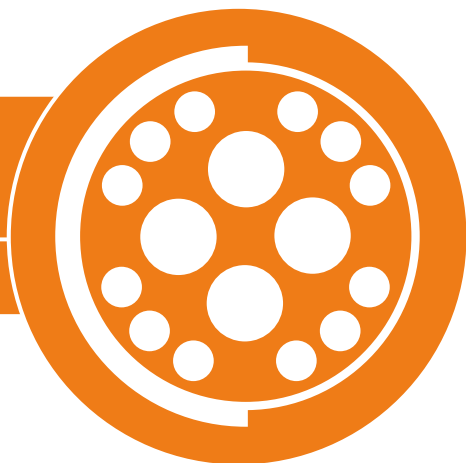


B9

CHAPTER



FISCHER CORE SERIES PLASTIC

EASY TO USE | DURABLE | LIGHTWEIGHT

KEY FEATURES

- Sealed up to IP68
- Over 5,000 mating cycles
- Resistant to large temperature variations
- Color coding for easy operation



PLASTIC 405

PLUGS



CABLE MOUNTED

- Body styles (S/SI 405)..... B9-3
- Technical dimensions B9-4

RECEPTACLE



PANEL MOUNTED

- Body styles (DBP 405)..... B9-3
- Technical dimensions B9-4

FOR ALL PLASTIC 405

- Part numbering..... B9-5
- Electrical & contact configurations..... B9-6
- PCB hole pattern and pin layout..... B9-7
- Accessories..... B9-8
- Technical information..... B9-10
- Product specifications A-5

This catalog covers our standard connector solutions. For specific requests, including hybrid or custom connectors, please contact your local sales representative.

Body styles selection

FISCHER CORE SERIES **PLASTIC**

PLUGS

CABLE MOUNTED



BODY STYLES	S 405	SI 405
Locking system	Push-pull	Push-pull
Sealing	IP50/IP67	IP50/IP67
Design	Standard	Standard
Integral shielding	Yes	No

RECEPTACLE

PANEL MOUNTED



BODY STYLE	DBP 405
Sealing	IP50
Design	Standard

COMPATIBILITY

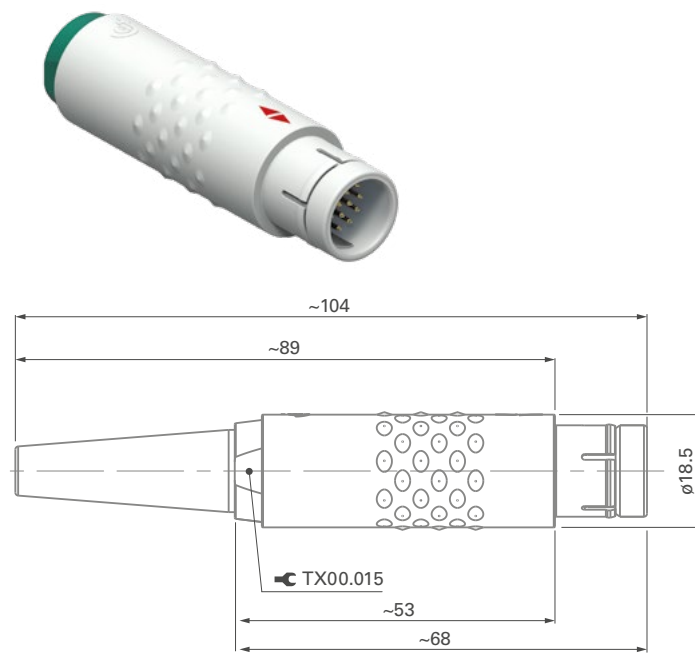


Mateable with all high performance Fischer Connectors' panel receptacles of the Fischer Core Series Brass 105.

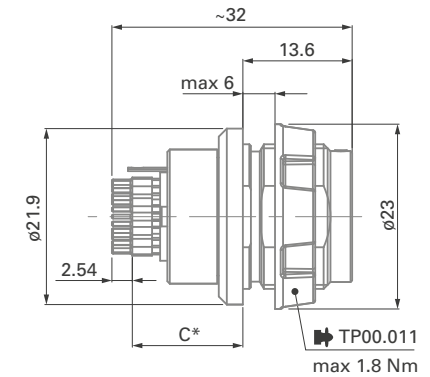
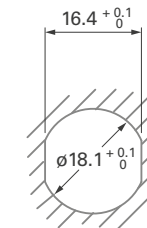
All dimensions and images shown are in millimeters and are for reference only.

