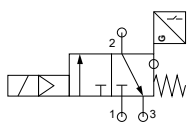


Supply and discharge valve single (VS)

Pneumatic symbol

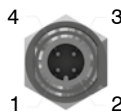


ATEX

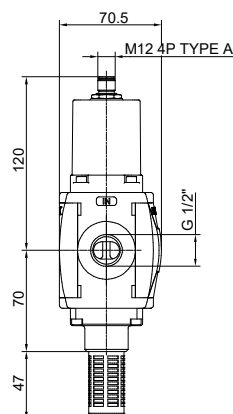
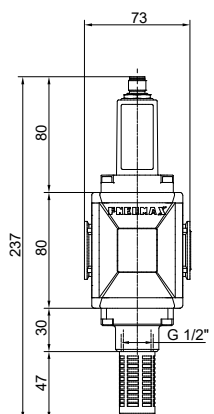
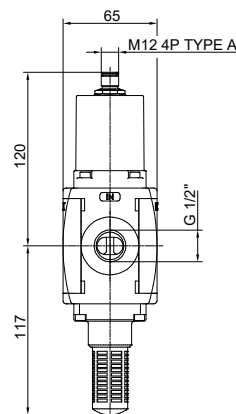
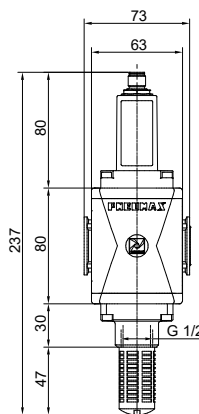
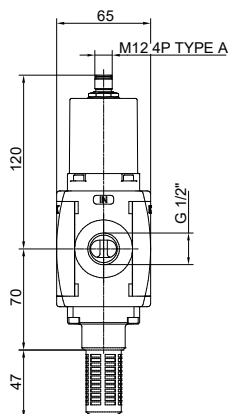
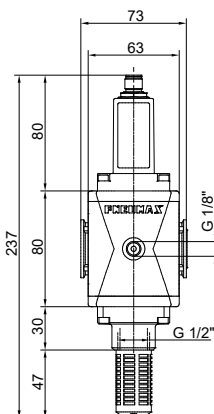
II 3G Ex nA IIC T6 Gc (X)

II 3D Ex tc IIIC T=80°C Dc (X) IP65

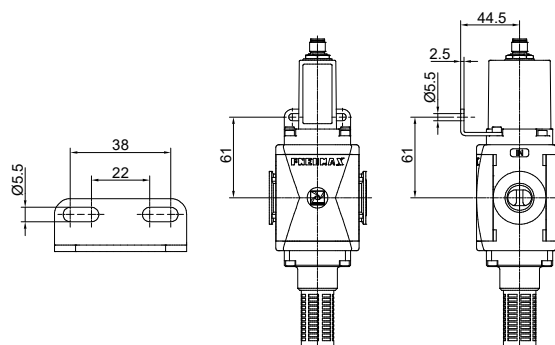
Electrical connection



PIN	Description
1	+24 VDC (Sensor)
2	+24 VDC (EV)
3	GND (Sensor+EV)
4	SENSOR OUTPUT



Dimensions with fixing bracket mounted



Electrical characteristics

Electrical connection	Male M12 4 PIN TYPE A connector
Coil Features	24 VDC, 1 Watt
Suppressor diode for coil reverse voltage spike	Present
Supply voltage allowance	-5% ... +10%

Electrical characteristics of sensor

Sensor characteristics	10 ... 30 VDC
Operating principle	Hall effect
Contact type	N.A.
Output type	PNP
Permanent maximum current	100 mA
Permanent maximum power	3 Watt
Voltage drop max.	2 V

Safety characteristics

Regulatory compliance	EN ISO 13849-1
Safety function fulfilled	Interruption of supply and unloading of the downstream pneumatic circuit
Performance Level (PL)	c
UNI EN 13849 category	2
Safety Integrity Level (SIL)	1
PFD _h	1,7*10 ⁻⁶
CE marking	In accordance with the EU Machinery Directive, annex V

Technical characteristics

Connections	G1/2" UNI-ISO 228/1
Fluid	Filtered air. No lubrication needed, if applied it shall be continuous.
Function	3/2 N.C. monostable
Minimum working pressure	2,5 bar
Maximum working pressure	10 bar
Working temperature	-10°C ... +50°C
Flow rate at 6bar Δp (from 1 to 2)	3500 NL/min
Flow rate at 6bar Δp (from 2 to 3)	2000 NL/min
Flow rate at 6bar (from 2 to 3) with free discharge	3800 NL/min
Type of installation	Stand alone
Assembly positions	Indifferent
Noise level	90 dB
Response time ON ISO 12238	36 ms
Response time OFF ISO 12238	76 ms
IP Rating	IP65 (with connector installed)

Ordering code

N173BVS00	
VERSIONS	
= Standard* (without connections)	
M	= Integrated pressure gauge
W	= Integrated pressure gauge (Right-Left)
G	= G1/8" pressure gauge connection
FIXING	
= Without fixing*	
01	= Fixing bracket mounted (Left-Right)
02	= Fixing bracket mounted (Right-Left)

* nessuna lettera aggiuntiva richiesta

Installation tip of a safety system by means of a single valve

Please note: the safety valve is not sufficient alone to guarantee the safety function. Its setup requires the use of a monitoring device.

