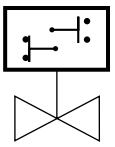
ASCO™ Signaling Unit, Flameproof Enclosure

IECEx/ATEX, II 2G Ex **db** IIC Gb / II 2D Ex **tb** IIIC Db IP66/IP67
Aluminium or stainless steel enclosure, for series 290 and 390 valves

Series **890**

Features and Benefits

- *Explosionproof signaling unit for use in potentially explosive atmospheres according to ATEX-Directive 2014/34/EU*
  EC type examination certificate no.: **LCIE 17 ATEX 3023 X**
  IECEx Certificate of Conformity no.: **IECEx LCIE 17.0035 X**
  UK type examination certificate no.: **CML 22UKEX1273X**
- *Compliance with the Essential Health and Safety Requirements has been assured by compliance with the International and European Standards EN-IEC 60079-0, EN-IEC 60079-1 and EN-IEC 60079-31*
- *Two integrated sensors for both end-of-travel position detections*
- *Easy electrical installation by means of a screw terminal*
- *Enclosure provided with a 1/2 NPT threaded entry hole (M20 x 1.5 in option) for a broad range of cable entries*
- *Ingress protection degree IP66/67*



Operation

At both end-of-travel positions (open and closed) of the valve stem, the signaling unit permanent magnet operates contacts which provide an electrical signal indicating that the end position is reached.

General

	REED switch sensor	Magneto-resistive sensor
Ambient temperature range	-40°C to +80°C (-40°F to 176°F)	-10°C to +60°C (14°F to 140°F)
Safety code	II 2G Ex db IIC T4 Gb II 2D Ex tb T135°C IIIC Db	II 2G Ex db IIC T6 Gb II 2D Ex tb T85°C IIIC Db
Degree of protection	IP66/IP67 (EN 60529)	IP66/IP67 (EN 60529)

Construction

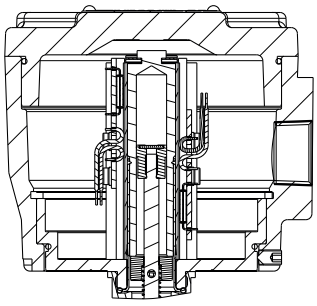
Body	Chromated aluminium, epoxy coated or stainless steel (AISI 316L)
Bonnet	Stainless steel (nickel plated)
Valve adaptor	Stainless steel
Tube	Stainless steel
Nameplate	Stainless steel
Connection	Embedded screw terminals
Fastener and screws	Stainless steel

Electrical characteristics (1)

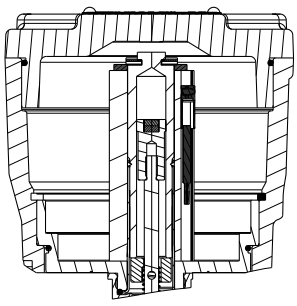
	REED switch sensor	Magneto-resistive sensor
Function	ON/OFF	ON/OFF
Max. breaking power	6 VA (AC/DC)	0.6 W
Switching voltage	AC/DC: 5 to 48 V max.	10 to 28 V DC
Max. switching current	100 mA	20 mA
Short-circuit protection	No	No
Reverse polarity protection	-	No
Wiring	2 wires /sensors	2 wires /sensors
Voltage drop	< 0.1 V	< 3.5 V
Surge suppression	-	Yes

Electrical connection	1 terminal block with 4 positions and ground connection Grip, cross section stranded wire: Minimum 0.14 mm² (25 AWG) Maximum 1.5 mm² (15 AWG) Wire strip length 5 mm (0.2 in)
Cable entry	Any ATEX approved cable entry device can be fitted in the 1/2" NPT threaded entry hole (M20 x 1.5 in option). Refer to the nameplate for identification of the maximum cable temperature

(1) Indicated values for one sensor.