PLUGS**CABLE**
MOUNTED**S/SI 405**

BODY STYLES

**RECEPTACLE****PANEL**
MOUNTED**DBP 405**

BODY STYLE

PANEL CUT-OUT
Figure 1

* See contact configurations page B9-6.

PLASTIC 405

					Standard options					
Example:	S	405	A	087	-	B	3	L	2	R
Body style										
S = Plug, with integral shielding SI = Plug, without integral shielding DBP = Receptacle, rear panel mounted										
Series										
405										
Contact polarity										
A = Plugs have male contacts. Receptacles have female contacts. Z = Plugs have female contacts. Receptacles have male contacts.										
Contact configuration										
See page B9-6										
Body color										
B = Beige C = Anthracite										
Insulator material										
3 = PEEK										
Contact type										
J = Solder K = Crimp L = PCB										
Color coding										
2 = Anthracite 3 = Green 4 = Blue 5 = Yellow 8 = Beige										
Bend relief material										
R = None S = Silicone (6.5 dia.) T = TPE (6.5 dia.) U = Silicone (3.5 dia.) W = TPE (3.5 dia.)										

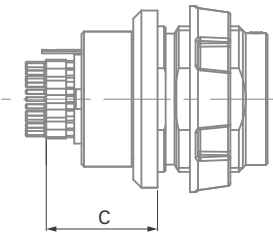
PLASTIC 405

Figure 1

References	Pin layout	Number of contacts		Contact types			Insulating material	Contact $\varnothing$ [mm]	Wire size		PCB	C [mm] see Figure 1	Test voltage [kV] in mated position				Current ¹⁾ [A]
				Solder	Crimp	PCB			Solder contacts	Crimp contacts			AC r.m.s		DC		
													Contact to body	Contact to contact	Contact to body	Contact to contact	
405 _Z ^A 087		2	●	-	-	PEEK	3.0	max $\varnothing$ 3.13mm AWG9 [1] / AWG10 [105/30]	-	-	-	-	1.2	1.6	2.3	3.0	30
405 _Z ^A 052		3	●	-	-	PEEK	2.0	max $\varnothing$ 2.03mm AWG13 [1] / AWG14 [7/22]	-	-	-	-	2.0	2.5	3.0	3.5	23
405 _Z ^A 054		1	●	-	-	PEEK	2.0	max $\varnothing$ 2.03mm AWG13 [1] / AWG14 [7/22]	-	-	-	-	3.0	2.0	4.0	3.0	25
		6					1.3	max $\varnothing$ 1.18mm AWG17 [1] / AWG18 [16/30]	-	-	-	-	1.8	1.5	2.5	2.0	7.0
405 _Z ^A 101		1	●	-	●	PEEK	2.0	max $\varnothing$ 2.03mm AWG13 [1] / AWG14 [7/22]	-	A: 0.50 Z: -	A: 10.8 Z: -	3.0	2.0	4.0	3.0	25	
		8					1.3	max $\varnothing$ 1.18mm AWG17 [1] / AWG18 [16/30]	-	A: 0.50 Z: -	A: 10.8 Z: -	1.8	1.5	2.5	2.0	5.0	
405 _Z ^A 069		12	●	-	●	PEEK	1.3	max $\varnothing$ 1.18mm AWG17 [1] / AWG18 [16/30]	-	A: 0.50 Z: -	A: 13.8 Z: -	1.4	1.5	1.8	2.0	8.0	
405 _Z ^A 104		3	●	-	●	PEEK	1.3	max $\varnothing$ 1.18mm AWG17 [1] / AWG18 [16/30]	-	A: 0.50 Z: -	A: 13.8 Z: -	2.5	1.5	3.8	2.2	14	
		10					0.7	max $\varnothing$ 0.79mm AWG21 [1] / AWG22 [7/30]	-	A: 0.50 Z: -	A: 13.8 Z: -	1.3	1.5	1.8	2.2	1.0	
405 _Z ^A 110		4	●	-	●	PEEK	1.6	max $\varnothing$ 1.86mm AWG13 [1] / AWG14 [7/22]	-	A: 0.50 Z: -	A: 13.8 Z: -	1.6	1.3	2.8	2.1	14	
		12					0.7	max $\varnothing$ 0.79mm AWG21 [1] / AWG22 [7/30]	-	A: 0.50 Z: -	A: 13.8 Z: -	1.0	1.2	1.5	2.0	1.0	
405 _Z ^A 038		18	●	●	●	PEEK	0.9	max $\varnothing$ 0.79mm AWG21 [1] / AWG22 [7/30]	max $\varnothing$ 0.83mm min $\varnothing$ 0.38mm AWG22-26	A: 0.50 Z: -	A: 13.3 Z: -	1.4	1.6	1.8	2.2	4.5	
405 _Z ^A 102		27	●	●	●	PEEK	0.7	max $\varnothing$ 0.79mm AWG21 [1] / AWG22 [7/30]	max $\varnothing$ 0.62mm min $\varnothing$ 0.38mm AWG24-28	A: 0.50 Z: -	A: 13.8 Z: -	1.2	1.5	1.5	2.0	3.0	

