Modular Water Valve System
servo-assisted; variable and extendable

Type 6227

2/2 way; DN 10 - 13 mm; 1 up to 7 bar

Design/Function

The servo-assisted solenoid valve with servo diaphragm is normally closed (NC).
In this condition, a pressure is being built up above the diaphragm - the valve holds tight.
When energized, the space above the servo diaphragm is pressure relieved and lifted up by the medium - the valve opens.

The modular extendable valve system can be built up in all possible combinations with up to 12 valves each as distributor or collector in two sizes with different port connection modules. The valve can be put together in collecting function or distributing function by easily twisting the valve insert.

Any kind of combination of functions in one block is possible.

Additional functions as e.g. temperature indication or flow measurement can be added by integrating a corresponding sensor directly into the valve block.

In order to be as flexible as possible, a variety of port connections is available as standard. The inner thread port connections are at the bottom, pointing downwards while the outer thread port connections and the plug-on connection for hoses are pointing sidewards.

The block material is Polyamide glass-fiber reinforced.

The advantages are: Low weight and a certain chemical resistance.

Advantages / Benefits

- **Reduction of Cost of Ownership up to 60%**
- **Modular system design**
- **Block assembly by lock technology**
- **Easy change between distributing and collecting function by turn of valve insert**
- **Free combination of valve sizes DN10 and DN13**
- **High flexibility with different port connections also with integrated check valve**
- **Flexibility with additional functions (integrable sensors, separation of fluids, additional inputs)**
- **Low weight by thermoplastic technology**
- **Waterhammer free**

Applications

Fluids

Neutral liquids, i.e. water, hydraulic oil, oils and fat (without additions) up to 60°C

Applications

- Distributing and collecting functions in water / sewage treatment
- HEVAC
- Hydraulic circuits
- Car wash devices
- Chemical industry
- Machine industry

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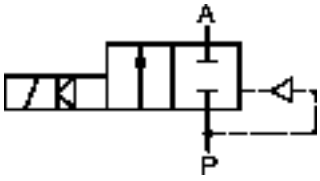
Technical data type 6227

Circuit function

A 2/2 way flow valve, normally closed, with 2 way pilot control and coupled solenoid system

Symbol



Valve specifications

Pressure range	Collector	1.0 up to 7.0 bar
	Distributor	0.5 up to 7.0 bar

Port connection

Block	G 1/2 and G 3/4
Valve	G 3/8 inner-thread
	G 3/4 outer-thread
	Plug-on ø 13 mm

Seal material	NBR (FPM / EPDM on request)
Fluids	Neutral liquids, e.g. water, hydaulic oil, oils and fat without additives
Media temperature	0 up to +70°C
Ambient temperature	max. +55°C
Viscosity	max. 21 mm²/s

Response times [3] [4]	DN10	DN13
Opening	30 ms	70 ms
Closing	200 ms	300 ms

Flow rate — Kv-value (m³/h)

	Distributor	Collector
DN10	1.4	1.5
DN13	2.4	2.7

Installation	as required, preferably with solenoid system upright	
Width per valve	DN10	33 mm
	DN13	44 mm

Solenoid specifications

Operating voltages	AC 24, 110, 230 V / 50 Hz	
	DC 12 and 24 V / =	
Voltage tolerance	±10 %	

Electr. power consumption

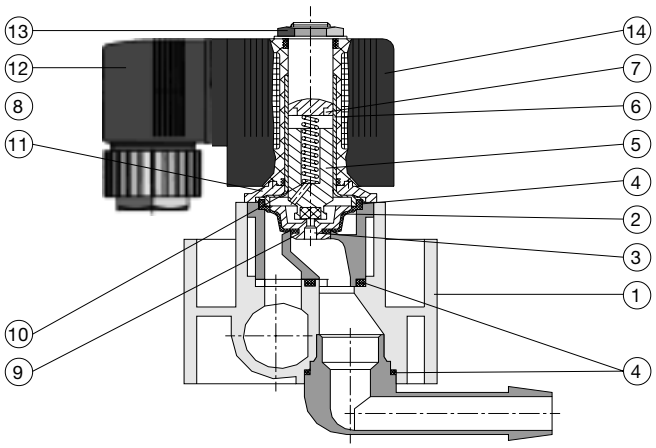
Voltage (AC)	Inrush	20 VA
	Hold	13 VA / 5 W
Voltage (DC)	Inrush	5 W
	Hold	5 W

