

S29 1/4"

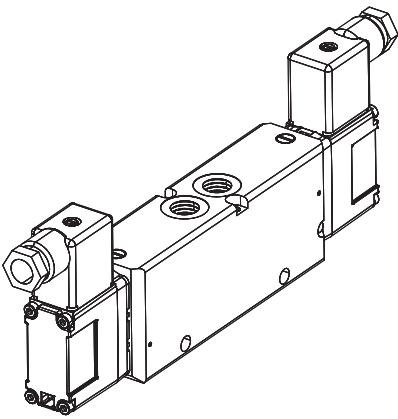
Piezo-controlled pneumatic valve
for intrinsically safe applications

Technical Data

EN MET



HOERBIGER



GENERAL PROPERTIES

S29 1/4"

GENERAL PROPERTIES

Type	S29 1/4"
Function	Switching 5/2; 5/3-way NC monostable; bistable overlapping
Actuation type	Piezoelectric pilot
Constructive structure	Gate valve
Manual override	Tactile; snapping
Connection type	Thread G 1/4"; Namur
Weight	See dimensions
Installation position	Any
Protection type	IP 65, DIN EN 60529/A1:2000 ¹⁾
Storage temperature	-40 °C to +80 °C
Ambient temperature ²⁾	-10 °C to +60 °C (-25 °C to +60 °C with pilot air pressure > 5.5 bar)
Medium temperature ²⁾	-10 °C to +60 °C (-25 °C to +60 °C with pilot air pressure > 5.5 bar)
Material	Anodized aluminium, aluminium teflon coated, brass, spring steel, plastic, elastomer, NBR, ARCAP, silicon
Behavior in case of energy failure	Monostable – port 4 exhaust; bistable – keep present position

¹⁾ With mounted connector plug and tight pneumatic connections

²⁾ For use below the freezing point, dried air is required (pressure dew point 10 K below ambient or medium temperature).

GENERAL PNEUMATIC PROPERTIES

Media ³⁾	Compressed air and neutral gases
Media quality	According to ISO 8573-1:2010 (7:3:4)
Flow direction on	See order number overview
Flow direction off	See order number overview
Approval acc. to EU Type test certificate	
Category, ignition type protection	Gas: II 1G Ex ia IIC T4/T5/T6 Ga Dust: II 2D Ex ia IIIB T125°C Db Mechanical S29 (basic valve): II 2G Ex h IIC T6/T5 Gb -10 °C ≤ T _a ≤ +40 °C/+60 °C

³⁾ Other media only after approval by the manufacturer

PNEUMATIC PROPERTIES

	S29 1/4" INTERNAL PILOT AIR	S29 1/4" EXTERNAL PILOT AIR
Nominal pressure (p _N)	6 bar	6 bar
Input pressure min (p1 _{min})	2.5 bar	0 bar ⁴⁾
Input pressure max (p1 _{max})	8 bar	8 bar
Nominal flow rate 1 to 2 (Q _N) ⁵⁾	≥ 1300 l/min	≥ 1300 l/min

⁴⁾ At p1 < 2.5 bar: p_{st} > 2.5 bar; at p1 2.5 ... 8.0 bar: p_{st} ≥ p1

⁵⁾ Measured at p1 = nominal pressure and pressure drop 1 bar

ELECTRICAL PROPERTIES

S29 1/4“

ELECTRICAL PROPERTIES

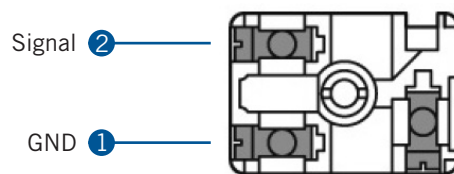
	PT63	PM64	PN61	PN65	PT67
Electrical connection	DIN EN 175301-803 Construction type B				
Nominal voltage (U_N)	9 V DC	16 V DC	30 V DC	30 V DC	9 V DC
Switching voltage ON (U_{on})	5.5 to 9 V DC	6 to 16 V DC	7 to 30 V DC	11 to 30 V DC	4.5 to 9 V DC
Switching voltage OFF (U_{off})	1 V DC				
Holding current ON (I_{on})	1 to 19 mA	1.7 to 23 mA	2 to 19 mA	2 to 6.6 mA	1 to 19 mA
Holding current OFF (I_{off})	0.05 mA	0.1 mA	0.22 mA	0.1 mA	0.05 mA
Power consumption min (P_{min})	5.5 mW	10 mW	14 mW	22 mW	4.5 mW
Power consumption max (P_{max})	171 mW	368 mW	571 mW	198 mW	171 mW
Safety data according to EU type test certificate					
Voltage (U_i)	9 mA	16 mA	30 mA	30 mA	9 mA
Current (I_i)	Not relevant				
External capacitance (C_i)	12 nF				
External inductance (L_i)	Negligible				