¹⁾ Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A-12 for details.

PCB LAYOUT

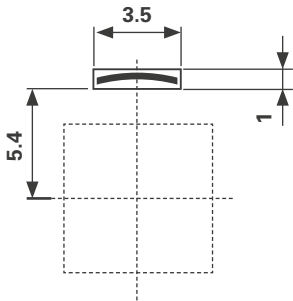
S/SI 405

DBP 405

BODY STYLES



Minimum clearance for ground lug of receptacle.



View from F - Number of contacts (reference)

Polarity	2 (087)	3 (052)	7 (054)	9 (101)	12 (069)
A					
Z					

Polarity	13 (104)	16 (110)	18 (038)	27 (102)
A				
Z			-	

All dimensions and images shown are in millimeters and are for reference only.

CABLE CLAMP SETS**UNSHIELDED**

Cable Ø range (mm)	Use with PEEK Insulators
2.5 - 3.5	E3 105.6/3.5
3.5 - 4.5	E3 105.6/4.5
4.5 - 5.5	E3 105.6/5.5
5.5 - 6.5	E3 105.6/6.5
6.5 - 7.5	E3 105.6/7.5
7.5 - 8.5	E3 105.6/8.5
8.5 - 9.5	E3 105.6/9.5
9.5 - 10.5	E3 105.6/10.5

For use with unshielded cable or when shield is not carried through connector body.

SHIELDED

Cable Ø range (mm)	Use with PEEK insulators
3.2 - 4.2	E3 105.1/4.2 + B
4.2 - 5.2	E3 105.1/5.2 + B
5.2 - 6.2	E3 105.1/6.2 + B
6.2 - 7.2	E3 105.1/7.2 + B
7.2 - 8.2	E3 105.1/8.2 + B
8.2 - 9.2	E3 105.1/9.2 + B
9.2 - 10.0	E3 105.1/10.0 + B
10.0 - 10.7	E3 105.1/10.7 + B

For use with shielded cable when shield is to be carried through connector body.

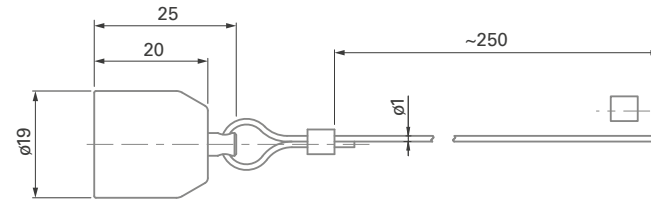
ENVIRONMENTAL

Cable Ø range (mm)	Use with PEEK insulators
3.2 - 4.2	E31 105.2/4.2 + B
4.2 - 5.2	E31 105.2/5.2 + B
5.2 - 6.2	E31 105.2/6.2 + B
6.2 - 7.2	E31 105.2/7.2 + B
7.2 - 8.2	E31 105.2/8.2 + B
8.2 - 9.2	E31 105.2/9.2 + B
9.2 - 10.0	E31 105.2/10.0 + B
10.0 - 10.7	E31 105.2/10.7 + B

For use when sealing shielded or unshielded cable to plug body.

