bürkert
FLUID CONTROL SYSTEMS

4/2 way Solenoid Valve for pneumatics

- Compact design
- Push-over solenoid coil
- Exhaust air can be regulated
- Tube, threaded and sub-base connections
- Seat valve variant

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

Type 1087 ▸
Timer,
form A according to
DIN EN 175301-803

Type 2518 ▸
Cable plug,
form A according to
DIN EN 175301-803

Type 2000 ▸
Pneumatically operated
2/2-way angle seat valve
CLASSIC

Type 2511 ▸
Cable Plug Form A

Type 2513 ▸
Cable plug,
form A according to
DIN EN 175301-803

Type description

The Type 5420 is a pilot-controlled 4-way seat valve with servo-diaphragms. A minimum differential pressure of 2.5 bar is needed for switch-over. The valve can be mounted on two channel manifolds with a common pressure supply.

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Visit product website ▸

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1. General technical data

Product properties	
Dimensions	Further information can be found in chapter "5. Dimensions" on page 6
Materials	
Seal	NBR
Body	Polyamide
Coil	Polyamide, epoxy
Weight	Approx. 0.4 kg
Orifice	DN 3
Circuit function	G Further information can be found in chapter "2. Circuit functions" on page 4
Performance data	
Duty cycle	100 % continuous operation
Compressed air quality	ISO 8573 - 1:2010, class 7.4.4 [1.)]
Flow rate (Q_{Nn} value air)	200 l/min [2.)]
Switching time	Opening: 30 ms (pressure build-up 0...90 %) Closing: 20 ms (pressure reduction 100...10 %)
Electrical data	
Operating voltage	
Standard variant	24 V DC, 24/230 V 50/60 Hz
ATEX/IECEx variant	24/110/230 V UC
Power consumption	V DC variant: 2 W V AC variant: 11 VA (inrush), 6 VA (hold)
Voltage tolerance	+ 10 %
Medium data	
Operating medium	Neutral medium (e.g. lubricated or oil-free compressed dry air)
Medium pressure	2.5...10 bar [3.)]
Medium temperature	- 10 °C...+ 60 °C
Product connections	
Electrical connection	Plug contacts according to DIN EN 175301 - 803 form A for cable plug **Type 2518** ▶ Further information can be found in chapter "Cable plug Type 2518, form A according to DIN EN 175301 - 803" on page 11.
Port connection	G ⅛, tube SL 6/4, sub-base
Approvals and conformities	
Protection class	IP65 with cable plug
Explosion protection	Further information can be found in chapter "3.4. Explosion protection" on page 4
North America (USA/Canada)	Further information can be found in chapter "3.5. North America (USA/Canada)" on page 5
Environment and installation	
Installation	As required, preferably with actuator upright
Ambient temperature	Max. + 55 °C

1.) To prevent freezing of the expanded compressed air, the pressure dew point must be at least 10 K lower than the temperature of the medium.
2.) Measurement at + 20 °C, 6 bar at the valve inlet and 1 bar differential pressure
3.) Pressure data: overpressure to atmospheric pressure

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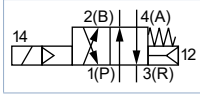
2. Circuit functions

Symbol	Description
	**Circuit function G (CF G)** 4/2-way solenoid valve Servo-controlled

3. Approvals and conformities

3.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available variants can be supplied with the below mentioned approvals or conformities.

