B9

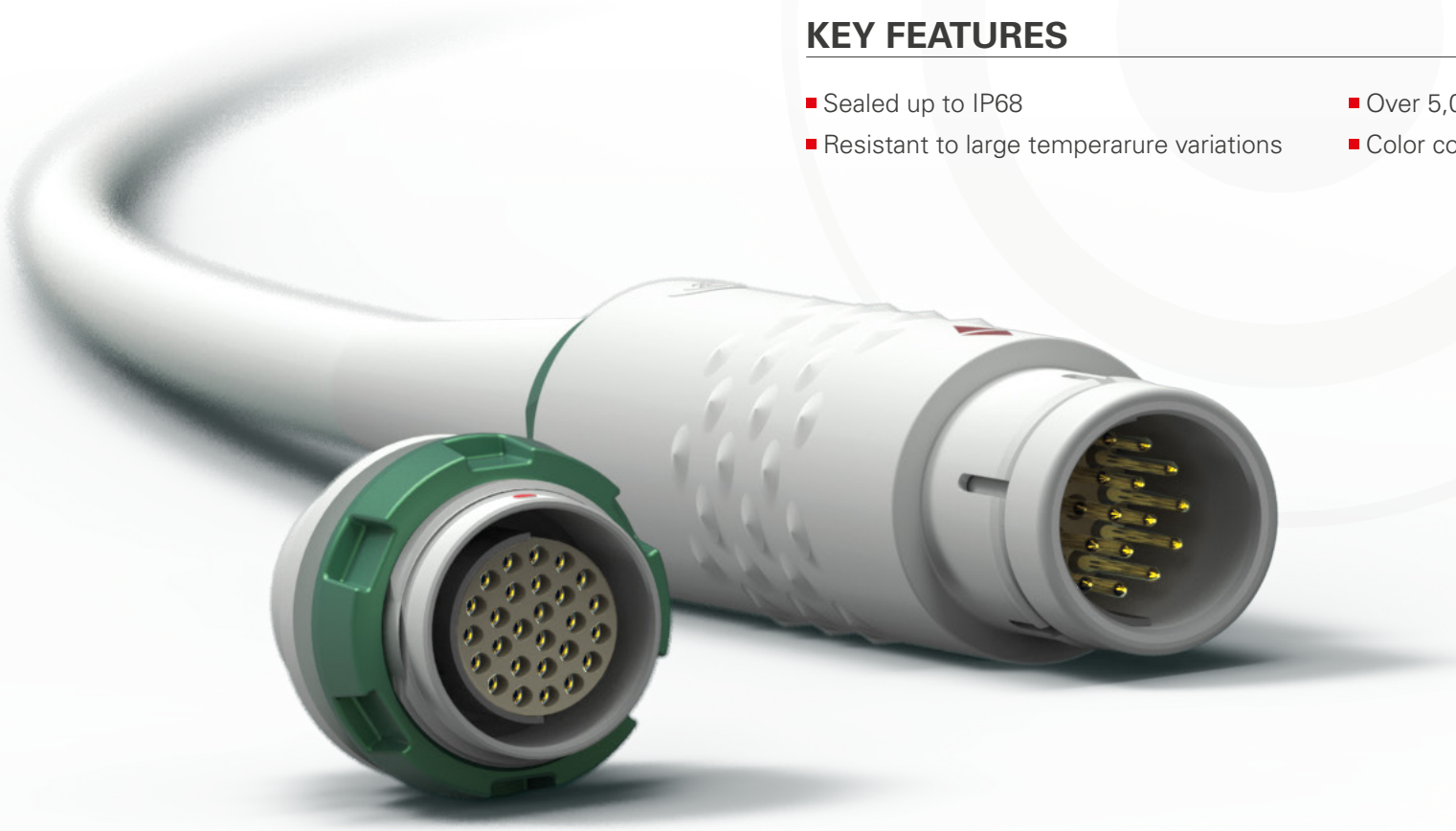
CHAPTER

FISCHER CORE SERIES
PLASTIC

EASY TO USE | DURABLE | LIGHTWEIGHT

KEY FEATURES

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



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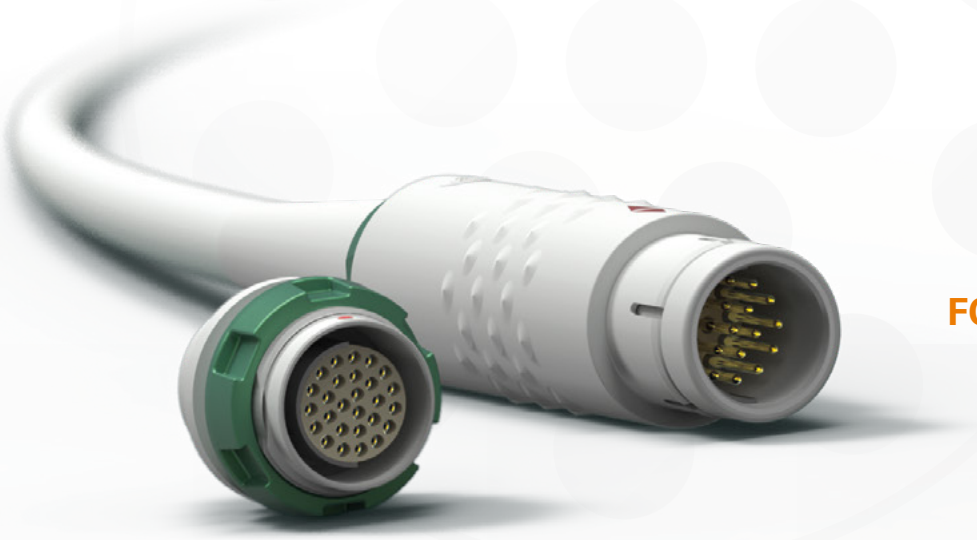
PLASTIC 405



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PLASTIC

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