SEALING CAPS

FOR PLUGS



Part number	Cap material	Stainless steel cable covering material
105.274 (Black)	PEI	FEP –Teflon®

Crimp ferrule (300.637) is included.

To attach the crimp ferrule to the stainless steel cable, use a crimp tool, a vice or a pair of pliers with parallel jaws. There are no specific Fischer Connectors tools.

ENVIRONMENTAL & MECHANICAL DATA

Characteristic	Product type		Value
Sealing performance	Plug (S or SI 405)	with sealed cable clamp set and cap	IP67
			IP50
	Receptacle (DBP 405)		IP50
Endurance	5,000 mating cycles		

OPERATING TEMPERATURE RANGE

Component	Material	Operating temperatures	
Body	PEI	-65°C to +200°C	
Insulator	PEEK	-65°C to +250°C	
Plastic Cable Clamp	POM (Delrin®)	-40°C to +100°C	
Cable clamp seal	TPE	-70°C to +130°C	
Cable strain relief	TPE	-60°C to +100°C	
	VMQ - Silicone rubber	-60°C to +180°C	
Sealing cap	PEI with FPM O-ring	-20°C to +200°C	
		TEMPERATURE °C	0°C

MATERIAL & SURFACE TREATMENTS

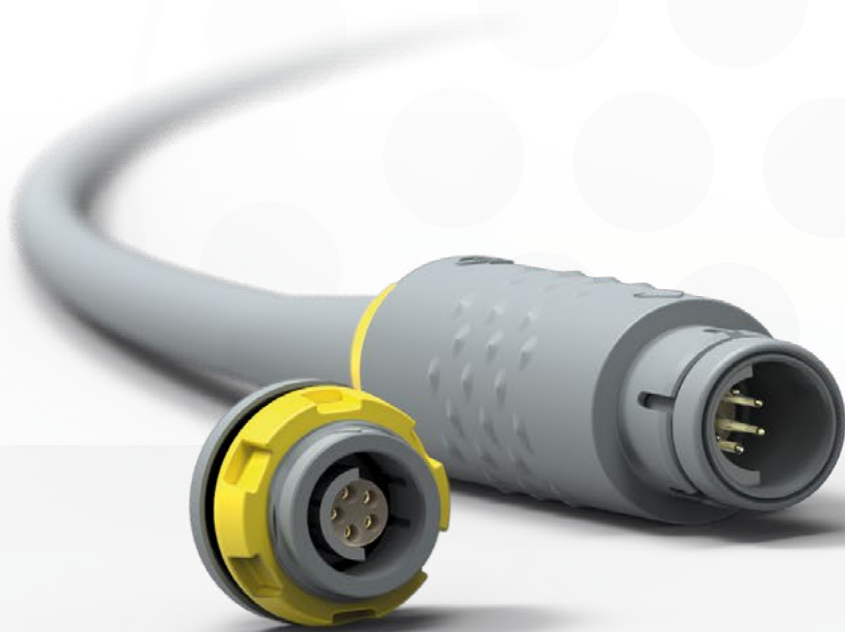
Metal parts

Parts		Material			Finish	
		Designation	ISO	Standard	Designation	Standard
Metal parts (except contacts), inner body shell of S plug		Brass	CuZn39Pb3	CW614N UNS C 38500	Nickel	SAE-AMS-QQ-N-290 SAE-AMS2404
Contacts	Male (solder)	Brass	CuZn39Pb3	CW614N UNS C 38500	1 µm Gold over Nickel	MIL-DTL-45204D Type 1 + ASTM B488
	Female, male (crimp)	Bronze	CuSn4Zn4Pb4	CW456K ASTM B 139, UNS C 54400		

