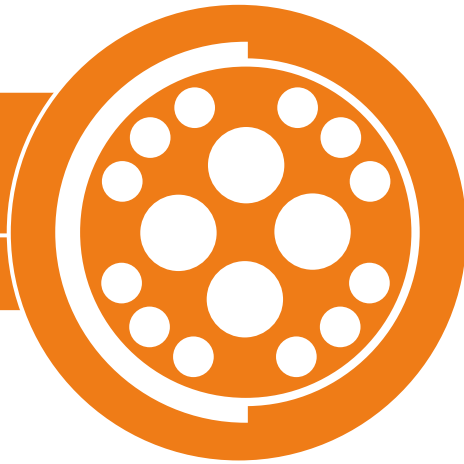


# B9

CHAPTER

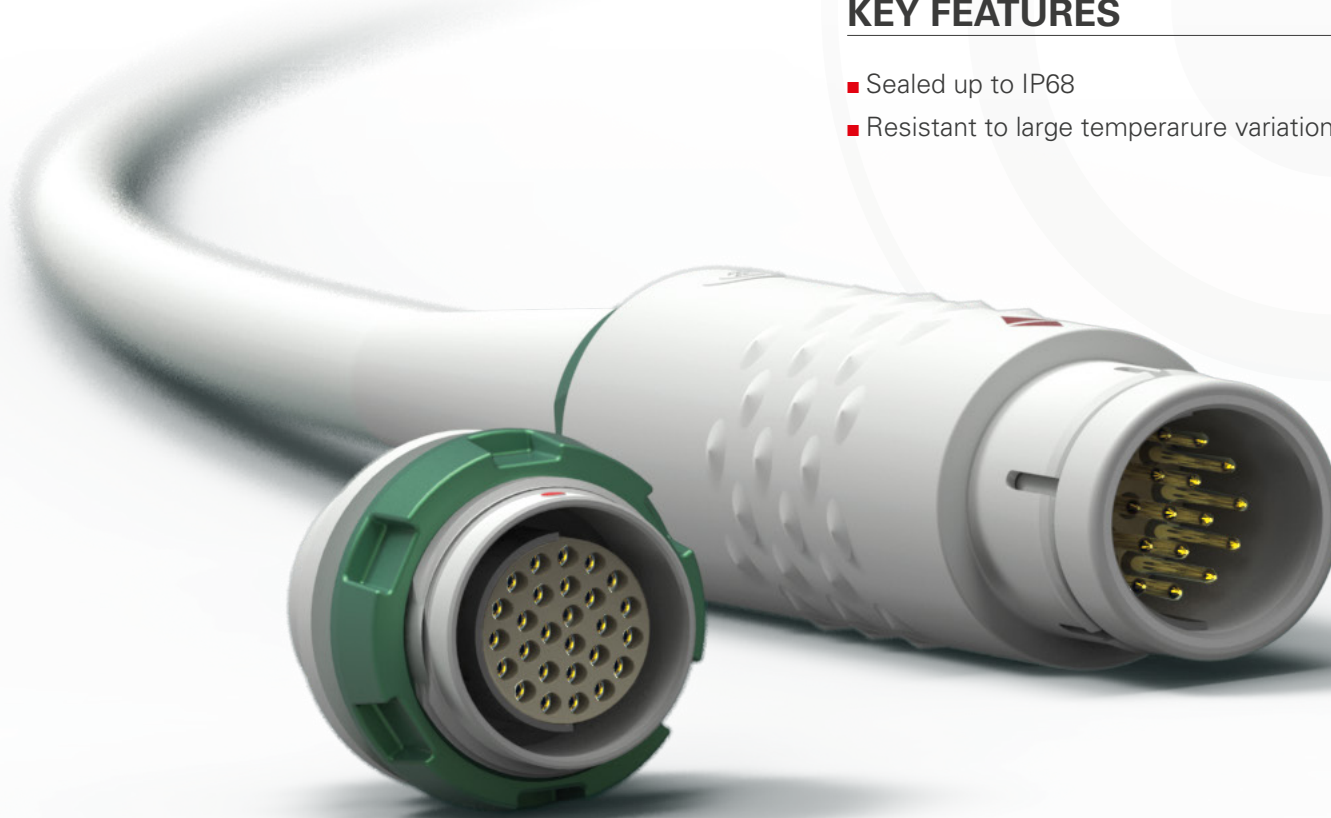


## FISCHER CORE SERIES PLASTIC

EASY TO USE | DURABLE | LIGHTWEIGHT

### KEY FEATURES

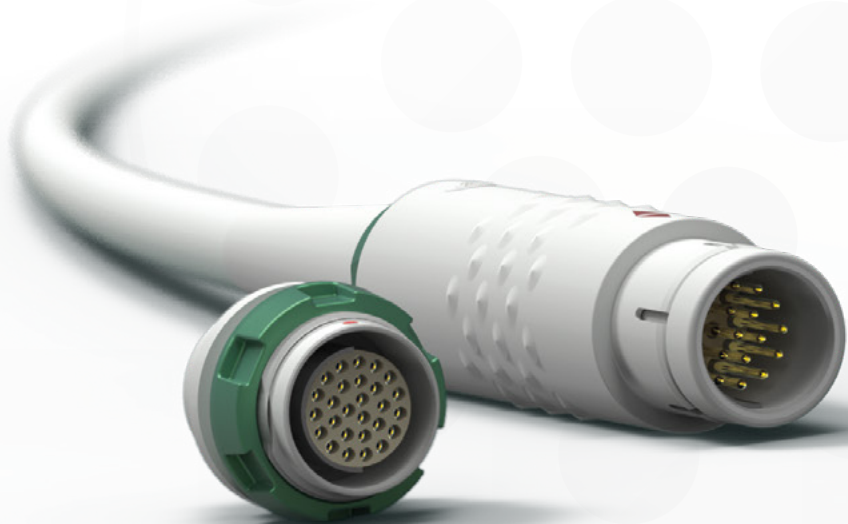
- Sealed up to IP68
- Resistant to large temperature variations
- Over 5,000 mating cycles
- Color coding for easy operation



PLASTIC

B9-2 / B9-20