Duty cycle	100 % continuously rated
Cycling rate	up to 60 c.p.m.
Rating with cable plug	IP 65
Electr. connection	Delivery standard: Cable plug acc. DIN 43 650 A, 0 - 250 V (other versions see accessories)

[3] Measured at connection 2; time from electrical switching to pressure increase to 90 % (opening) or pressure drop to 10 % (closing) of operational pressure of 6 bar.
The valves given apply for DC and AC.

[4] When using electronics (diodes for controlling LEDs or for rectifying), the closing time is delayed 8 up to 10 ms.

Installation



1	Valve body	Polyamid glass fiber reinforced
2	Diaphragm	NBR
3	Plunger-seal	NBR
4	O-rings	NBR
5	Plunger	1.4105
6	Armature guide tube	1.4301
7	Shading ring	Cu (copper)
8	Stopper	1.4105
9	Diaphragm support	PPSGF40
10	Spring	1.4310
11	Bonnet	Steel ST3
12	Cable plug	PA (Polyamide)
13	Locknut	9SMnPb28K (surface Zm5glcA)
14	Coil	Polyamid

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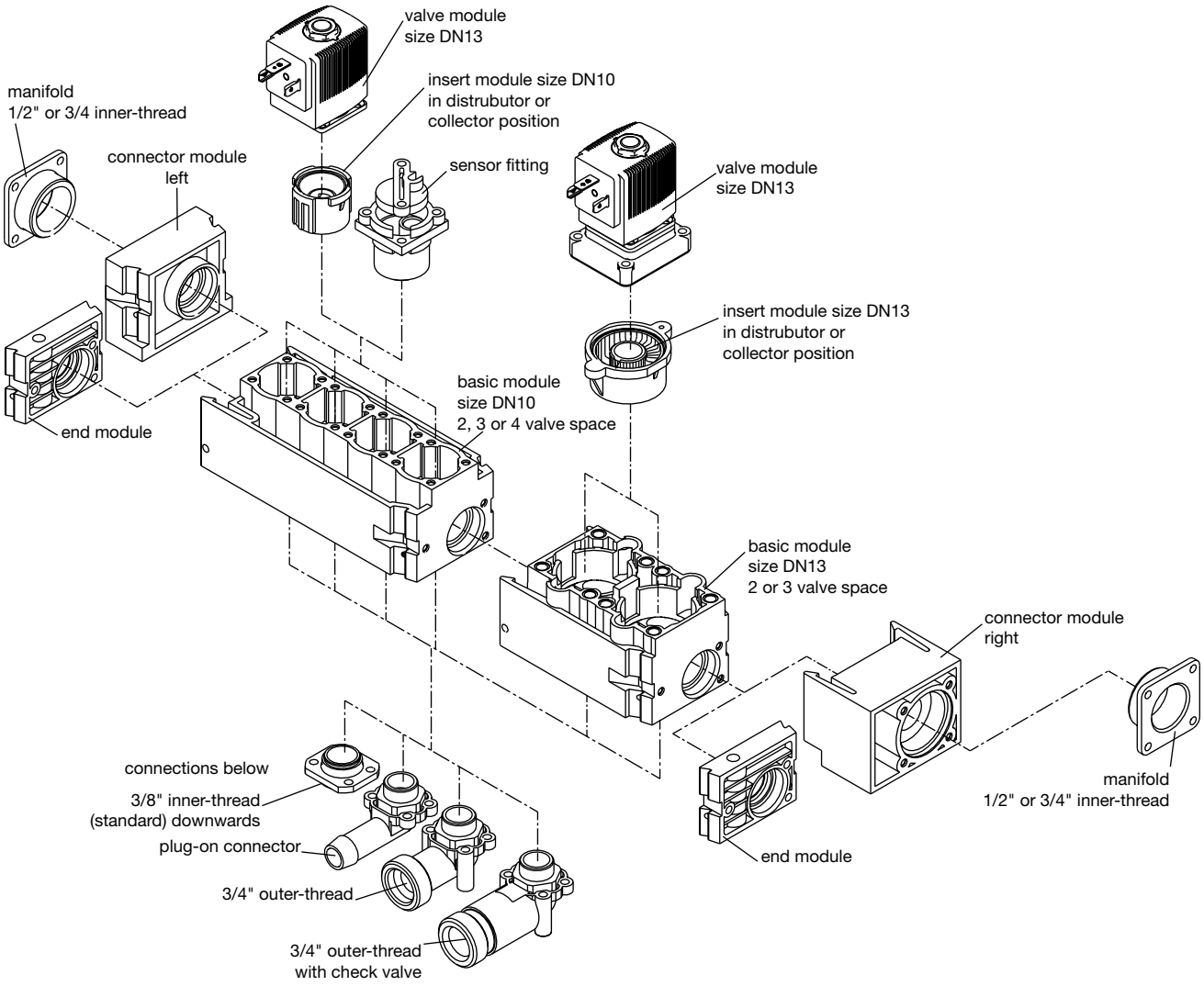
System overview with all available modules