Plastic Parts

Parts	International symbol	Flammability
Body shell, sealing cap, back nut, mounting nut	PEI	UL 94 V-O
Insulator	PEEK - PTFE	UL 94 V-O
O-ring in sealing cap	FPM (Viton®)	-
Plastic cable clamps	POM (Delrin®)	UL 94 HB
Bend relief	TPE-S - VMQ - Silicone Rubber	UL 94 HB

PLASTIC 4032



PLUG



CABLE MOUNTED

- Body styles (SI 4032) B9-13
- Technical dimensions B9-14

RECEPTACLES



PANEL MOUNTED

- Body style (DBP/DBPO 4032) B9-13
- Technical dimensions B9-14

FOR ALL PLASTIC 4032

- Part numbering B9-15
- Electrical & contact configurations B9-16
- PCB hole pattern and pin layout B9-17
- Accessories B9-18
- Technical information B9-20
- Product specifications A-5

This catalog covers our standard connector solutions. For specific requests, including hybrid or custom connectors, please contact your local sales representative.

Body style selection

FISCHER CORE SERIES **PLASTIC**

PLUG

CABLE MOUNTED



BODY STYLE	SI 4032
Locking system	Push-pull
Sealing	P50/IP68 with cap or mated with DBPO
Design	Standard
Integral shielding	No

RECEPTACLES

PANEL MOUNTED

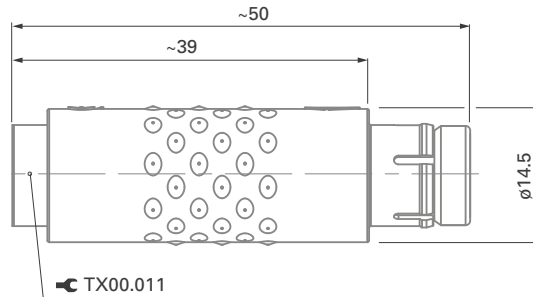


BODY STYLES	DBP 4032	DBPO 4032
Sealing	IP50	IP68
Design	Standard	Standard

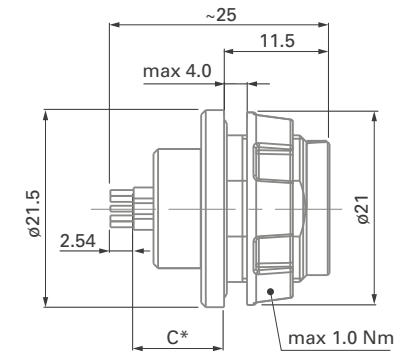
PLASTIC

PLUG**CABLE**
MOUNTED**SI 4032**

BODY STYLE

**RECEPTACLES****PANEL**
MOUNTED**DBP / DBPO 4032**

BODY STYLES



* See contact configurations page B9-16.

PANEL CUT-OUT

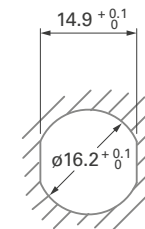
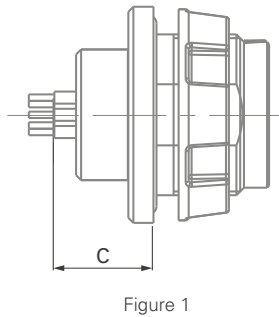


Figure 1

PLASTIC 4032

	Housing design					Standard options				
Example:	SI	4032	A	051	-	D	3	L	1	R
Body style										
Plug = SI Receptacle, rear panel mounted = DBP Receptacle, rear panel mounted, sealed when mated (IP68) = DBPO										
Series										
4032										
Contact polarity										
Plugs have male contacts. Receptacles have female contacts = A Plugs have female contacts. Receptacles have male contacts. = Z										
Contact configuration										
See page B9-16										
Body material										
PBT = D										
Insulator material										
PEEK = 3										
Contact type										
Solder = J Crimp = K PCB = L										
Color coding										
White = 1 Black = 2 Green = 3 Blue = 4 Yellow = 5 Red = 6 Grey = 7										
Bend relief material										
None = R										