PLUGS

CABLE MOUNTED

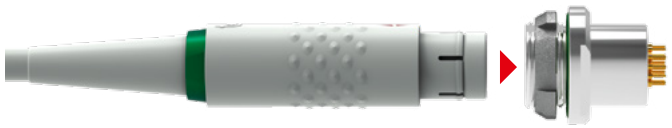
BODY STYLES	S 405	SI 405
Locking system	Push-pull	Push-pull
Sealing	IP50/IP67	IP50/IP67
Design	Standard	Standard
Integral shielding	Yes	No

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.

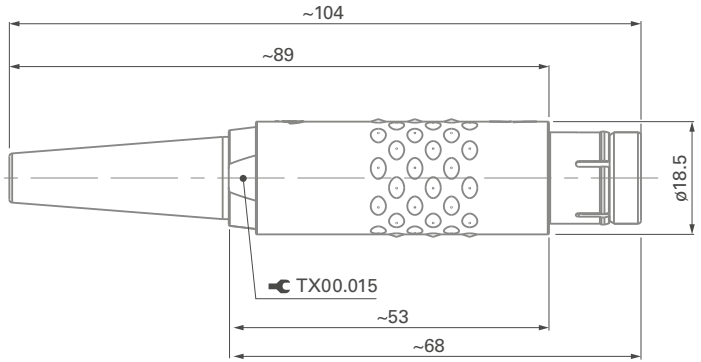
All dimensions and images shown are in millimeters and are for reference only.

