

FEATURES

- Mini-low consumption valves (**0,5W**) for use in potentially explosive atmospheres according to ATEX-Directive 94/9/EC
N° EC type examination certificate: 12 V, **INERIS 03 ATEX 0249 X**
24 V, **INERIS 03 ATEX 0249 X/01**
- Compliance with the Essential Health and Safety Requirements of the ATEX-Directive has been assured by compliance with European Standards **EN 50014, EN 50020, EN 50281-1-1 and EN 50284**
- The valve's EEx ia protection allows it to be installed in zone 0 or 20 and in zones with a lower hazard rating in the chemical, oil and pharmaceutical industries, or in processing and packaging plants for flammable products (paints, solvents) etc.
- Compact, monobloc pilot valve with spade plug connection according to DIN 43650, industry standard B, with 9,4 mm pin spacing, or ISO 15217/DIN 43650 form C, 8 mm pin spacing, or with M12 connection (2 pins)
- Version with integrated display and electrical protection. LED visible from 3 sides.

GENERAL

Differential pressure	0 - 8 bar [1 bar = 100 kPa]
Pneumatic base	ISO 15218 (CNOMO E06.36.120N, size 15)
Connection	subbase
Response time	20 ms

fluids (*)	temperature range (TS)	seal materials (*)
air or inert gases filtered at 50µm, without condensate. Dew point: -20°C	- 10°C to + 40°C	NBR (nitrile) FPM (fluoroelastomer)

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified.

Body	PAA
Internal parts	POM, PET, stainless steel and brass
Seals	NBR, FPM
Pneumatic interface seal	TPE

OTHER MATERIALS

Coil	Thermoplastic PET
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ELECTRICAL CHARACTERISTICS

Coil insulation class	F	SAFETY CODE Ex II 1 G EEx ia IIC T6 to T4 II 1 D IP6X T 85°C to T 135°C
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Connector	Spade plug (cable Ø 4-6 mm) or M12
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Connector specification

size 15	ISO 15217/DIN 43650, 8 mm, form C, or DIN 43650, 9,4 mm, industry standard B
M12	IEC 60947-5-2 and CNOMO E03-62-520-N

Electrical safety

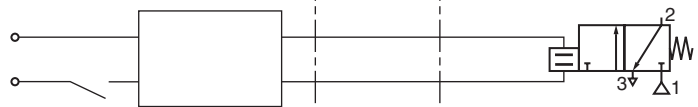
Electrical enclosure protection	Moulded IP65 (size 15), IP67 (M12) (EN 60529)
Standard voltage	DC (=) : 12V - 24V ⁽²⁾⁽⁴⁾

voltage (U _n) (maximum ripple 10%)	power rating (P _n) ^(*) hot/cold =	typical functional ratings					ambient temperature range (TS)	type ⁽³⁾
		I _{(ON) min.} with LED	U _{(ON) min.}	U _{(MAX) recom-} mended	U _{(OFF) turn off}	I _{(OFF) turn off}		
(V)	(W)	(mA)	(V)	(V)	(V)	(mA)	(°C) ⁽¹⁾	
LP1 "12V"	0,5	33	11,9	23	3,3	10	-10 to +50	01-02
LP1 "24V"	0,5	25	16,4	28	5,7	7		

^(*) Nominal power ratings with LED indicator and electrical protection.

P _n	safety parameters				
	U _i = (DC)	I _i	P _i	L _i	C _i
(W)	(V)	(mA)	(W)	(µF)	(mH)
0,5	28	300	1,6	0	0

Example of use with a Zener barrier installed in a non-hazardous zone:
safe area (RS interface) cable explosive area



TEMPERATURE CLASSIFICATION TABLE DC (=)

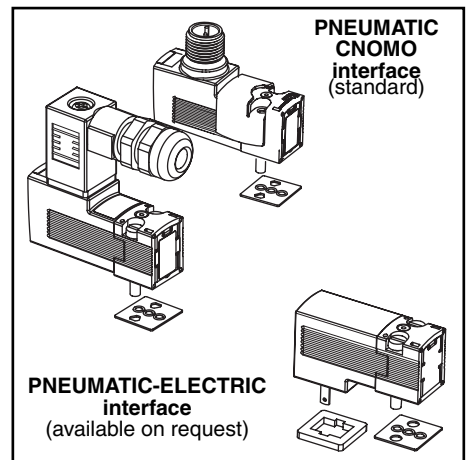
Pi (watt)	maximum ambient °C ⁽¹⁾						insulation class F (155°C) 100% E.D. ⁽²⁾	single solenoid valve
	surface temperature							
	T6 85°C		T5 100°C		T4 135°C			
	12V	24V	12V	24V	12V	24V		
1,6	40	40	50	60	60	60	solenoid valve mounted in series	
	-	-	-	50	50	50		

⁽¹⁾ Minimum ambient temperature: -10°C

⁽²⁾ Coil designed for permanent duty within maximum ambient temperature limits. The solenoid valve must be connected to a special certified electrical supply unit installed in a non-dangerous zone. List of safety barrier manufacturers on the following page.