Reed switch version



Magneto-resistive version

Certifications and Approvals

•RoHS compliance
•IECEx, ATEX
•ATEX Directive 2014/34/EU and EN/IEC 60079-0, EN/IEC 60079-31

ASCO™ Signaling Unit, Flameproof enclosure

Product selection guide

PRODUCT CODE

P	890	A	D	1	1	1	1	AT1	F1

Product series
890 = Signaling unit for air operated valves

Revision letter
A = Initial release

Enclosure type
D = Signaling unit - Flameproof enclosure

Sensor type
1 = REED switch
2 = Magneto-resistive switch

Enclosure type
1 = Aluminum enclosure - 1/2" NPT
2 = Aluminum enclosure - M20 x 150
3 = Stainless steel enclosure - 1/2" NPT
4 = Stainless steel enclosure - M20 x 150

Voltage
F1 = 24V DC
F9 = 5 to 48V AC/DC (1)

Options
AT1 = ATEX/IECEx 1/21 zones
125 = CUTR Certification (Ex 1/21 zones)
UK1 = UKCA Certification (Ex 1/21 zones)

Actuator type (290/390)
1 = Stainless steel actuator 63 mm
2 = Stainless steel actuator 90 mm
3 = Plastic actuator 63 mm
4 = Plastic actuator 90 mm
5 = Plastic actuator 125 mm

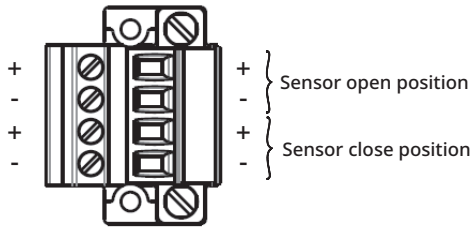
Valve Function
1 = 290 NC
2 = 290 NO
3 = 390 NC
4 = 390 NO

(1) With REED switch sensor type.

Installation

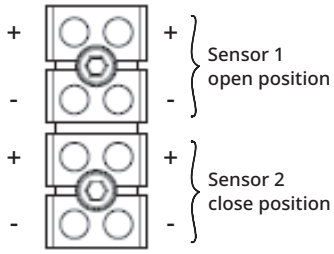
- The signaling box can be installed in any position
- Adjustable signaling box enables 360° access to cable gland
- Installation/maintenance instructions are included with each signaling box
- Electrical connection:

REED sensors adjustment

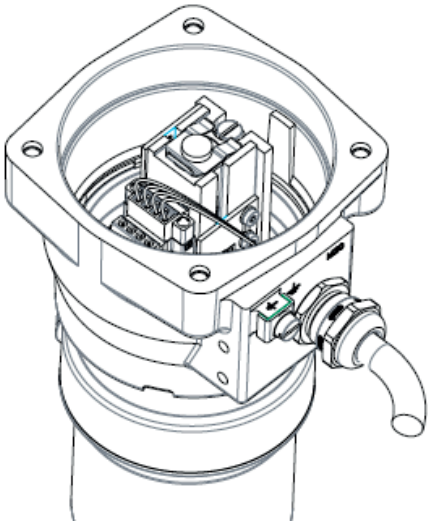


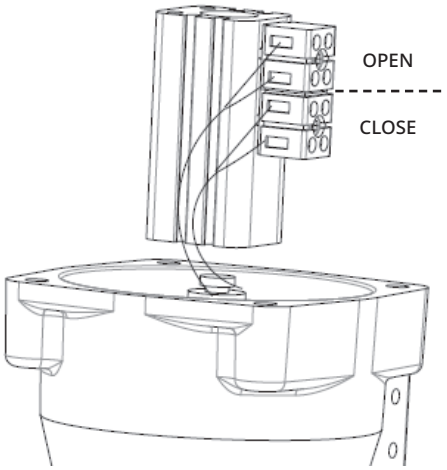
\+ Red
\- Black

MR sensors adjustment



\+ Brown
\- Blue

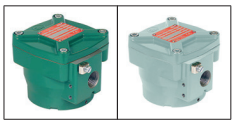




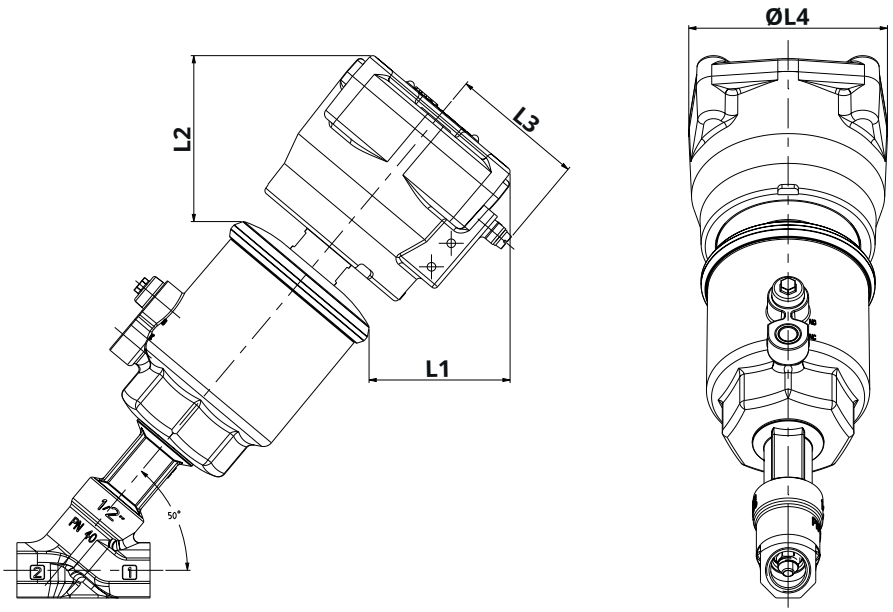
ASCO™ Signaling Unit, Flameproof enclosure

Dimensions mm (inches), **Weight** kg (Lbs)

Configurator - CAD Files



Angle seat valve - Plastic actuator
(with aluminium or stainless steel enclosure)



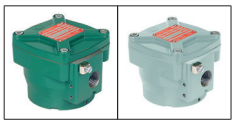
Weight (signaling box alone)		
Aluminium	Stainless steel	
1.4	2.7	kg
3.086	5.952	(Lbs)

Actuator diameter		Signaling unit, flameproof enclosure, mounted on plastic actuator			
		L1	L2	L3	ØL4
63 mm	mm	69	81	65	97
	(in)	2.717	3.189	2.559	3.819
90 mm	mm	58	73	65	97
	(in)	2.283	2.874	2.559	3.819
125 mm	mm	44.5	61.5	65	97
	(in)	1.752	2.421	2.559	3.819

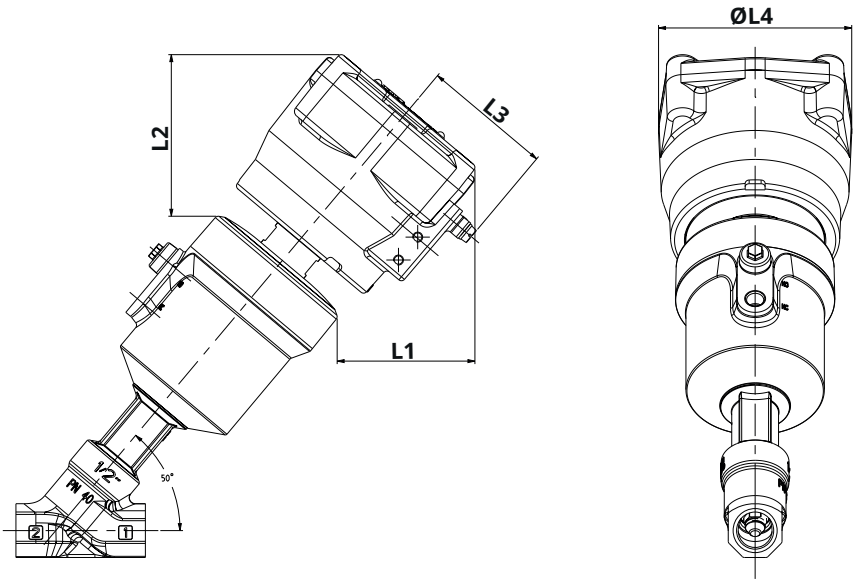
ASCO™ Signaling Unit, Flameproof enclosure

Dimensions mm (inches), **Weight** kg (Lbs)

Configurator - CAD Files



Angle seat valve - Stainless steel actuator (with aluminium or stainless steel enclosure)



Weight (signaling box alone)		
Aluminium	Stainless steel	
1.4	2.7	kg
3.086	5.952	(Lbs)

Actuator diameter		Signaling unit, flameproof enclosure, mounted on stainless steel actuator			
		L1	L2	L3	ØL4
63 mm	mm	69,5	81,5	65	97
	(in)	2.736	3.209	2.559	3.819
90 mm	mm	60	73,5	65	97
	(in)	2.262	2.894	2.559	3.819