PLUGS

CABLE
MOUNTED

S/SI 405

BODY STYLES

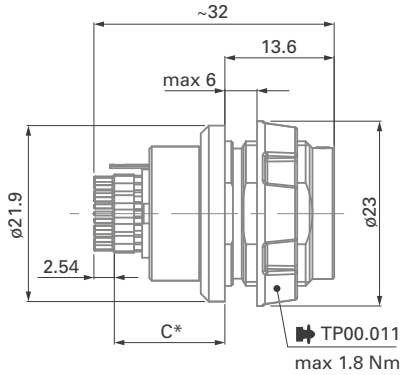


RECEPTACLE

PANEL
MOUNTED

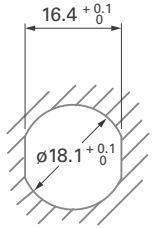
DBP 405

BODY STYLE



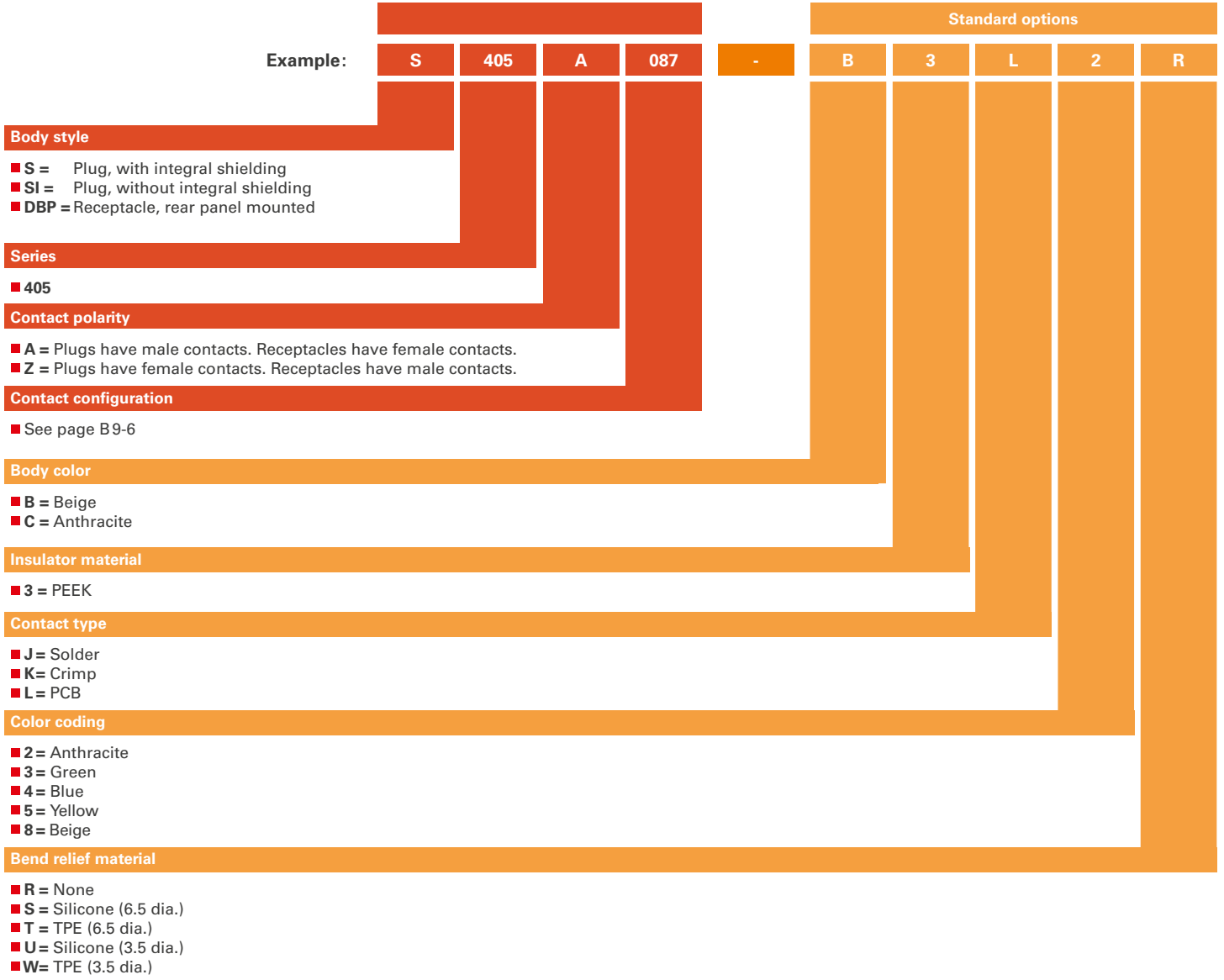
* See contact configurations page B9-6.