# 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.

**PLUGS**

**CABLE MOUNTED**



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

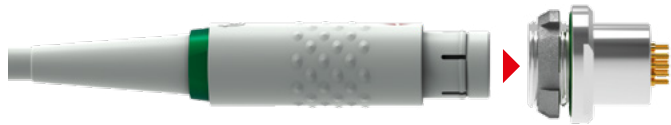
**RECEPTACLE**

**PANEL MOUNTED**



BODY STYLE	<b>DBP 405</b>
Sealing	IP50
Design	Standard

**COMPATIBILITY**



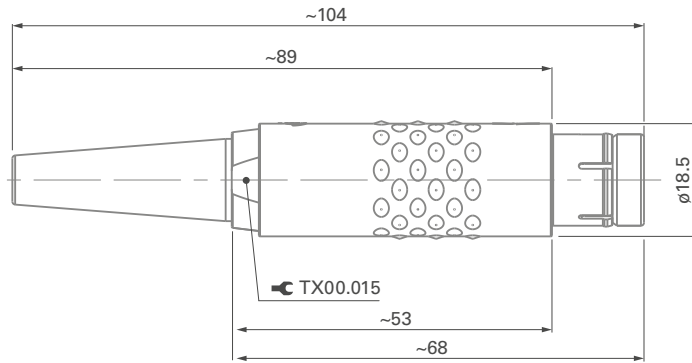
Mateable with all high performance Fischer Connectors' panel receptacles of the Fischer Core Series Brass 105.