FORMULA TO CALCULATE THE ELECTRIC CURRENT

PT63	PM64	PN61	PN65	PT67
$I \text{ [mA]} = (U \times 5,14) - 27,27$	$I \text{ [mA]} = (U \times 2,13) - 11,08$	$I \text{ [mA]} = (U \times 0,74) - 3,17$	$I \text{ [mA]} = (U \times 0,245) - 0,75$	$I \text{ [mA]} = (U \times 4) - 17$

CLAMPS/CONNECTION BLOCK

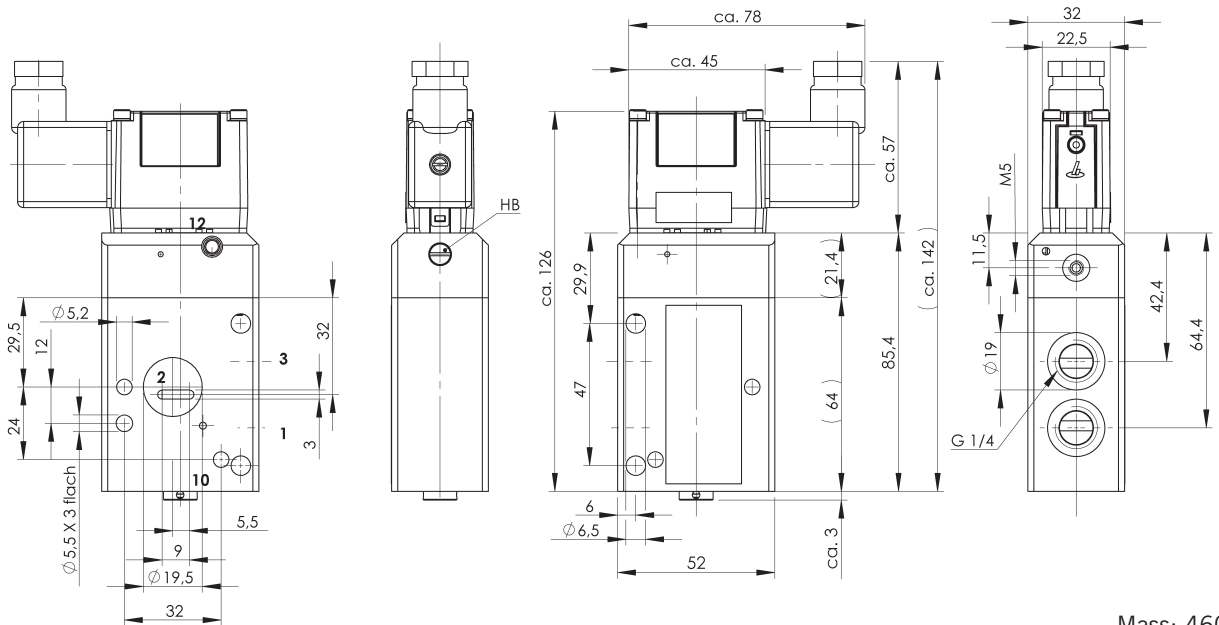
Connector	Plug connector to industrial form B; electrical connections 1=GND; 2=Signal
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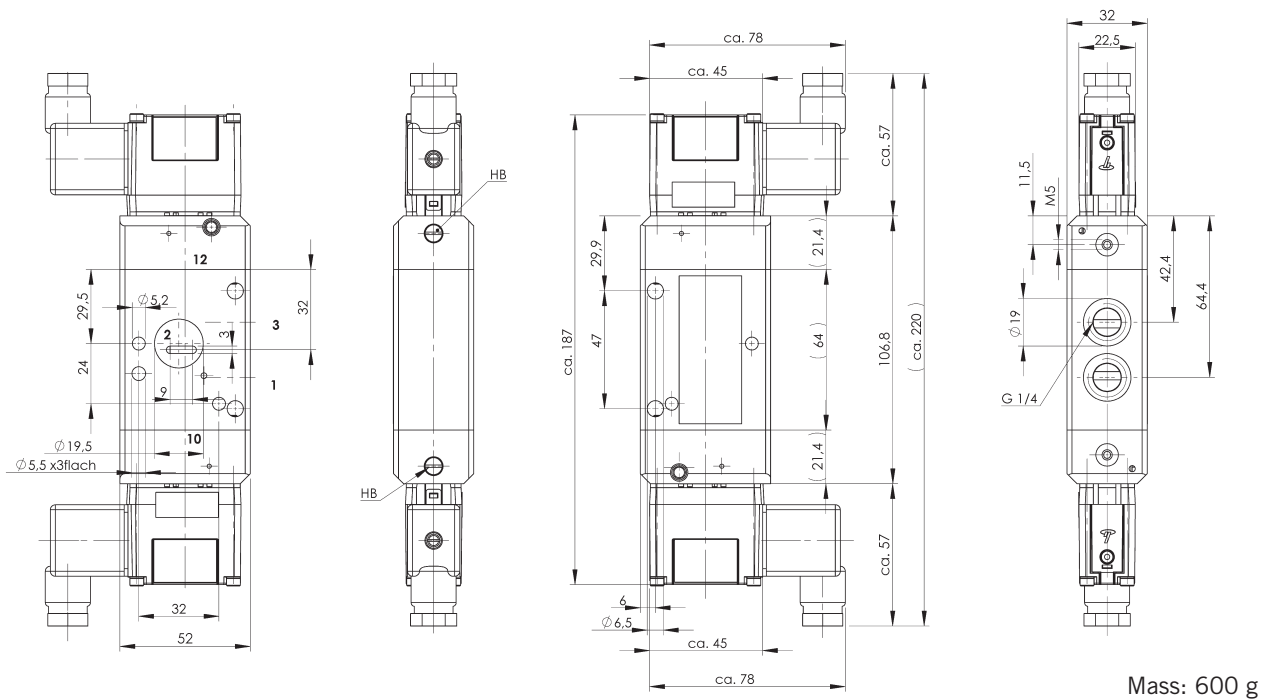
DIMENSIONS