⁽³⁾ Refer to the dimensional drawings on the page 3.

⁽⁴⁾ 24V DC: For version with connector according to DIN 43650, 9,4 mm, industry standard B.



SPECIFICATION

pipe size (mm)	flow				operating pressure differential (bar)		power coil (W)	basic catalogue number
	at 6 bar l/min (ANR)		coefficient Kv		min.	max. (PS)		manual operator impulse-type
	1 → 2	2 → 3	1 → 2	2 → 3			(=)	=
3/2 NC - normally closed								
0,6	11	20	0,21	0,44	0	8	0,5	3021x106IAD

When ordering, please specify in addition to the basic catalogue number:
- voltage, 12 V DC or 24 V DC ⁽¹⁾

Examples : with connector M12 (straight): **30212106IAD** 12V DC
 with connector ISO 15217, 8 mm : **30214106IAD** 12V DC
 with connector DIN 43650, 9,4 mm : **30215106IAD** 12V DC
 with connector DIN 43650, 9,4 mm : **30215106IAD** 24V DC

⁽¹⁾ 24V DC: For version with connector according to DIN 43650, 9,4 mm, industry standard B.

x	
2	connection M12 + LED and protection
4	connection ISO 15217/DIN 43650, 8 mm, form C + LED and protection
5	connection DIN 43650, 9,4 mm, industry standard B + LED and protection

OPTIONS

- Solenoid valves without LED and electrical protection

INSTALLATION

- Instructions d'installation/maintenance sont incluses avec chaque électrovanne
- The solenoid valve can be installed in any position
- Solenoid valve supplied with mounting screws and mounting pad seal(s)
- Electrical connection between solenoid valve and barrier/interface with cable type A or B according to EN 50039
- Installation on single subbase (3 x M5), brass body, catalogue number **30300001**
- Installation/maintenance instructions are included with each valve

See the list below for compatible interfaces and barriers.

This list is for reference only and the user must take into account the cables and the actual supply voltages for the barriers.

The operating conditions are calculated as follows:

12 V or 24 V with LED :

$$I_1 \text{ (mA)} = \frac{[V_s - 1,2 - 0,003 (R_b + R_1)] \times 1000}{(R_c + R_1 + R_b)} + 3$$

This value (I_1) and the maximum barrier/interface current (if it is non-linear) must be greater than 33 mA (12 V with LED), 25 mA (24 V with LED).

I_1 (mA) Min. supply current of the product

R_b (Ω) Max. barrier resistance

T_a (°C) Max. ambient temperature

R_1 (Ω) Max. resistance of connecting cables

V_s (V) Min. no-load voltage of barrier/interface

R_c (Ω) Max. coil resistance:

$$12 \text{ V with LED} = \frac{288 (T_a + 234 + 10)}{254} \quad / \quad 24 \text{ V with LED} = \frac{563 (T_a + 234 + 10)}{254}$$

COMPATIBLE BARRIERS AND INTERFACES

The 12 V DC and 24 V DC solenoid valves are compatible with the barriers listed in the table below. The index ⁽¹⁾ indicated the 12 V DC versions that are compatible with the 24 V DC barriers.

Located in safe areas, these barriers and interfaces allow to feed the intrinsically safe solenoid valves located in explosive areas. This equipment must be ordered from its respective manufacturers, specifying that they are intended to feed intrinsically safe solenoid valves 3021....IA., II 1GD EEx ia IIC T6 to T4 IP6X.

INTERFACES				
manufacturer	module type	302 EEx ia IIC		
		12 V with LED	24 V with LED	
ABB	DO910S	x	x	
AP3	NAEV30-DO2C-A230-0	x		
	NAEV30-DO2C-A115-0	x		
	NAEV30-DO2H-C024-0	x		
	NAEV30-DO4H-C024-0	x		
	NAEV30-DI2-DO1C-A230-0	x		
	NAEV30-DI2-DO1C-A115-0	x		
	NAEV30-DI2-DO1H-C024-0	x		
Bartec	07-7331-2105/1000	x		
	07-7331-2301/1100	x		
CEAG	LB-2101			
	LB-2103			
	LB-2105	x		
	LB-2112	x	x	
	FB-2201			
	FB-2203	x		
	FB-2205	x		
G.M. international	D1040Q-2	x		
	D1042Q-2	x	x	
	D1043Q-2	x		
MTL	815-DO-04	x	x	
	4021S	x		
Pepperl + Fuchs	KFD2-SD-Ex1.17	x		
	KFD2-SD-Ex1.36	x	x	
	KFD2-SD-Ex1.48	x ⁽¹⁾		
	KFD2-SD-Ex1.48.90A	x ⁽¹⁾		
	KFD2-SL-Ex1.48	x ⁽¹⁾		
	KFD2-SL-Ex1.48.90A	x ⁽¹⁾		
	KFD2-SL2-Ex1	x ⁽¹⁾	x	
	KFD2-SL2-Ex1.B	x ⁽¹⁾	x	
	KFD2-SL2-Ex1.LK	x ⁽¹⁾	x	
	KFD2-SL2-Ex2	x ⁽¹⁾	x	
	KFD2-SL2-Ex2.B	x ⁽¹⁾	x	
	KFD2-VD-Ex1.1560	x		
Stahl	KFD2-VD-Ex1.1835	x	x	
	9475/12-04-11	x		
	9475/12-04-21	x	x	
Turck	9475/12-04-31	x		
	MK72-S01-Ex	x		
	MK72-S09-Ex0/24VDC	x		
	MK72-S10-Ex0/24VDC	x		
	MC72-41Ex-T/24VDC	x		
	MC72-42Ex-T/24VDC		x	
Siemens	MC72-44Ex-T	x		
	MC72-43Ex-T		x	
	ET200IS double	x	x	
	6ES7132-7RD20-OAB0	x		

