 | 24,60 | 27,80 | 3,40 | 4,00 |
| 11 | 20,62 | 15,08 | 22,22 | 20,88 | 19,53 | 27,00 | 32,60 | 4,50 | 5,20 |
| 13 | 23,01 | 19,05 | 23,42 | 25,58 | 24,26 | 30,20 | 36,00 | 6,20 | 6,80 |
| 15 | 24,61 | 23,01 | 26,59 | 28,80 | 27,53 | 33,30 | 39,60 | 7,90 | 8,50 |
| 17 | 26,97 | 25,81 | 30,96 | 31,98 | 30,68 | 36,50 | 43,30 | 9,00 | 9,60 |
| 19 | 29,36 | 28,98 | 32,94 | 35,15 | 33,86 | 39,30 | 47,00 | 10,20 | 10,70 |
| 21 | 31,75 | 32,16 | 36,12 | 38,28 | 37,06 | 42,50 | 50,60 | 11,30 | 12,40 |
| 23 | 34,93 | 34,93 | 39,29 | 41,50 | 40,01 | 45,70 | 54,20 | 12,40 | 13,50 |
| 25 | 38,10 | 37,69 | 42,47 | 44,68 | 43,41 | 48,80 | 59,70 | 13,60 | 14,70 |