PANEL CUT-OUT
Figure 1



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

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

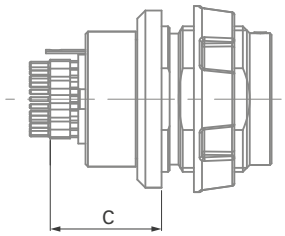


Figure 1

References	Pin layout	Number of contacts	Contact types			Insulating material	Contact ø [mm]	Wire size		PCB		Test voltage [kV] in mated position				Current [1] [A]
			Solder	Crimp	PCB			Solder contacts	Crimp contacts	Pin diameter [mm]	C [mm] see Figure 1	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 ø3.13mm AWG9 [1] / AWG10 [105/30]	–	–	–	1.2	1.6	2.3	3.0	30
405 A/Z 052		3	●	–	–	PEEK	2.0	max ø2.03mm AWG13 [1] / AWG14 [7/22]	–	–	–	2.0	2.5	3.0	3.5	23
405 A/Z 054		7 (1)	●	–	–	PEEK	2.0	max ø2.03mm AWG13 [1] / AWG14 [7/22]	–	–	–	3.0	2.0	4.0	3.0	25
		7 (6)					1.3	max ø1.18mm AWG17 [1] / AWG18 [16/30]	–	–	–	1.8	1.5	2.5	2.0	7.0
405 A/Z 101		9 (1)	●	–	●	PEEK	2.0	max ø2.03mm AWG13 [1] / AWG14 [7/22]	–	A: 0.50 Z: -	A: 10.8 Z: -	3.0	2.0	4.0	3.0	25
		9 (8)					1.3	max ø1.18mm AWG17 [1] / AWG18 [16/30]	–	A: 0.50 Z: -	A: 10.8 Z: -	1.8	1.5	2.5	2.0	5.0
405 A/Z 069		12	●	–	●	PEEK	1.3	max ø1.18mm 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 ø1.18mm AWG17 [1] /AWG18 [16/30]	–	A: 0.50 Z: -	A: 13.8 Z: -	2.5	1.5	3.8	2.2	14
		13 (10)					0.7	max ø0.79mm AWG21 [1] / AWG22 [7/30]	–	A: 0.50 Z: -	A: 13.8 Z: -	1.3	1.5	1.8	2.2	1.0
405 A/Z 110		16 (4)	●	–	●	PEEK	1.6	max ø1.86mm AWG13 [1] / AWG14 [7/22]	–	A: 0.50 Z: -	A: 13.8 Z: -	1.6	1.3	2.8	2.1	14
		16 (12)					0.7	max ø0.79mm AWG21 [1] / AWG22 [7/30]	–	A: 0.50 Z: -	A: 13.8 Z: -	1.0	1.2	1.5	2.0	1.0
405 A/Z 038		18	●	●	●	PEEK	0.9	max ø0.79mm AWG21 [1] / AWG22 [7/30]	max ø0.83mm min ø0.38mm 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 ø0.79mm AWG21 [1] / AWG22 [7/30]	max ø0.62mm min ø0.38mm 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.