3.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

3.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

3.4. Explosion protection

Approval	Description
	Optional: Explosion protection EU type examination certificate: PTB 20 ATEX 2003X / IECEx PTB 20 ATEX 2003X Suitable as category 2 device for zone 1/21 and zone 2/22 (optional). Ex marking of the components according to the following table:

Coils with cable outlet	Coils with terminal box
ATEX: EPS 18 ATEX 1 232 X II 2G Ex mb IIC T* Gb II 2D Ex mb IIIC T*** °C Db **IECEx:** IECEx EPS 18.0110X Ex mb IIC T* Gb Ex mb IIIC T*** °C Db	**ATEX:** EPS 18 ATEX 1 232 X II 2G Ex eb mb IIC T* Gb II 2D Ex mb tb IIIC T*** °C Db **IECEx:** IECEx EPS 18.0110X Ex eb mb IIC T* Gb Ex mb tb IIIC T*** °C Db

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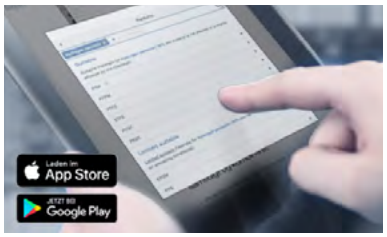
3.5. North America (USA/Canada)

Note:
The following approvals are only available on request for coil systems with epoxy coils.

Approval	Description