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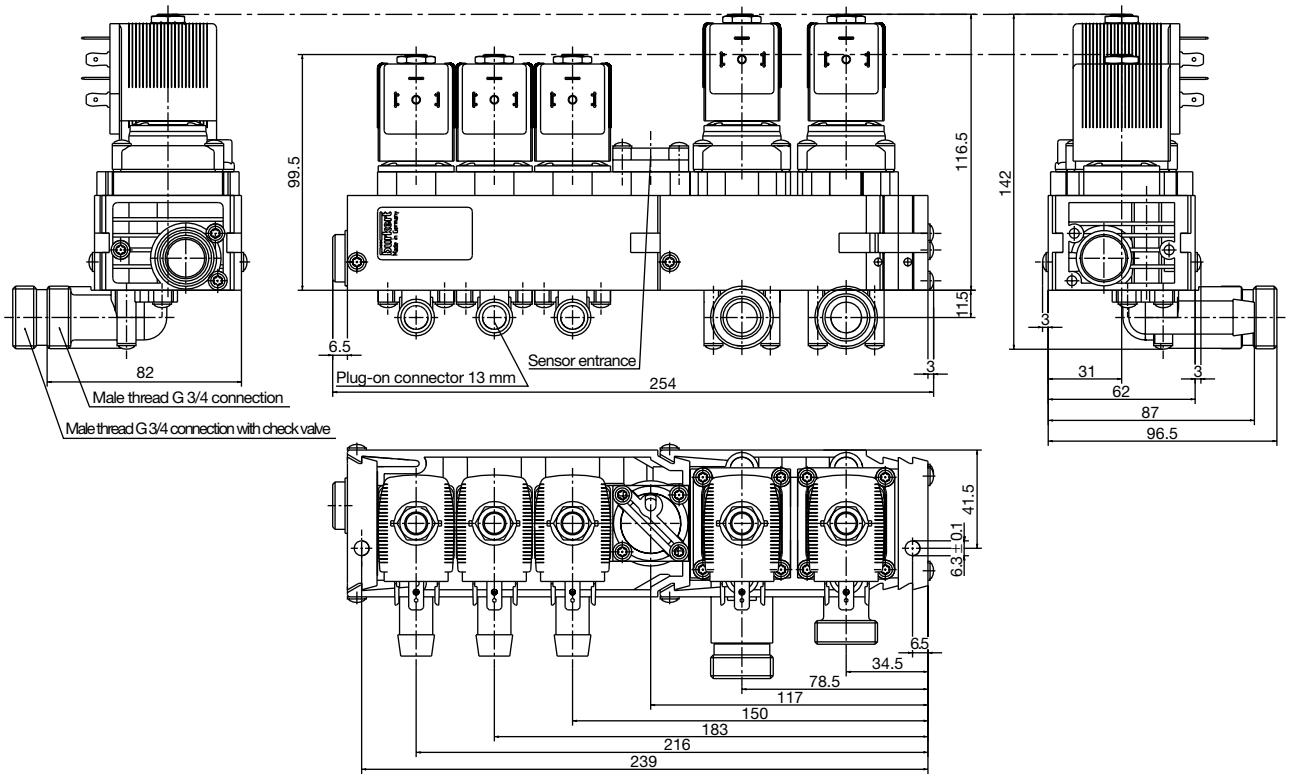
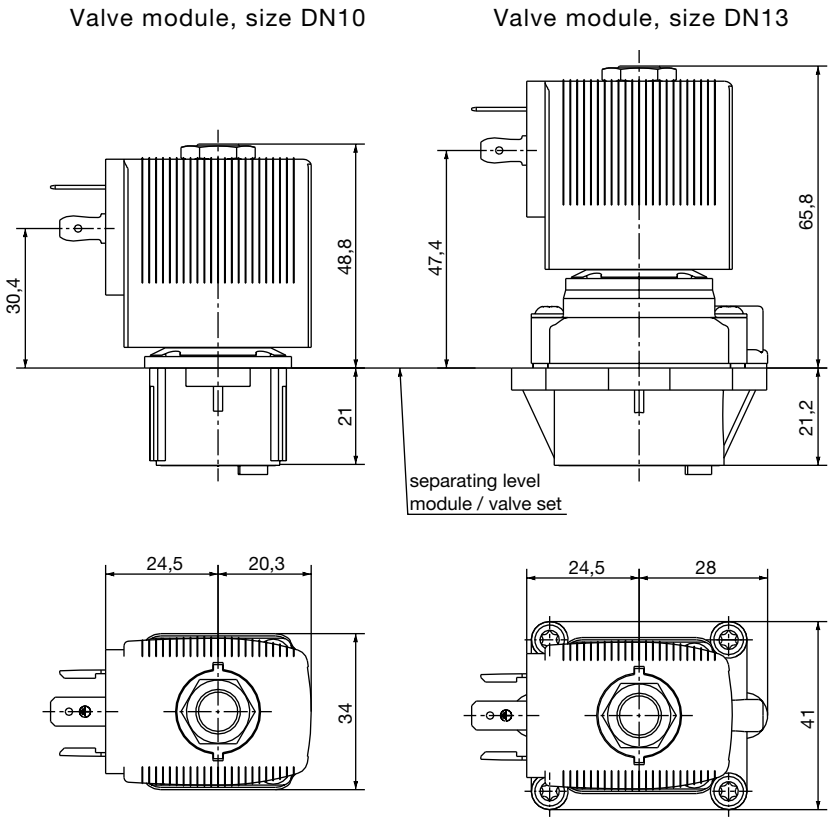
Dimensions on a block sample [mm] (without cable plug type 2508)