PLASTIC 4032

References	Pin layout	Number of contacts	Contact types			Insulating material	Contact $\varnothing$ [mm]	Wire size		PCB	C [mm] see Figure 1	Test voltage [kV] in mated position				Current ¹⁾ [A]
			Solder	Crimp	PCB			Solder contacts	Crimp contacts			AC r.m.s		DC		
												Contact to body	Contact to contact	Contact to body	Contact to contact	
4032 $\frac{A}{Z}$ 051		2	●	●	-	PEEK	1.3	max $\varnothing$ 1.18mm AWG17 [1] AWG18 [16/30]	max $\varnothing$ 1.18mm min $\varnothing$ 0.58mm AWG18-24	-	-	1.5	2.2	2.2	3.0	13
4032 $\frac{A}{Z}$ 052		3	●	-	-	PEEK	1.3	max $\varnothing$ 1.18mm AWG17 [1] AWG18 [16/30]	-	-	-	1.2	1.5	1.8	2.0	12
4032 $\frac{A}{Z}$ 053		4	●	-	●	PEEK	0.9	max $\varnothing$ 0.79mm AWG21 [1] AWG22 [7/30]	-	A: 0.63 Z: 0.63	A: 9.9 Z: 10.0	1.2	1.6	2.0	2.4	7.0
4032 $\frac{A}{Z}$ 054		5	●	●	●	PEEK	0.9	max $\varnothing$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\varnothing$ 0.83mm min $\varnothing$ 0.48mm AWG22-26	A: 0.63 Z: -	A: 9.9 Z: -	1.1	1.4	1.9	2.2	6.8
4032 $\frac{A}{Z}$ 056		6	●	●	-	PEEK	0.7	max $\varnothing$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\varnothing$ 0.62mm min $\varnothing$ 0.38mm AWG24-28	-	-	1.0	1.3	2.0	2.0	5.2
4032 $\frac{A}{Z}$ 057		7	●	●	-	PEEK	0.7	max $\varnothing$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\varnothing$ 0.62mm min $\varnothing$ 0.38mm AWG24-28	-	-	1.0	1.3	2.0	2.0	5.0
4032 $\frac{A}{Z}$ 010		10	●	●	●	PEEK	0.7	max $\varnothing$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\varnothing$ 0.62mm min $\varnothing$ 0.38mm AWG24-28	A: 0.50 Z: -	A: 8.9 Z: -	1.4	1.5	2.0	2.2	4.5
4032 $\frac{A}{Z}$ 012		12	●	●	●	PEEK	0.7	max $\varnothing$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\varnothing$ 0.62mm min $\varnothing$ 0.38mm AWG24-28	A: 0.50 Z: -	A: 8.9 Z: -	1.4	1.5	2.0	2.2	4.2
4032 $\frac{A}{Z}$ 019		19	●	●	●	PEEK	0.5	max $\varnothing$ 0.43mm AWG26 [1] AWG28 [19/40]	max $\varnothing$ 0.43mm min $\varnothing$ 0.20mm AWG28-32	A: 0.40 Z: -	A: 8.9 Z: -	1.2	0.9	2.0	1.5	2.5

¹⁾ Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A-12 for details.

PCB LAYOUT

SI 4032

DBP/DBPO 4032

BODY STYLES



View from F - Number of contacts (reference)

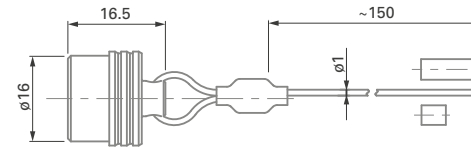
Polarity	2 (051)	3 (052)	4 (053)	5 (054)	6 (056)
A					
Z					

Polarity	7 (057)	10 (010)	12 (012)	19 (019)
A				
Z				

All dimensions and images shown are in millimeters and are for reference only.

SEALING CAPS

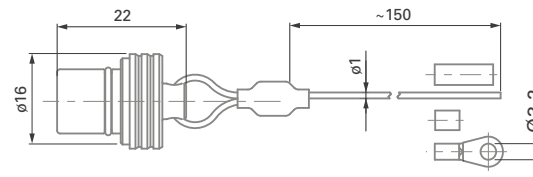
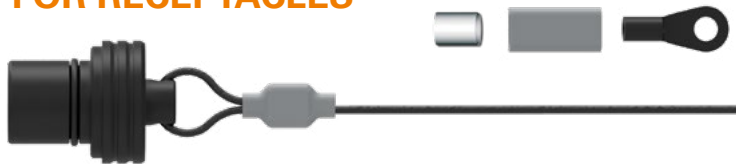
FOR PLUGS



Part number	Cap Material	Stainless steel cable covering material
4032.703	POM (Delrin®)	FEP –Teflon®

Crimp ferrule (300.922) and heat shrink tube (300.930) are included.