c UL us	**Optional: UL Recognized for the USA and Canada (valid for coils)** The coils are UL Recognized for the USA and Canada according to: • UL 429 (electrically operated valves) • CAN/CSA-C22.2 No. 139
c UL us LISTED SOLENOID FOR USE IN HAZARDOUS LOCATIONS E504714	**Optional: UL Hazardous Locations – Explosion Protection (valid for coils)** UL Listed for Hazardous Locations for USA and Canada Class I, Zone 1 Class I, Division 2, Group A, B, C and D Class II + III, Division 2, Group F and G
FM C US APPROVED	**Optional: FM (Factory Mutual) – Explosion Protection (valid for coils)** FM for Hazardous Locations for USA and Canada Class I, Zone 1 Class I, Division 1, Groups A, B, C and D Class II + III, Division 1, Groups E, F and G

4. Materials

4.1. Bürkert resistApp



Bürkert resistApp – Chemical resistance chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

Start chemical resistance check

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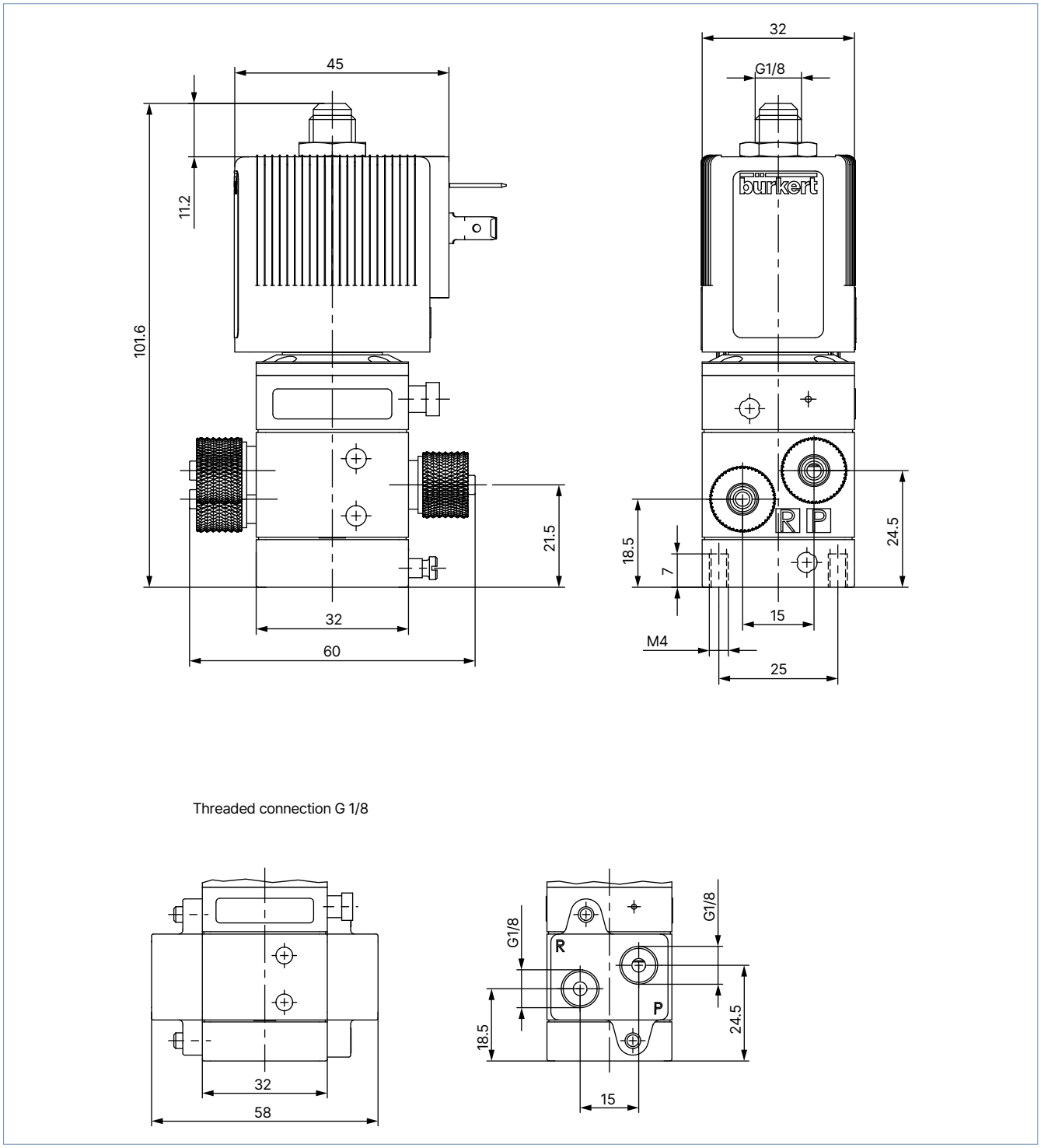
5. Dimensions