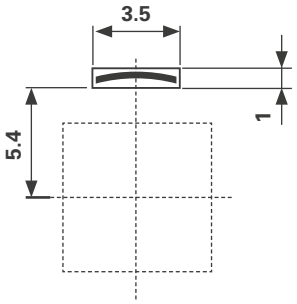
PCB LAYOUT

S/SI 405 **DBP 405**

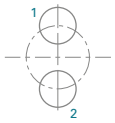
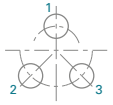
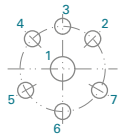
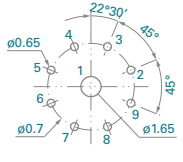
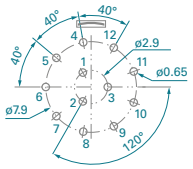
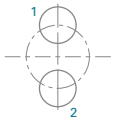
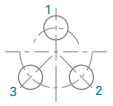
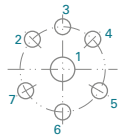
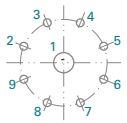
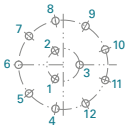
BODY STYLES

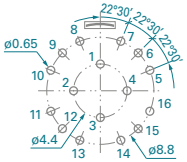
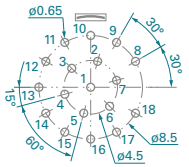
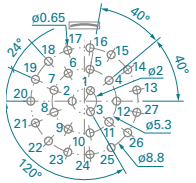
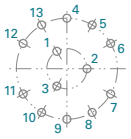
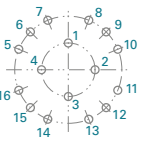
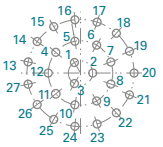
F

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			-	

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.

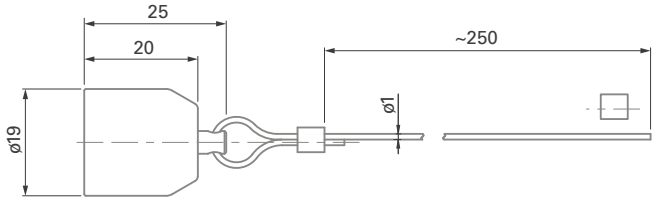
ENVIRONMENTAL

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
105.2741 (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.

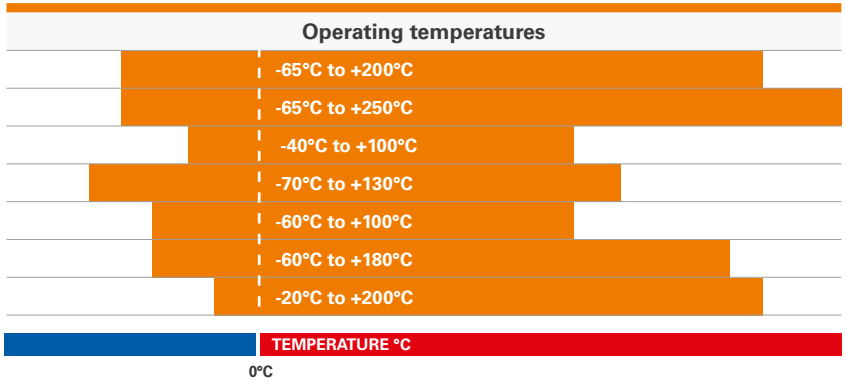
All dimensions and images shown are in millimeters and are for reference only.

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
Body	PEI
Insulator	PEEK
Plastic Cable Clamp	POM (Delrin®)
Cable clamp seal	TPE
Cable strain relief	TPE
	VMQ - Silicone rubber
Sealing cap	PEI with FPM O-ring



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

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

B9-12 / B9-20

PLASTIC 4032

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PLUG

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RECEPTACLES

PANEL MOUNTED

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FOR ALL PLASTIC 4032

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- PCB hole pattern and pin layout B9-17
- Accessories B9-18
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- Product specifications A-5