FOR RECEPTACLES



Part number	Cap Material	Stainless steel cable covering material
4032.701	POM (Delrin®)	FEP –Teflon®

Crimp ferrule (300.922), crimp lug (300.299) and heat shrink tube (300.930) are included.

To attach the crimp ferrule or the crimp lug to the stainless steel cable, use a crimp tool, a vice or a pair of pliers with parallel jaws. See page B6-22 for recommended crimping tool for ferrule.

CABLE CLAMP SETS

UNSHIELDED

Cable O.D. (mm)	Part number
2.2 - 3.7	4032.1003
3.7 - 5.2	4032.1002
5.2 - 6.7	4032.1001

For unshielded and unsealed applications.

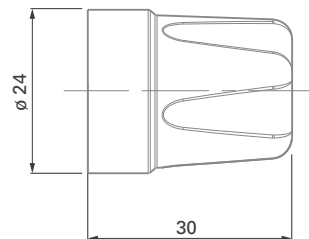
CABLE CLAMP SETS

ENVIRONMENTAL

Cable O.D. (mm)	Part number
2.2 - 2.7	E3 1031.2/2.7
2.7 - 3.2	E3 1031.2/3.2
3.2 - 3.7	E3 1031.2/3.7
3.7 - 4.2	E3 1031.2/4.2
4.2 - 4.7	E3 1031.2/4.7
4.7 - 5.2	E3 1031.2/5.2
5.2 - 5.7	E3 1031.2/5.7
5.7 - 6.2	E3 1031.2/6.2
6.2 - 6.7	E3 1031.2/6.7

For use when sealing shielded or unshielded cable to plug body.

TOOLING - 4032 - NUT DRIVER



Part number	Cap material
TH00.001	ABS

All dimensions and images shown are in millimeters and are for reference only.

ENVIRONMENTAL & MECHANICAL DATA

Characteristic	Product type		Value
Sealing performance	SI plug	- with sealed cable clamp - with cap or mated with DBPO	IP68
			IP50
	DBPO receptacle	Mated with sealed plug or with cap	IP68
	DBP receptacle		IP50
Endurance	5,000 mating cycles		

OPERATING TEMPERATURE RANGE

Component	Material	Operating temperatures
Body	PBT	-65°C to +135°C
Insulator	PEEK	-65°C to +250°C
O-rings - receptacle	NBR	-30°C to +110°C
Unshielded cable clamp	POM (Delrin®)	-40°C to +100°C
Cable clamp seal	TPE	-70°C to +130°C
Sealing cap for plug	POM (Delrin®) with O-ring	-60°C to +100°C
Sealing cap receptacle	POM (Delrin®) with NBR O-ring	-20°C to +100°C

0°C

TEMPERATURE °C

METAL PARTS

Parts		Material			Finish	
		Designation	ISO	Standard	Designation	Standard
Metal parts (except contacts)		Brass	CuZn39Pb3	CW614N UNS C 38500	Nickel	SAE-AMS-QQ-N-290 SAE-AMS2404
Contacts	Male (solder)	Brass	CuZn39Pb3	CW614N UNS C 38500	1 µm gold over nickel	MIL-DTL-45204D Type 1 + ASTM B488
	Female, male (crimp)	Bronze	CuSn4Zn4Pb4	CW456K ASTM B 139, UNS C 54400		

INSULATOR & SEALING

Parts	International symbol	Flammability
Body shell, sealing cap, back nut, mounting nut	PBT	UL 94 HB
Insulator	PEEK	UL 94 V-O
O-rings on receptacles and sealing caps for receptacles	NBR	-
O-ring on sealing cap for plug	FPM (Viton®)	-
Unshielded cable clamps, sealing cap bodies	POM (Delrin®)	UL 94 HB