5.1. Standard variant

Note:

- Dimensions in mm
- Hose screw connection for semi-soft plastic hose (external Ø 6 mm, internal Ø 4 mm)
- For battery mounting, the union nuts on the ports 1 and 3 are replaced by O-rings (10 × 2).



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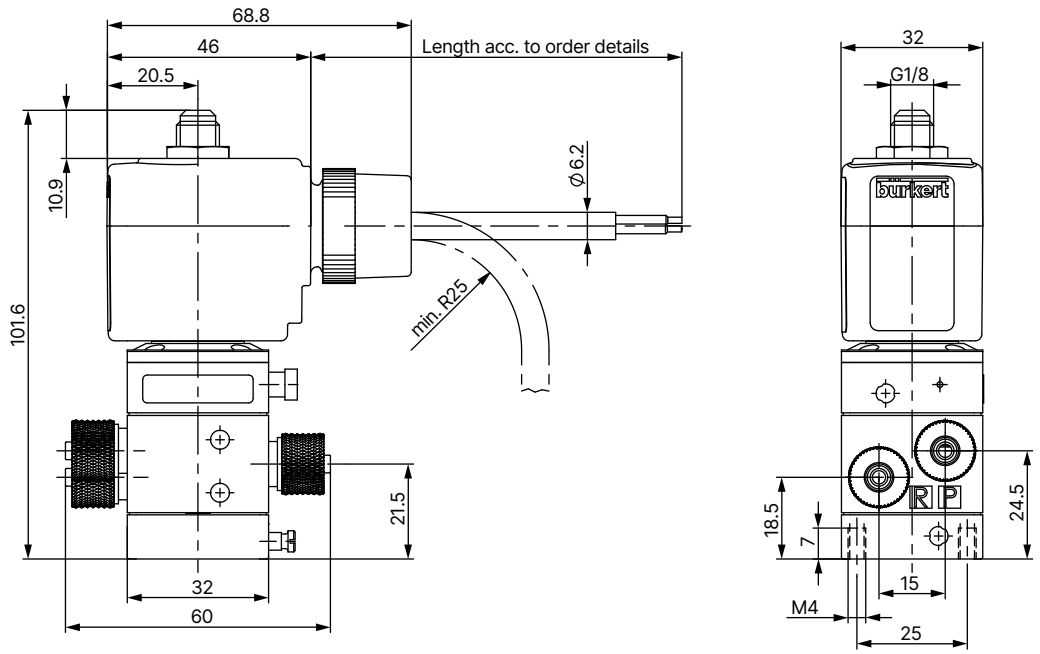
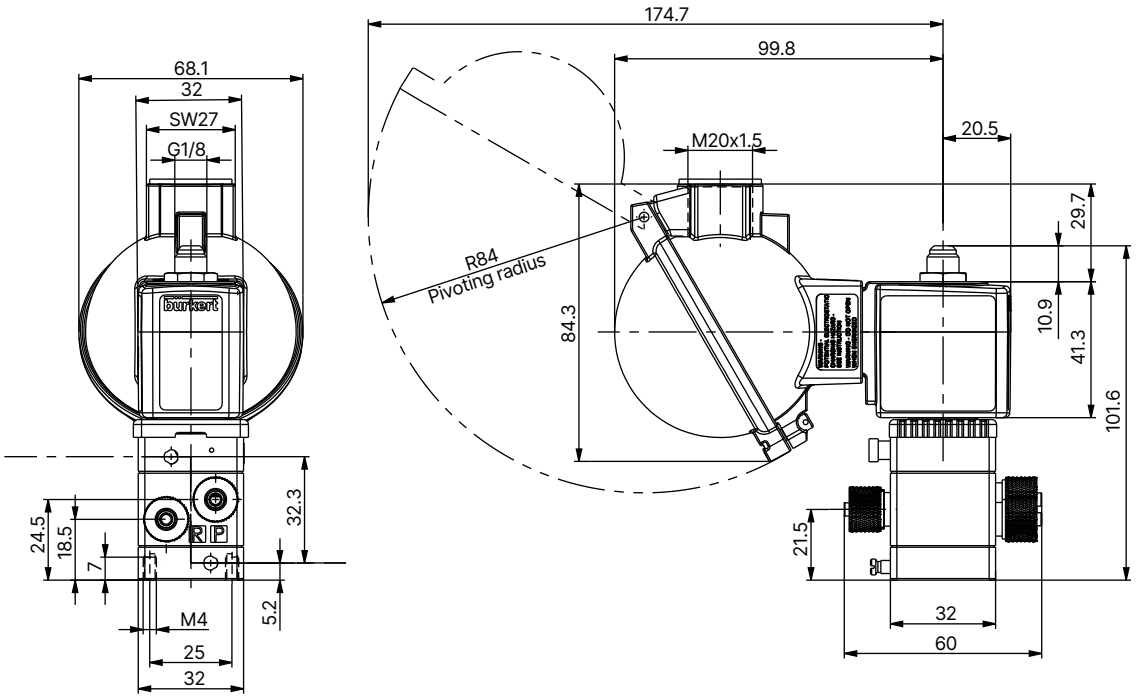
5.2. ATEX/IECEx variant

Note:
Dimensions in mm

Version with moulded cable (3 m)



Version with junction box



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6. Performance specifications

6.1. Power consumption

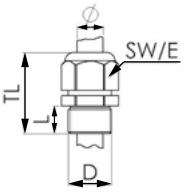
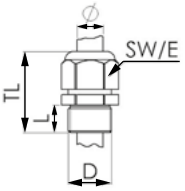
Orifice	Q_{Nn} value	Port connection		Coil power	Pressure range	Response times [1.]		Weight
		1 and 3	2 and 4			Opening	Closing	
[mm]	[l/min]			[W]	[bar]	[ms]	[ms]	[kg]
3	200	G ⅛	G ⅛	3	2.5...10	30	20	approx. 0.4
3	200	SL 6/4	SL 6/4	3	2.5...10	30	20	approx. 0.4
3	200	sub-base [1.]	G ⅛	3	2.5...10	30	20	approx. 0.4
3	200	sub-base [2.]	SL 6/4	3	2.5...10	30	20	approx. 0.4