PLASTIC

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

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

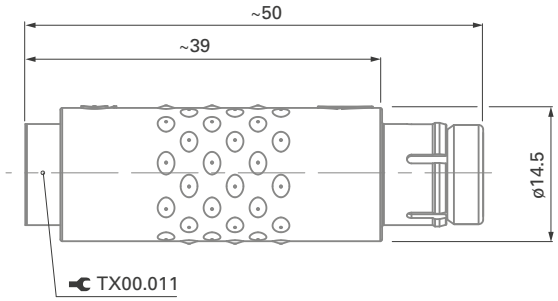
BODY STYLES	**DBP 4032**	**DBPO 4032**
Sealing	IP50	IP68
Design	Standard	Standard

PLUG

CABLE
MOUNTED

SI 4032

BODY STYLE

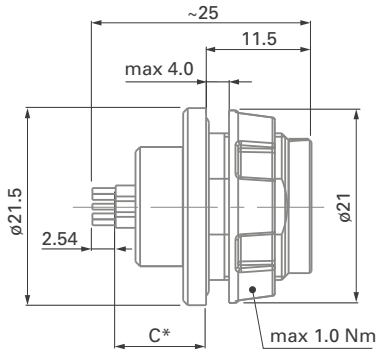


RECEPTACLES

PANEL
MOUNTED

DBP / DBPO 4032

BODY STYLES



* See contact configurations page B9-16.

PANEL CUT-OUT

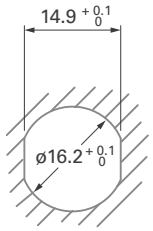
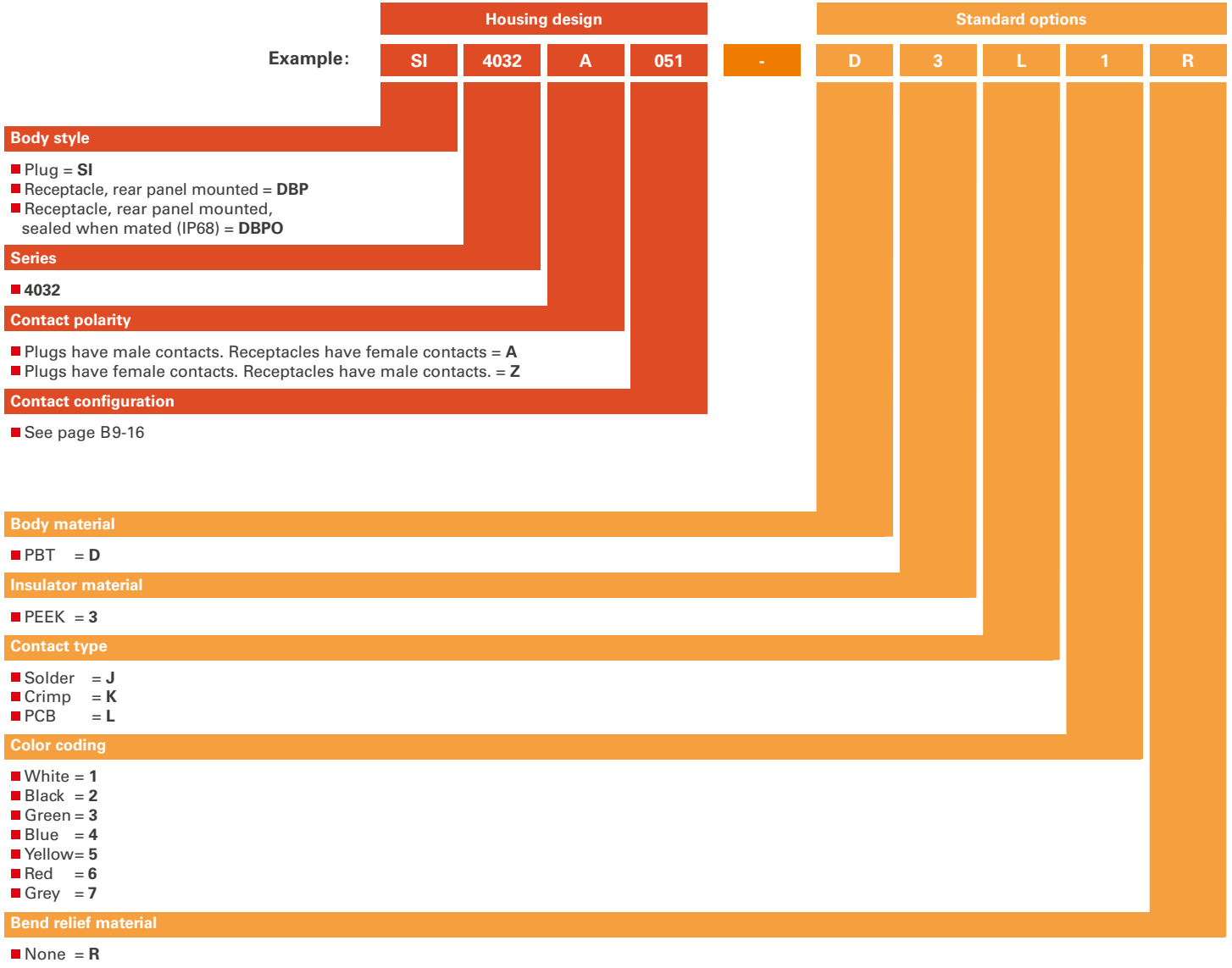