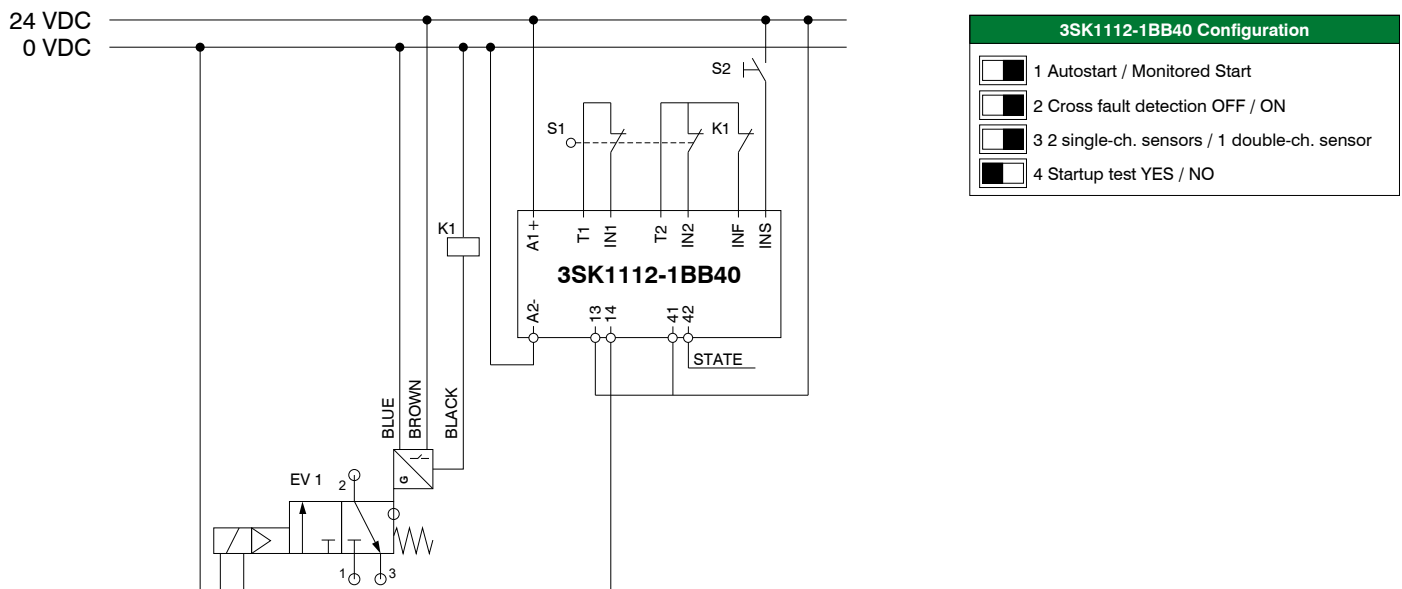
In this setup, the SIEMENS® 3SK1112-1BB40 monitoring device has been indicated, activated by an S2 start / reset pushbutton, blocked by an S1 emergency shutdown key. Said monitoring device, by means of the readings of the sensor placed inside the valve (reading made by means of the K1 relay), operates the activation of the valve itself. The monitoring device transmits the safety status as an output. The preliminary estimate and the final verification of the achieved PL are the responsibility of the designer of the part of the system dedicated to providing the safety function.

Note: with a single valve, it is not possible to obtain a PL greater than “c”.

Setup suggestions

- The double stop pushbutton is connected to clamps T1-IN1 and T2-IN2 of 3SK1112-1BB40.
- The start / reset pushbutton is connected between +24 V and the INS clamp of 3SK1112-1BB40.
- The valve is supplied between 0 V (Pin 3 of the supply connector) and the 14 clamp of 3SK1112-1BB40 (Pin 2 of the supply connector).
- The HALL effect sensor is supplied between 0 V (Pin 3 of the supply connector) and 24 V (Pin 1 of the supply connector).
- The HALL effect sensor drives (Pin 4 of the supply connector) the K1 relay, whose N.A. contact will be connected between the monitoring device's clamp T2 and INF.

The circuit diagram of the **suggested** configuration is provided, along with the configuration of 3SK1112-1BB40.



Analysis of malfunctions

The diagnostic system (monitoring device plus sensor) has the purpose of verifying the appearance of malfunctions within the valve that undermine the safety function. In particular, (with 3SK1112-1BB40 configured as in the illustration), the K1 relay prevents resetting the system by means of S2 when the coil is de-energised, but the sensor remains in the OFF position (K1 remains de-energised).