1.) A differential pressure of 2.5 bar is required for full opening.
2.) Sub-base for mounting on manifolds

7. Product accessories

7.1. Cable glands for ATEX/IECEx terminal box

Note:
A polyamide cable gland is included in the scope of delivery. A nickel-plated brass variant can be ordered for a surcharge, see "Cable glands for ATEX/IECEX terminal box" on page 11.

Description	Ex approval		Dimensions	
	Certification	Identification		
Ex cable gland, nickel-plated brass, 6...13 mm 	PTB 04 ATEX 1112 X, IECEx PTB 13.0027X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68		TL 29...37 mm L 6 mm D 20 mm SW 24 mm E 27 mm
Ex cable gland, polyamide, 7...13 mm 	PTB 13 ATEX 1015 X, IECEx PTB 13.0034X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68		TL 36...45 mm L 10 mm D 20 mm SW 24 mm E 28 mm

7.2. Special tool to turn the terminal box

Note:
This special tool is not included in the scope of delivery of the valve, see "Cable glands for ATEX/IECEX terminal box" on page 11.

Description	Components of the set
Set SC02-AC10 	• Special tool • Service manual

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8. Ordering information

8.1. Bürkert eShop

Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

Order online now

8.2. Bürkert product filter

Bürkert product filter – Get quickly to the right product

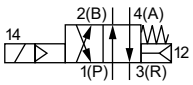
You want to select products comfortably based on your technical requirements?
Use the Bürkert product filter and find suitable articles for your application quickly and easily.

Try out our product filter

8.3. Ordering chart standard variant

Note:

- Please note that the cable plug must be ordered separately, see "Cable plug Type 2518, form A according to DIN EN 175301-803" on page 11 or separate data sheet for **Type 2518** ▶.
- Corrosion-resistant body in polyamide, with coil AC10 (32 mm), 2 W, seal material NBR
- A differential pressure of 2.5 bar is required for toggling.
- The pressure range in the following table is 2.5...10 bar.

Circuit function	Port connection 1 and 3	Port connection 2 and 4	Orifice	Q_{Nn} value air	Article no. per voltage/frequency		
					24 DC	24 / 50/60	230 / 50/60
			[mm]	[l/min]	[V/Hz]	[V/Hz]	[V/Hz]
CF G 4/2-way solenoid valve Servo-controlled 	G ⅛	G ⅛	3.0	200	134622	134623	134625
	Hose fitting 6/4	Hose fitting 6/4	3.0	200	134630	134631	134633
	Flange for manifold	G ⅛	3.0	200	134634	134635	134637
	Flange for manifold	Flange for manifold 6/4	3.0	200	134638	134639	134641

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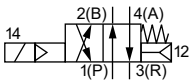
8.4. Ordering chart ATEX/IECEx variant

Note:

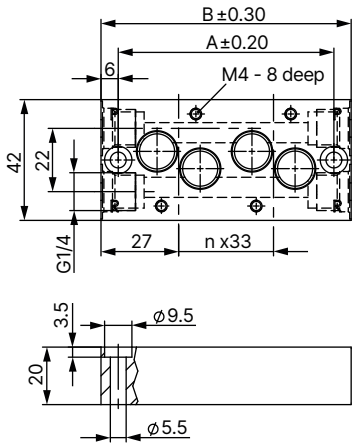
- Please note that the cable plug must be ordered separately, see "Cable plug Type 2518, form A according to DIN EN 175301-803" on page 11 or separate data sheet for **Type 2518** ▶.
- Variant according to Ex m II T5, polyamide body with manual override, with moulded cable (3 m)
- The maximum medium temperature must never exceed the permitted temperature class (T4: + 135 °C, T5: + 100 °C, T6: + 85 °C) minus 5 K.
- Terminal box is available on request.
- The pressure range in the following table is 2.5...10 bar.