Figure 1

PLASTIC 4032



PLASTIC 4032

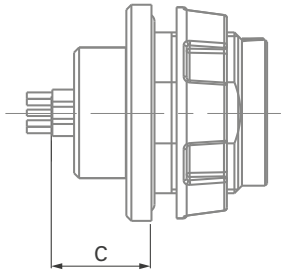


Figure 1

References	Pin layout	Number of contacts	Contact types			Insulating material	Contact ø *[mm]*	Wire size		PCB		Test voltage *[kV] in mated position*				Current [1] *[A]*
												AC r.m.s		DC		
			Solder	Crimp	PCB			Solder contacts	Crimp contacts	Pin diameter *[mm]*	C *[mm]* see Figure 1	Contact to body	Contact to contact	Contact to body	Contact to contact	
4032 A/Z **051**		2	●	●	–	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	max ø1.18mm min ø0.58mm AWG18-24	–	–	1.5	2.2	2.2	3.0	13
4032 A/Z **052**		3	●	–	–	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	–	–	–	1.2	1.5	1.8	2.0	12
4032 A/Z **053**		4	●	–	●	PEEK	0.9	max ø0.79mm 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 A/Z **054**		5	●	●	●	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	A: 0.63 Z: -	A: 9.9 Z: -	1.1	1.4	1.9	2.2	6.8
4032 A/Z **056**		6	●	●	–	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	–	–	1.0	1.3	2.0	2.0	5.2
4032 A/Z **057**		7	●	●	–	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	–	–	1.0	1.3	2.0	2.0	5.0
4032 A/Z **010**		10	●	●	●	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	A: 0.50 Z: -	A: 8.9 Z: -	1.4	1.5	2.0	2.2	4.5
4032 A/Z **012**		12	●	●	●	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	A: 0.50 Z: -	A: 8.9 Z: -	1.4	1.5	2.0	2.2	4.2
4032 A/Z **019**		19	●	●	●	PEEK	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	max ø0.43mm min ø0.20mm 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.

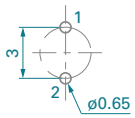
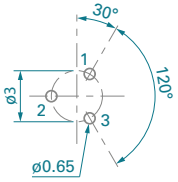
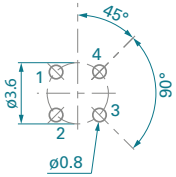
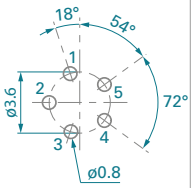
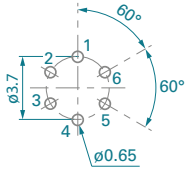
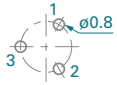
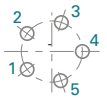
PCB LAYOUT