**PLUGS**

**CABLE MOUNTED**

**S/SI 405**

BODY STYLES

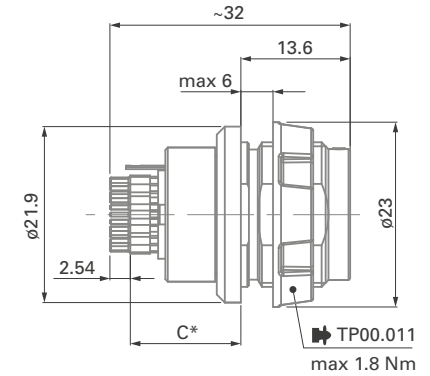


**RECEPTACLE**

**PANEL MOUNTED**

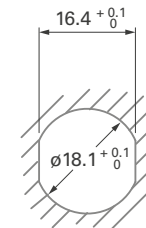
**DBP 405**

BODY STYLE

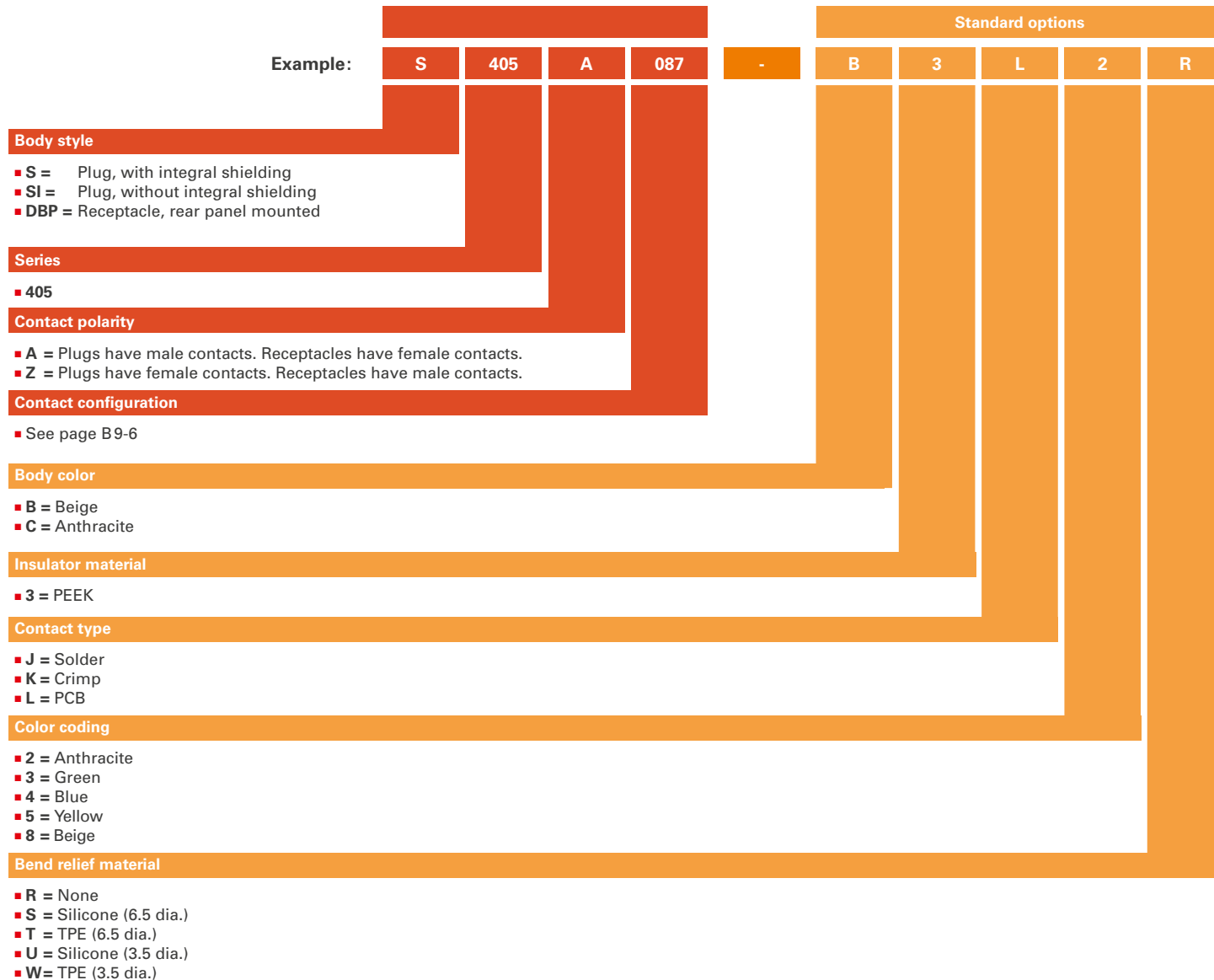


\* See contact configurations page B9-6.