Circuit function	Port connection 1 and 3	Port connection 2 and 4	Orifice	Q_{Nn} value air	Electrical connection application	Article no. per voltage/frequency		
						024 UC	110 UC	230 UC/60
			[mm]	[l/min]		[V/Hz]	[V/Hz]	[V/Hz]
CF G 4/2-way solenoid valve Servo-controlled 	G ⅛	G ⅛	3.0	200	Single unit	350417	o. r.	o. r.
	Hose fitting 6/4	Hose fitting 6/4	3.0	200	Single unit	350410	o. r.	350411
	Flange for manifold	G ⅛	3.0	200	Block assembly	350414	350415	350416
	Flange for manifold	Flange for manifold 6/4	3.0	200	Block assembly	350412	o. r.	350413

o. r. = on request

8.5. Ordering chart accessories

Stackable manifolds made of aluminium

Manifold	Dimensions	A	B	Article no.
		[mm]	[mm]	
2-fold		75	87	005356
3-fold		108	120	005357
4-fold		141	153	005372
5-fold		174	186	005373
6-fold		207	219	005374
8-fold		273	285	006553

Accessories for manifolds

Description	Article no.
Silencer	005424
Lock screw for unoccupied ports 1 or 4	005390
Cover plate, complete, for unoccupied valve slot on manifolds	005432
Nipple with O-rings for connecting manifolds	005049

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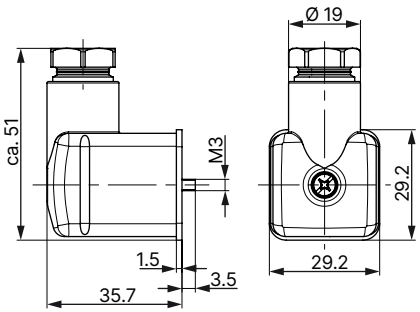
Cable plug Type 2518, form A according to DIN EN 175301 - 803

Note:

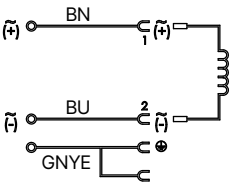
- Dimensions in mm
- For further variants see data sheet **Type 2518** ▶.

Cable plug	Dimensions	Variant	Voltage	Article no.
		Without wiring (AC/DC)	0...250 V AC/DC	314802
		With LED (AC/DC)	12...24 V AC/DC	314812
		With LED and varistor (AC/DC)	12...24 V AC/DC	314820
		With rectifier, LED and varistor	12...24 V AC/DC	314816

Cable plug Type 2513, form A according to DIN EN 175301 - 803

Note:

- The cable plug Type 2513 meets the requirements of ATEX Cat. 3 GD in assembly with a Bürkert solenoid valve.
- Refer to data sheet **Type 2513** ▶ for more information about the cable plug.

Cable plug	Circuit diagram	Cable length [mm]	Article no.
		12000	260893
		5000	260892
		3000	260891
		300	260890

Cable glands for ATEX/IECEX terminal box

Note:

- A polyamide cable gland is included in the scope of delivery. A nickel-plated brass variant can be ordered for a surcharge.
- Refer to "7.1. Cable glands for ATEX/IECEx terminal box" on page 8 for more information about Ex cable glands.
- Refer to "7.2. Special tool to turn the terminal box" on page 8 for more information about special tool.

Description	Article no.
Ex cable gland, nickel-plated brass, 6...13 mm [1.]	773278
Ex cable gland, polyamide, 7...13 mm [1.]	773277
Set SC02-AC10: special tool [2.] incl. service manual	293488

1.) Cable diameter

2.) Not included in the scope of delivery of the valve

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