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3/2-WAY MONOSTABLE



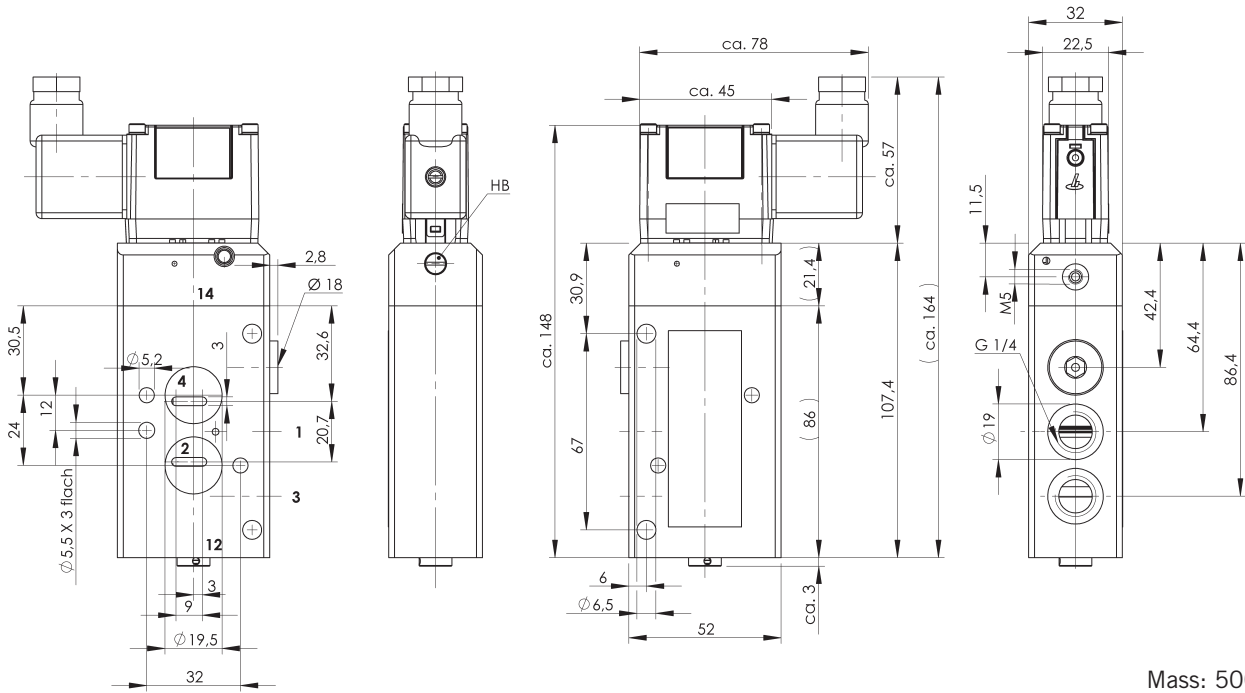
3/2-WAY BISTABLE



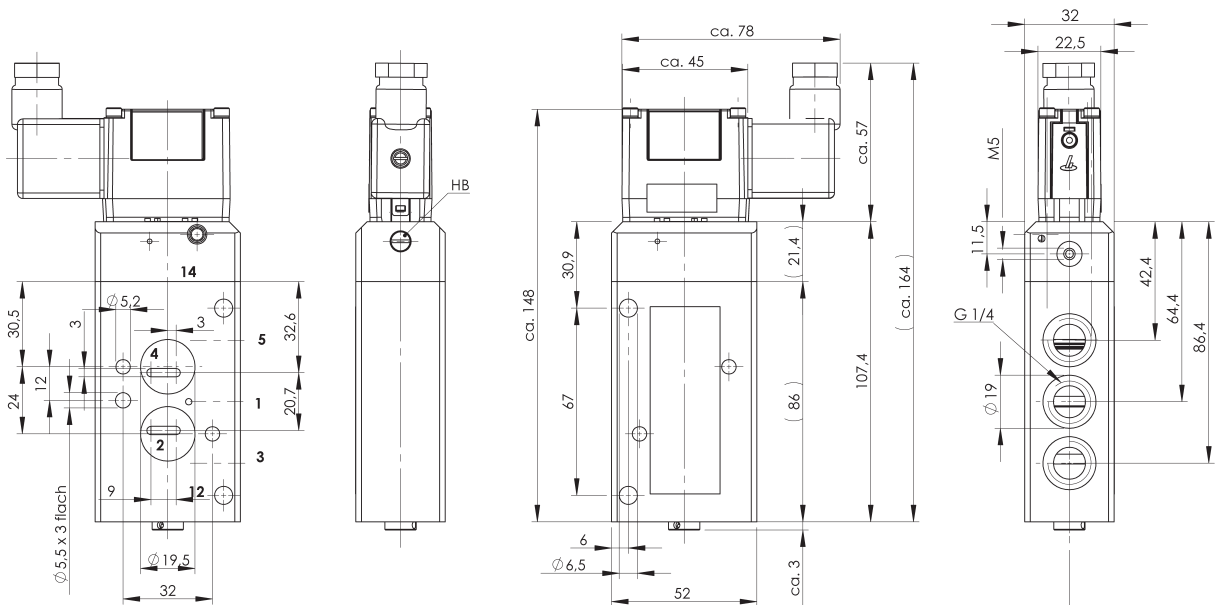
DIMENSIONS

S29 1/4"

4/2-WAY MONOSTABLE



5/2-WAY MONOSTABLE



ORDER KEY

S29 1/4"

TYPE NUMBER KEY

		1	2	3
TYPE NUMBER	S 2 9	x x x	6 x 6 x	x 0 x
Example	S 2 9	8 5 0	6 4 6 A	0 0 0

1 Device type + Valve type

850	3/2 monostable	
851	3/2 bistable	
852	3/2 monostable with ext. pilot pressure	
853	3/2 bistable with ext. pilot pressure	
854	4/2 monostable	
856	5/2 monostable	
857	5/2 bistable	
858	5/2 monostable with ext. pilot pressure	
859	5/2 bistable with ext. pilot pressure	

2 Type of electronic

616A	PN61 = 7 – 30 V DC
6A6C	PN61 = 7 – 30 V DC + LED
636A	PT63 = 5,5 – 9 V DC
646A	PM64 = 6 – 16 V DC
656A	PN65 = 11 – 30 V DC
