

FEATURES

- Mini-low power consumption valves (0,5W) for use in potentially explosive atmospheres according to ATEX-Directive 94/9/EC
- EC type examination certificate: 12 V (INERIS 03 ATEX 0249 X) and 24 V (INERIS 03 ATEX 0249 X/01) is in compliance with the 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	PAM
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 II 1G EEx ia IIC T6 to T4 II 1D 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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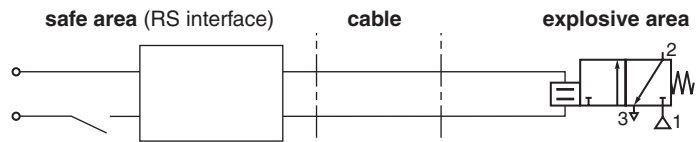
Connector specification	size 15	ISO 15217/DIN 43650, 8 mm, form C, or DIN 43650, 9,4 mm, industry standard B IEC 60947-5-2 and CNOMO E03-62-520-N
	M12	IEC 335

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

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)	(V)	(W)	(V)	(mA)
0,5	28	300	1,6	0	0



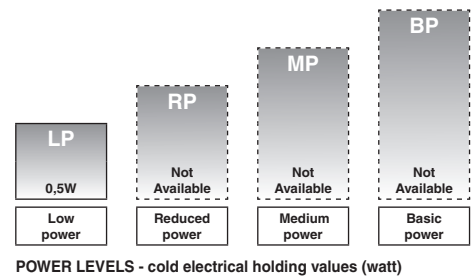
TEMPERATURE CLASSIFICATION TABLE DC (=)

P _n (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		
0,5	40	40	50	60	60	60	solenoid valve mounted in series	
	-	-	-	-	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 page 3.

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



POWER LEVELS - cold electrical holding values (watt)

SPECIFICATION

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

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

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

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

- The solenoid valve can be installed in any position without affecting operation
- 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 1 GD EEx ia IIC T6 to T4 IP6X.

INTERFACES			
Manufacturer ⁽¹⁾	Module Type	302 - EEx ia IIC 12V with LED	302 - EEx ia IIC 24V with LED
ABB	DO910S	X	X
AP3	NAEV30-DO2C-A230-0	X	
AP3	NAEV30-DO2C-A115-0	X	
AP3	NAEV30-DO2H-C024-0	X	
AP3	NAEV30-DO4H-C024-0	X	
AP3	NAEV30-DI2-DO1C-A230-0	X	
AP3	NAEV30-DI2-DO1C-A115-0	X	
AP3	NAEV30-DI2-DO1H-C024-0	X	
Bartec	07-7331-2105/1000	X	
Bartec	07-7331-2301/1100	X	
CEAG	LB-2105	X	
CEAG	LB-2112	X	X
CEAG	FB-2203	X	
CEAG	FB-2205	X	
CEAG	FB-2212	X	X
G.M. international	D1040Q-2	X	
G.M. international	D1042Q-2	X	X
G.M. international	D1043Q-2	X	
MTL	815-DO-04	X	X
MTL	4021S	X	
Pepperl & Fuchs	KFD2-SD-Ex1.17	X	
Pepperl & Fuchs	KFD2-SD-Ex1.36	X	X
Pepperl & Fuchs	KFD2-SD-Ex1.48	X ⁽²⁾	
Pepperl & Fuchs	KFD2-SD-Ex1.48.90A	X ⁽²⁾	
Pepperl & Fuchs	KFD2-SL-Ex1.48	X ⁽²⁾	
Pepperl & Fuchs	KFD2-SL-Ex1.48.90A	X ⁽²⁾	
Pepperl & Fuchs	KFD2-SL2-Ex1	X ⁽²⁾	X
Pepperl & Fuchs	KFD2-SL2-Ex1.B	X ⁽²⁾	X
Pepperl & Fuchs	KFD2-SL2-Ex1.LK	X ⁽²⁾	X
Pepperl & Fuchs	KFD2-SL2-Ex2	X ⁽²⁾	X
Pepperl & Fuchs	KFD2-SL2-Ex2.B	X ⁽²⁾	X
Pepperl & Fuchs	KFD2-VD-Ex1.1560	X	
Pepperl & Fuchs	KFD2-VD-Ex1.1835	X	X
R. STAHL	9475/12-04-11	X	
R. STAHL	9475/12-04-21	X	X
R. STAHL	9475/12-04-31	X	
Siemens	ET200IS double	X	X
Siemens	6ES7132-7RD20-OAB0	X	
Turck	MK72-S01-Ex	X	
Turck	MK72-S09-Ex0/24VDC	X	
Turck	MK72-S10-Ex0/24VDC	X	
Turck	MC72-41Ex-T/24VDC	X	
Turck	MC72-42Ex-T/24VDC		X
Turck	MC72-44Ex-T	X	
Turck	MC72-43Ex-T		X

