

Alfa Laval Automation unit DV-ST

Sensing and control

Introduction

The Alfa Laval Automation unit DV-ST is a pneumatic control and indication unit optimized for use with the Alfa Laval Unique DV-ST valve. Compact, durable and easy to clean, it is ideal for safe, reliable operation where space is limited. This automated control and indication unit provides real-time information about valve operating status 24/7 while boosting productivity and securing traceability.

Application

The Automation unit DV-ST is widely used with the Alfa Laval Unique DV-ST valve in hygienic applications across the dairy, food, beverage, biotechnology, pharmaceutical and many other industries.

Benefits

- Cost-effective digital device
- Safe, reliable operation
- Compact design
- Long service life
- Easy to clean

Standard design

The Alfa Laval Automation unit DV-ST consists of a transparent polycarbonate cap, a proven sensor system with light-emitting diodes (LEDs), solenoid valves, and sensor board for connection to any programmable logic controller (PLC) system with a digital interface.

Working principle

The indication pin mounted on the valve stem is used to locate the current valve position. The solenoid valves receive signals from the PLC system to activate or de-activate the air-operated valve. It then transmits feedback signals indicating up to two valve positions and valve condition back to the PLC system.



TECHNICAL DATA

Position feedback

2x initiator:	3 Wire PNP Inductive limit switch
2x initiator:	2 Wire NAMUR limit switch
Stroke range valve spindle	0.08 to 1.42 inch

Operating voltage

Solenoid valve:	24 VDC \pm 10%, 1W, residual ripple 10%
Inductive limit sensor:	10 to 30 VDC, max. 100mA per initiator
NAMUR limit switch:	8,2 VDC, max. 2,1 mA

Installation

As required, preferably with actuator in upright position

Protection type

IP65 and IP67 according to EN 60529, Type 4X

Protection class

3 acc. to DIN EN 61140

Conformity

EMC directive 2014/30/EU

Ignition protection

II 2G Ex ia IIC T4 Gb

Approval

cULus certificate no. E238179

Ignition protection	II 2G Ex ia IIC T4
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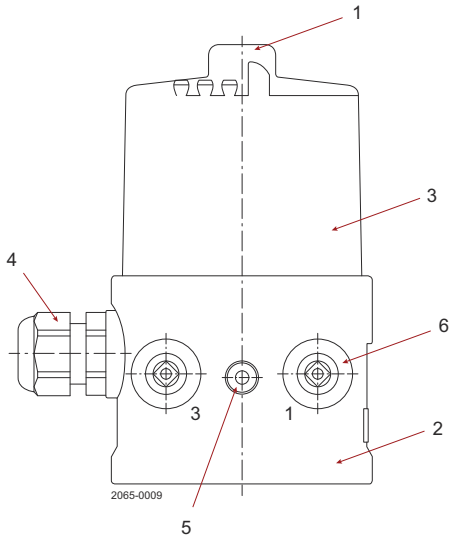
Electrical connection

Cable gland	M16 x 1,5 - Clamping area 0.16...0.31 inch
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PHYSICAL DATA

Material

1. Transparent cap	PC
2. Basic body	PPS
3. Sealing	EPDM
4. Cable gland	PA
5. Screws	Stainless steel
6. Push-in connector	POM / stainless steel
Threaded ports G1/8	Stainless steel



Air connectors

Push-in fitting for air hose $\varnothing 6$ mm and $\frac{1}{4}$ "

Control medium

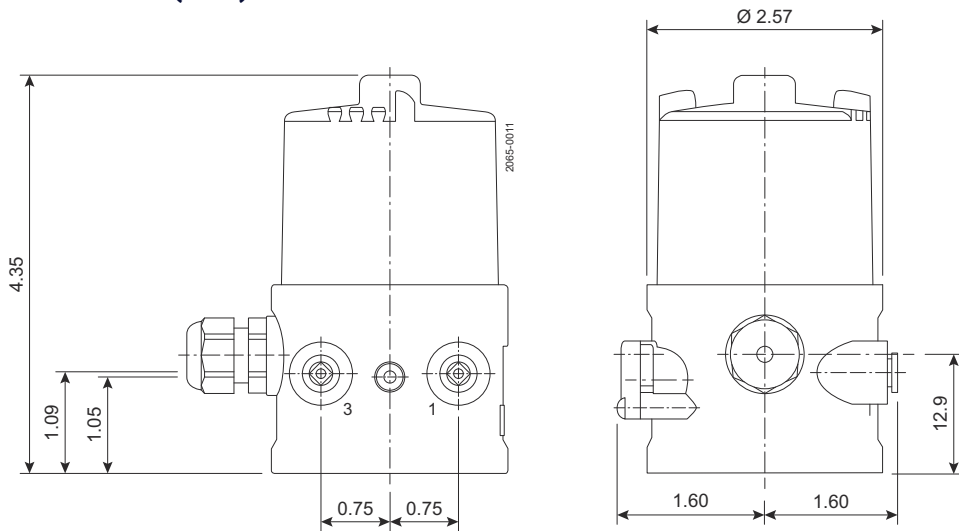
neutral gases, air, quality classes acc. to ISO 8573-1

Dust concentration	Class 7: max. particle size 1575 μm
Particle density	Class 5: max. particle density 6.24 pound/foot ³
Pressure condensation point	Class 3: max. -4 °F
Oil concentration	Class X: max. 1.56 pound/foot ³
Supply pressure	43.5 to 101.5 psi


Ambient temperature

ATEX version	-0 to +798 °F
With pilot valve	-145 to +798 °F
Without pilot valve	-290 to +870 °F

Dimensions (inch)

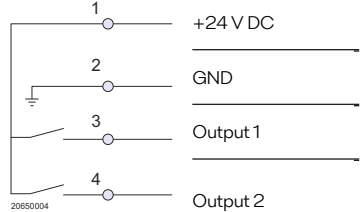
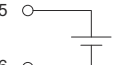
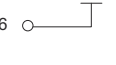



Electrical wire connection



Screw terminals

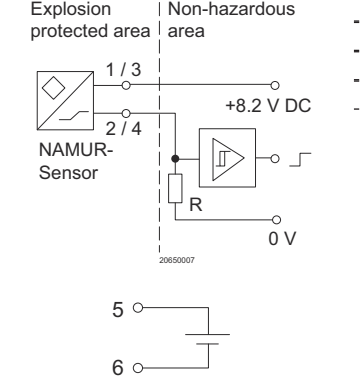


Terminal No

Terminal	Configuration	External circuit	
1	INI + (24 V DC) Supply		
2	INI GND Supply		
3	INI Top OUT Output 1		
4	INI Bottom OUT Output 2		
5	Valve control 0/24 V DC		0/24 V DC ±10%
6	Valve control GND		Residual ripple 10%



Screw terminals

Terminal No

Terminal	Configuration	External circuit	
1	INI Top +		
2	INI Top -		
3	INI Bottom +		
4	INI Bottom -		
5	Valve control +		
6	Valve control GND		

Explosion protected area | Non-hazardous area

NAMUR-Sensor

+8.2 V DC

0 V

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