676A	PN67 = 4,5 - 9 V DC

3 Kennzeichnung

000	Standard
S01	
S02	Sonderversionen, fortlaufend nummeriert
...	

CONVERSION FACTORS

S29 1/4"

CONVERSION FACTORS

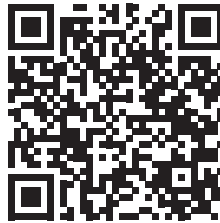
VALUE	UNIT	CONVERSION UNIT	FACTOR
Length	mm	in	0.03934
	in	mm	25.4
	m	ft	3.28084
	ft	m	0.3048
Weight	kg	lb	2.204622
	lb	kg	0.453592
Pressure	bar	psi	14.5035
	psi	bar	0.06895
	MPa	psi	145.035
	psi	MPa	0.006895
	bar	MPa	0.1
	MPa	bar	10
Temperature	°C	°F	$1.8 \text{ } ^\circ\text{C} + 32$
	°F	°C	$0.5556 \text{ } ^\circ\text{F} - 32$
Torque	Nm	ft/lbs	0.7375
	ft/lbs	Nm	1.3558

ADDITIONAL DOCUMENTATION

S29 1/4"

WWW.HOERBIGER.COM

This data sheet and additional documentation is available in the download area of the company's website.



www.hoerbiger.com

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