Dimensions of valve modules [mm] (without cable plug type 2508)



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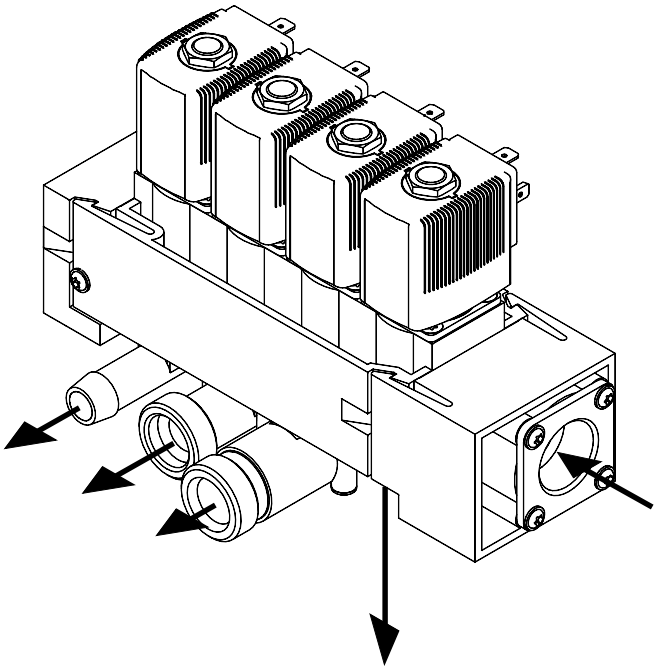
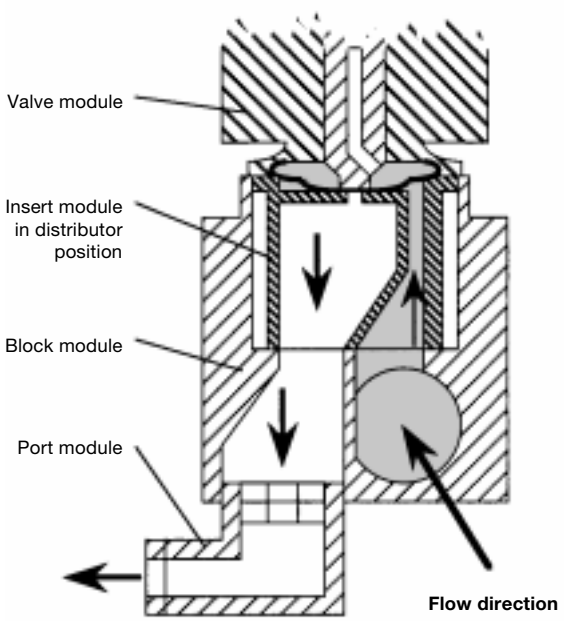
Operating modes