PANEL CUT-OUT  
Figure 1



**PLASTIC 405**



PLASTIC

**PLASTIC 405**

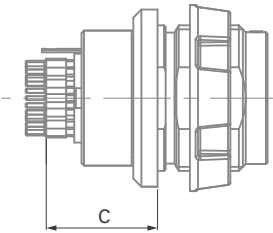


Figure 1

References	Pin layout	Number of contacts		Contact types			Insulating material	Contact $\phi$ [mm]	Wire size		PCB Pin diameter [mm]	C [mm] see Figure 1	Test voltage [kV] in mated position				Current <sup>1)</sup> [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 A Z 087		2		●	-	-	PEEK	3.0	max $\phi$ 3.13mm AWG9 [1] / AWG10 [105/30]	-	-	-	1.2	1.6	2.3	3.0	30
405 A Z 052		3		●	-	-	PEEK	2.0	max $\phi$ 2.03mm AWG13 [1] / AWG14 [7/22]	-	-	-	2.0	2.5	3.0	3.5	23
405 A Z 054		7	1	●	-	-	PEEK	2.0	max $\phi$ 2.03mm AWG13 [1] / AWG14 [7/22]	-	-	-	3.0	2.0	4.0	3.0	25
			6					1.3									
405 A Z 101		9	1	●	-	●	PEEK	2.0	max $\phi$ 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 $\phi$ 1.18mm AWG17 [1] / AWG18 [16/30]	-					
405 A Z 069		12		●	-	●	PEEK	1.3	max $\phi$ 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 A Z 104		13	3	●	-	●	PEEK	1.3	max $\phi$ 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 $\phi$ 0.79mm AWG21 [1] / AWG22 [7/30]	-					
405 A Z 110		16	4	●	-	●	PEEK	1.6	max $\phi$ 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 $\phi$ 0.79mm AWG21 [1] / AWG22 [7/30]	-					
405 A Z 038		18		●	●	●	PEEK	0.9	max $\phi$ 0.79mm AWG21 [1] / AWG22 [7/30]	max $\phi$ 0.83mm min $\phi$ 0.38mm AWG22-26	A: 0.50 Z: -	A: 13.3 Z: -	1.4	1.6	1.8	2.2	4.5
405 A Z 102		27		●	●	●	PEEK	0.7	max $\phi$ 0.79mm AWG21 [1] / AWG22 [7/30]	max $\phi$ 0.62mm min $\phi$ 0.38mm AWG24-28	A: 0.50 Z: -	A: 13.8 Z: -	1.2	1.5	1.5	2.0	3.0

<sup>1)</sup> 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

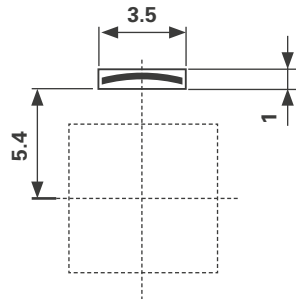
S/SI 405

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

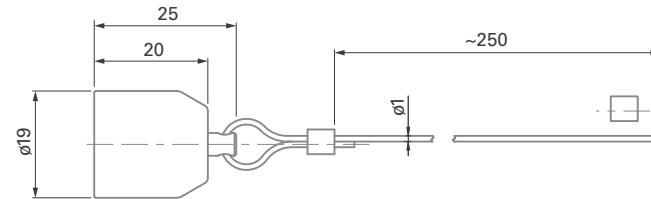
Cable Ø range (mm)	Use with PEEK insulators
3.2 - 4.2	E31 105.2/4.2 + B
4.2 - 5.2	E31 105.2/5.2 + B
5.2 - 6.2	E31 105.2/6.2 + B
6.2 - 7.2	E31 105.2/7.2 + B
7.2 - 8.2	E31 105.2/8.2 + B
8.2 - 9.2	E31 105.2/9.2 + B
9.2 - 10.0	E31 105.2/10.0 + B
10.0 - 10.7	E31 105.2/10.7 + B

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



## SEALING CAPS

### FOR PLUGS



Part number	Cap material	Stainless steel cable covering material
105.2740 (beige)	PEI	FEP –Teflon®

Crimp ferrule (300.637) is included.

## ENVIRONMENTAL & MECHANICAL DATA

Characteristic	Product type	Value
Sealing performance	Plug (S or SI 405)	with sealed cable clamp and cap
	Receptacle (DBP 405)	
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

0°C

TEMPERATURE °C

## MATERIAL & SURFACE TREATMENTS

### Metal parts

Parts		Material			Finish	
		Designation	ISO	Standard	Designation	Standard
<b>Metal parts (except contacts), inner body shell of S plug</b>		Brass	CuZn39Pb3	CW614N UNS C 38500	Nickel	SAE-AMS-QQ-N-290 SAE-AMS2404
<b>Contacts</b>	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
<b>Body shell, sealing cap, back nut, mounting nut</b>	PEI	UL 94 V-O
<b>Insulator</b>	PEEK - PTFE	UL 94 V-O
<b>O-ring in sealing cap</b>	FPM (Viton®)	-
<b>Plastic cable clamps</b>	POM (Delrin®)	UL 94 HB
<b>Bend relief</b>	TPE-S - VMQ - Silicone Rubber	UL 94 HB