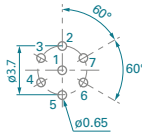
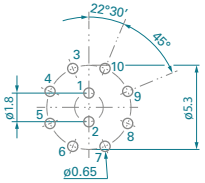
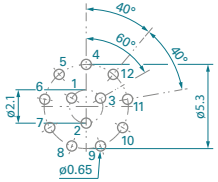
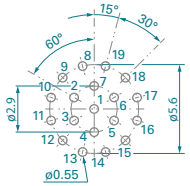
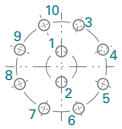
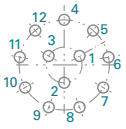
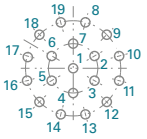
SI 4032 **DBP/DBPO 4032**

BODY STYLES

F →

View from F - Number of contacts (reference)

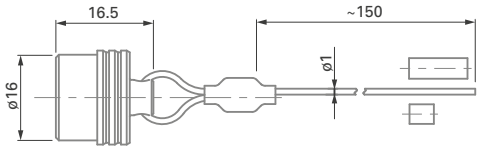
Polarity	2 (051)	3 (052)	4 (053)	5 (054)	6 (056)
A					
Z					

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

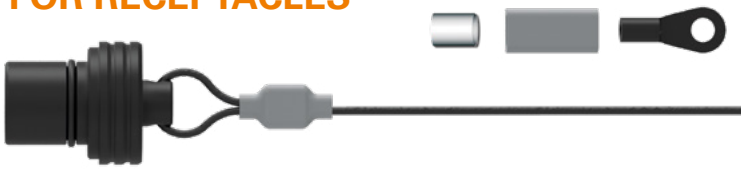
FOR PLUGS

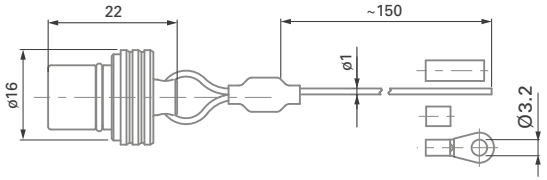


Part number	Cap Material	Stainless steel cable covering material
4032.703	POM (Delrin®)	FEP –Teflon®

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.

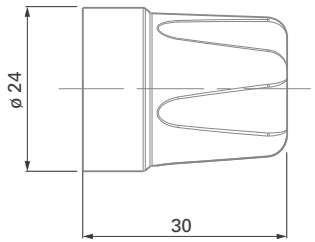
CABLE CLAMP SETS

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

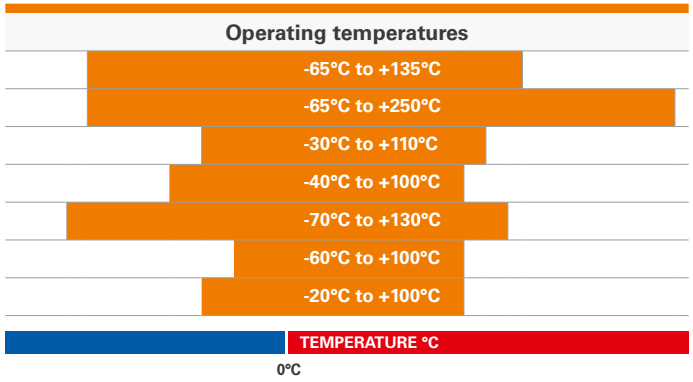
All dimensions and images shown are in millimeters and are for reference only.

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
Body	**PBT**
Insulator	**PEEK**
O-rings - receptacle	**NBR**
Unshielded cable clamp	**POM (Delrin®)**
Cable clamp seal	**TPE**
Sealing cap for plug	**POM (Delrin®) with O-ring**
Sealing cap receptacle	**POM (Delrin®) with NBR O-ring**



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