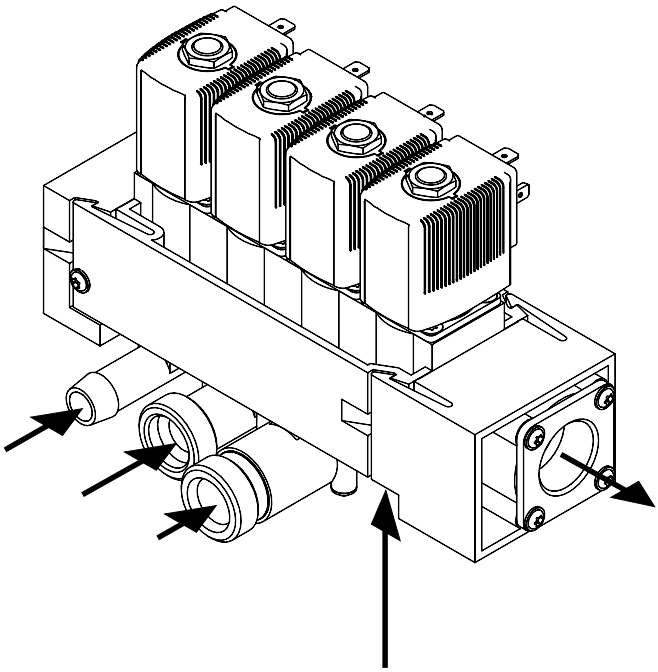
Distributor mode:



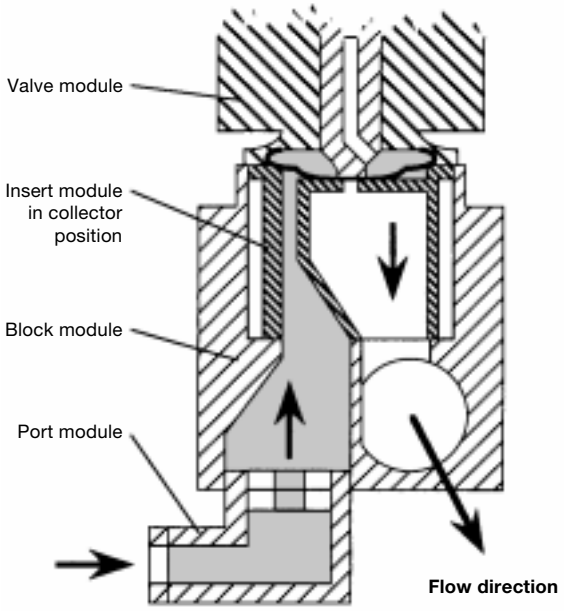
Distributor mode (scheme):



Collector mode:



Collector mode (scheme):



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Fax order form: Individual system configuration (max. 12 valves): **Part 1**

Select modules according specific application from right to left:

Mark: Voltage, Cable Plug, Block Modules, End Modules Left & Right, Port Modules	▶ **X**
Mark: Valve as **C**ollector Function	▶ **C**
Mark: Valve as **D**istributor Function	▶ **D**
Mark: **S**ensor Insert with (only block modules DN10 possible	▶ **S**
Mark: **B**lind plate	▶ **B**

Configuration number:	▶ .....
Quantity:	▶ .....