B9-2 / B9-18

# PLASTIC 4032



## PLUG



### CABLE MOUNTED

- Body styles (S/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

## PLUG

### CABLE MOUNTED



BODY STYLE	<b>S / SI 4032</b>
Locking system	Push-pull
Sealing	IP50/IP68
Design	Standard
Integral shielding	No

## RECEPTACLES

### PANEL MOUNTED



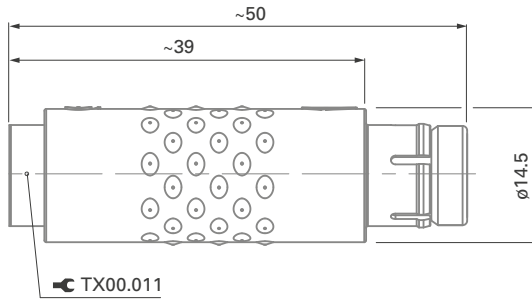
BODY STYLES	<b>DBP 4032</b>	<b>DBPO 4032</b>
Sealing	IP50	IP68
Design	Standard	Standard

**PLUG**

**CABLE MOUNTED**

**S / SI 4032**

BODY STYLE

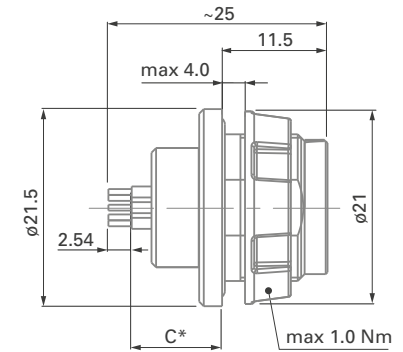


**RECEPTACLES**

**PANEL MOUNTED**

**DBP / DBPO 4032**

BODY STYLES



\* See contact configurations page B9-16.

PANEL CUT-OUT

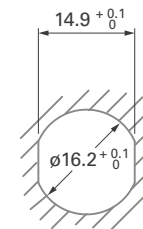


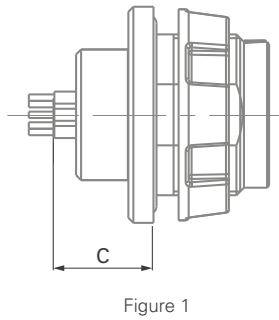
Figure 1

**PLASTIC 4032**

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

PLASTIC

**PLASTIC 4032**



References	Pin layout	Number of contacts	Contact types			Insulating material	Contact $\phi$ [mm]	Wire size		PCB	C [mm] see Figure 1	Test voltage [kV] in mated position				Current <sup>1)</sup> [A]	
			Solder	Crimp	PCB			Solder contacts	Crimp contacts			Pin diameter [mm]	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 $\phi$ 1.18mm AWG17 [1] AWG18 [16/30]	max $\phi$ 1.18mm min $\phi$ 0.58mm AWG18-24	-	-	1.5	2.2	2.2	3.0	13	
4032 $\frac{A}{Z}$ 052		3	●	-	-	PEEK	1.3	max $\phi$ 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 $\phi$ 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 $\phi$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\phi$ 0.83mm min $\phi$ 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 $\phi$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\phi$ 0.62mm min $\phi$ 0.38mm AWG24-28	-	-	1.0	1.3	2.0	2.0	5.2	
4032 $\frac{A}{Z}$ 057		7	●	●	-	PEEK	0.7	max $\phi$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\phi$ 0.62mm min $\phi$ 0.38mm AWG24-28	-	-	1.0	1.3	2.0	2.0	5.0	
4032 $\frac{A}{Z}$ 010		10	●	●	●	PEEK	0.7	max $\phi$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\phi$ 0.62mm min $\phi$ 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 $\phi$ 0.79mm AWG21 [1] AWG22 [7/30]	max $\phi$ 0.62mm min $\phi$ 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 $\phi$ 0.43mm AWG26 [1] AWG28 [19/40]	max $\phi$ 0.43mm min $\phi$ 0.20mm AWG28-32	A: 0.40 Z: -	A: 8.9 Z: -	1.2	0.9	2.0	1.5	2.5	

<sup>1)</sup> 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)