Not compatible

⁽¹⁾ Compatible with 24 V DC

ZENER BARRIERS				
manufacturer	module type	302 EEx ia IIC		
		12 V with LED	24 V with LED	
CEAG	SB-3722	x		
	SB-0722			
	SB-2420	x	x	
	SB-3729	x	x	
	SB-3728	x	x	
	SB-0728	x		
MTL	MTL 722	x		
	MTL 728	x	x	
	MTL 728P	x	x	
Pepperl + Fuchs	MTL 779	x	x	
	Z728	x	x	
	Z728.H	x	x	
Stahl	Z728.CL	x	x	
	9001/01-199-150-101	x		
	9001/01-280-075-101			
	9001/01-280-085-101	x	x	
	9001/01-280-100-101	x	x	
EMERSON	9001/01-280-110-101	x	x	
	DELTA V		x	

For other compatible barriers and interfaces, please ask our product support.

In accordance with the zone classification and the national legislation of each country, apply the certification procedures for the connection of IS-rated products with associated equipment.

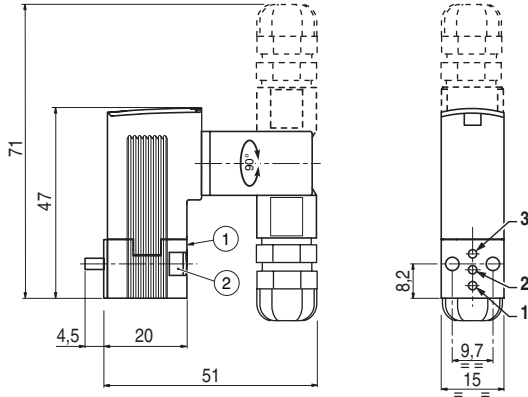
All information subject to change without notice. All responsibility for the use of products from other suppliers and the possible modifications of their characteristics is disclaimed.

DIMENSIONS (mm), WEIGHT (kg)

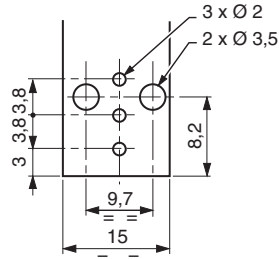


TYPE 01

Epoxy moulded
IEC 335 / DIN 43650
EN 50020
IP65 / II 1 GD EEx ia IIC T6 to T4



Pneumatic base: ISO 15218
(CNOMO E06.36.120N, size 15)



TYPE 02

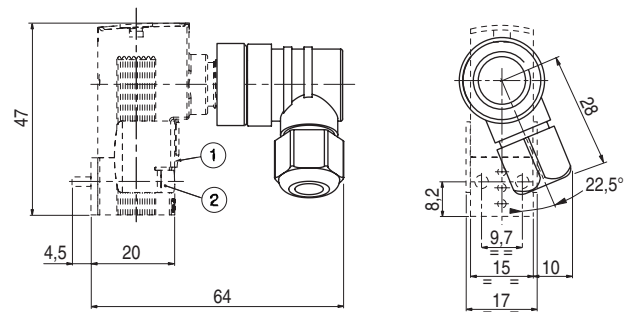
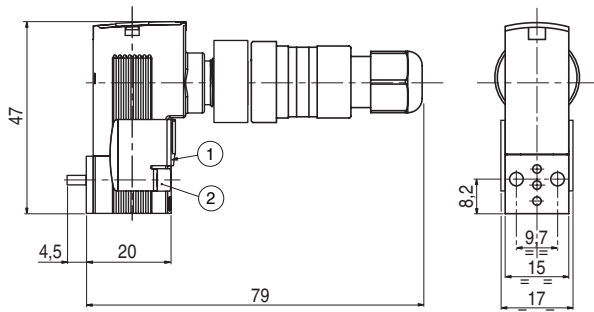
Epoxy moulded
IEC 335 / M12
EN 50020
IP67 / II 1 GD EEx ia IIC T6 to T4



RIGHT-ANGLE M12 CONNECTOR

Mounted on type 02
IP67

88130222



type	weight ⁽¹⁾
01	0,052
02	0,074
type 02 with right-angle connector	0,074

- ① Manual operator
- ② Mounting: 2 screws M3 x 20

⁽¹⁾ Including connector.