Voltage:

12 V/DC	
24 V/DC	
24 V/50 Hz	
110 V/50 Hz	
230 V/50 Hz	

Cable plug:

Standard	
with LED	
with LED and varistor	

End modules left:

Terminate	**G 3/4**	**G 1/2**

Block modules with valve modules

DN 10 - 2 valve space modules

DN 13 - 2 valve space modules

Any combination of mentioned space modules up to 12 valves per system possible

DN 10 - 3 valve space modules

DN 13 - 3 valve space modules

DN 10 - 4 valve space modules

End modules right:

G 1/2	**G 3/4**	**Terminate**

Port modules

Plug-on connection 13 mm												
External thread G 3/4												
External thread G 3/4 with check valve												
Internal threaded port G 3/8												

(with configuration left)

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Fax order form **Part 2**

Customer data

Name of company: _____

Department: _____

Street / No.: _____

City: _____

Postal code: _____

Country: _____

Name of contact person:

Name: _____ First name: _____

Telephone number: _____

Telefax number: _____

Signature: _____

Easy to order

Thank you very much for filling in our fax order form.

Please send part 1 and 2 of this order to your specific Burkert company by fax.
If you have any questions concerning this matter, please do not hesitate to contact us.

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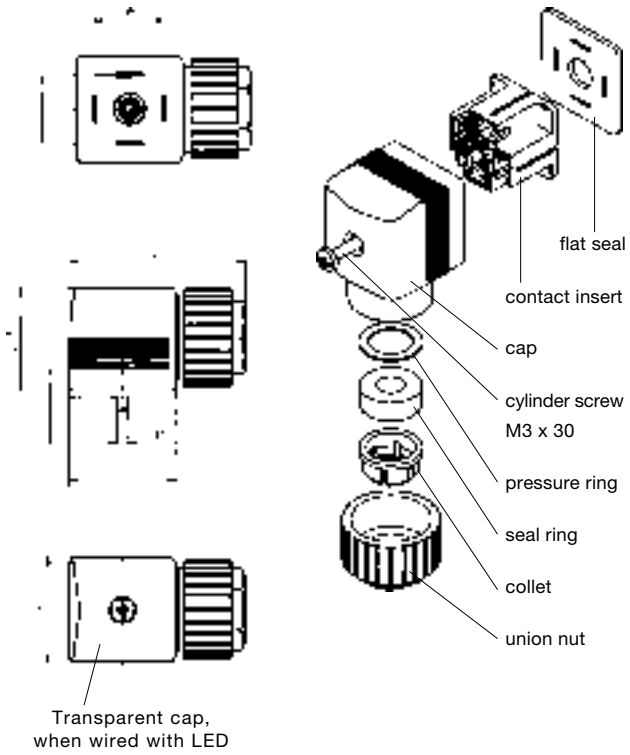
Dimensions accessories [mm]



Ordering chart accessories

Device / Accessory	Features	Item-No.
Cable plugs [1] type 2508	Standard cable plug, 0 – 250 V AC/DC (standard-delivery) [1]	008 376 N
	with LED, 12 – 24 V AC/DC	008 360 S
	with LED, 100 – 120 V AC/DC	008 361 P
	with LED and varistor, 12 – 24 V AC/DC	008 367 M
	with LED and varistor, 100 – 120 V AC/DC	008 368 W
	with LED and varistor, 200 – 240 V AC/DC	008 369 X
	(optional wirings and connection specifications see data sheet type 2508)	

[1] The standard cable plug (0 – 250 V AC/DC), Item-No. 008 376 N is part of the standard delivery.
Ordering of optional cable plugs with separate ordering number.

A wide selection of further cable plugs is available.
(see special data sheet type 2508)

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