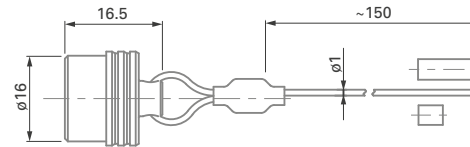
Polarity	2 (051)	3 (052)	4 (053)	5 (054)	6 (056)
A					
Z					

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

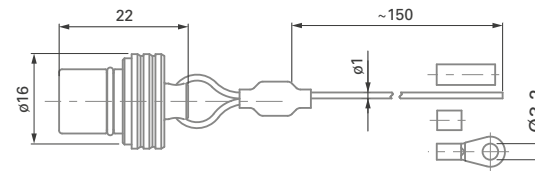
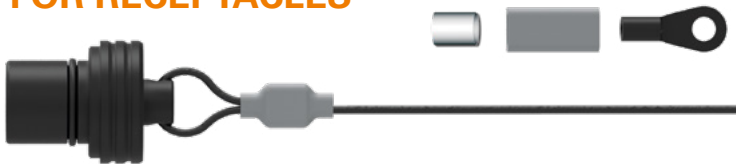
### FOR PLUGS



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.

## 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.

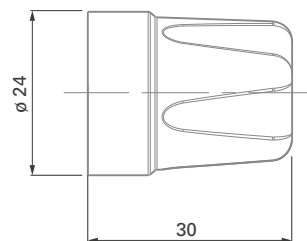
## CABLE CLAMP SETS

### 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



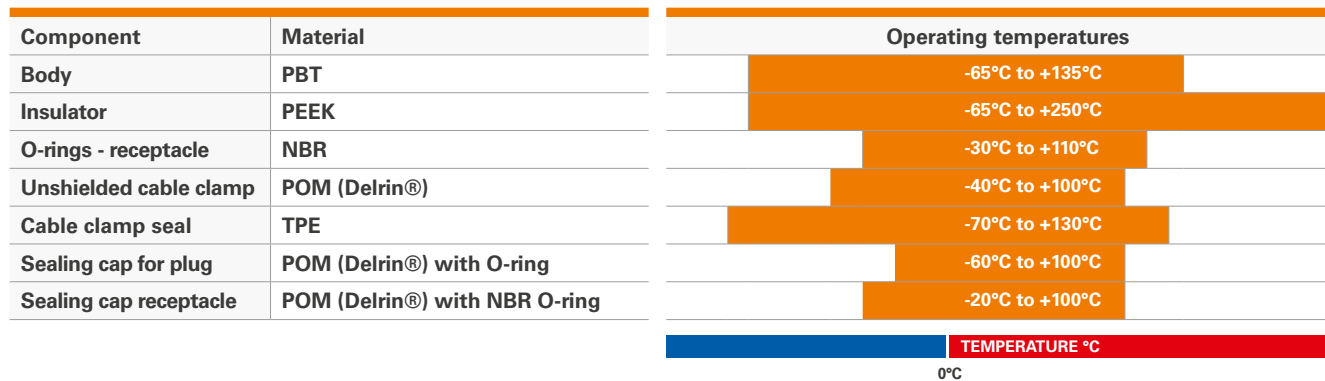
Part number	Cap material
TH00.001	ABS

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

## ENVIRONMENTAL & MECHANICAL DATA

Characteristic	Product type		Value
Sealing performance	Plug (SI 4032)	- with sealed cable clamp - with cap or mated with sealed receptacle (DBPO 4032)	IP68
			IP50
	Sealed receptacle (DBPO 4032)	Mated with sealed plug or with cap	IP68
	Unsealed receptacle (DBP 4032)		IP50
Endurance	5,000 mating cycles		

### OPERATING TEMPERATURE RANGE



## METAL PARTS

Parts	Material			Finish	
	Designation	ISO	Standard	Designation	Standard
<b>Metal parts (except contacts)</b>	Brass	CuZn39Pb3	CW614N UNS C 38500	Nickel	SAE-AMS-QQ-N-290 SAE-AMS2404
<b>Contacts</b>	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
<b>Body shell, sealing cap, back nut, mounting nut</b>	PBT	UL 94 HB
<b>Insulator</b>	PEEK	UL 94 V-O
<b>O-rings on receptacles and sealing caps for receptacles</b>	NBR	-
<b>O-ring on sealing cap for plug</b>	FPM (Viton®)	-
<b>Unshielded cable clamps, sealing cap bodies</b>	POM (Delrin®)	UL 94 HB