ZENER BARRIERS			
Manufacturer ⁽¹⁾	Module Type	302 - EEx ia IIC 12V with LED	302 - EEx ia IIC 24V with LED
CEAG	SB-3722	X	
CEAG	SB-2420	X	X
CEAG	SB-3729	X	X
CEAG	SB-3728	X	X
CEAG	SB-0728	X	
MTL	MTL 722	X	
MTL	MTL 728	X	X
MTL	MTL 728P	X	X
MTL	MTL 779	X	X
Pepperl & Fuchs	Z728	X	X
Pepperl & Fuchs	Z728.H	X	X
Pepperl & Fuchs	Z728.CL	X	X
R. STAHL	9001/01-199-150-101	X	
R. STAHL	9001/01-280-085-101	X	X
R. STAHL	9001/01-280-100-101	X	X
R. STAHL	9001/01-280-110-101	X	X
EMERSON	DELTA V		X

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

⁽¹⁾ 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.

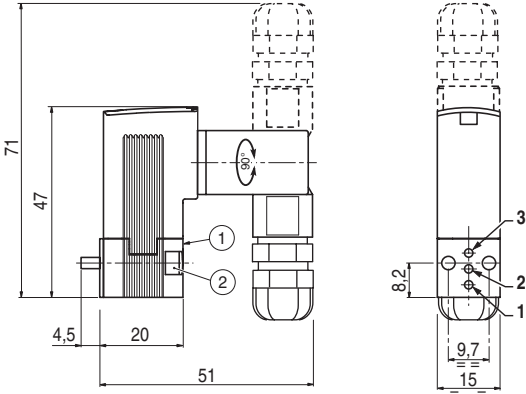
⁽²⁾ Compatible with **24 V DC**

We reserve the right to modify information without notice and decline any responsibility for the use of products from other suppliers and the possible modifications of their characteristics.

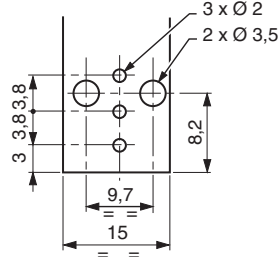
DIMENSIONS (mm), WEIGHT (kg)



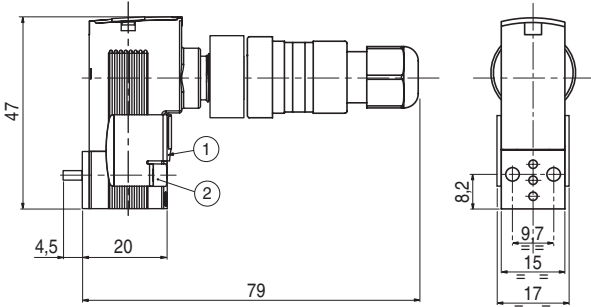
TYPE 01: Prefixes CFSCIS and CFSDIS: II 1 GD EEx ia IIC, IP65
 Low power
 302 pilot, Polyarylamide
 IEC 335 / DIN 43650 or ISO 15217
 Connector + LED and protection
 EN50020 and EN 50281-1-1



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

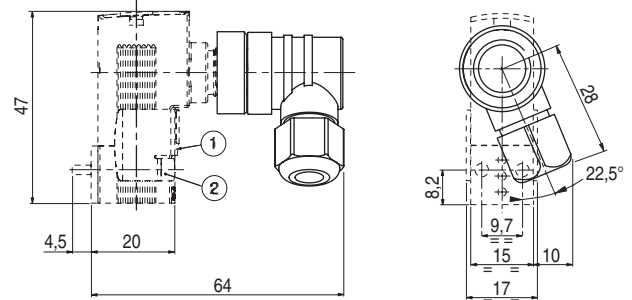


TYPE 02: Prefix CFVTIS: II 1 GD EEx ia IIC, IP67
 Low power
 302 pilot, Polyarylamide
 M12 connector (straight) + LED and protection
 EN50020 and EN 50281-1-1



TYPE 03: Right-angle M12 connector IP67
 Mounted on TYPE 02

88130222



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

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

⁽¹⁾ Including connector.

DRAWINGS

