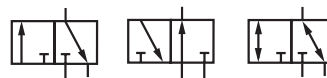


Working from 0 bar up
Short switching times
Suited for fine vacuum down to $1,33 \cdot 10^{-2}$ mbar
For a.c. solenoid systems with integrated rectifier (40 ... 60 Hz)
These solenoid valves are applicable in Ex protection class ATEX (categories II 2 GD and II 3 GD) and other international approvals



Approval depends on magnetic system, see pages 3 to 7!



Technical features

Medium:

For neutral gaseous and liquid fluids (with contaminated fluids, upstream installation of a dirt trap is recommended)

Operation:

Direct solenoid operated poppet valves

Mounting position:

Optional, preferably with solenoid on top

Orifice:

2 ... 5 mm

Port size:

G 1/4, 1/4 NPT

Operating pressure:

0 ... 18 bar

Fluid/Ambient temperature:

-25... +80°C (NBR)
-10...+120°C (FKM) - Water +95°C
-40... +140°C (EPDM)
-10...+140°C (FFKM)
Depending on solenoid system and seal materials
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials:

Housing: brass 2.0401 (Ms 58)
Seals: NBR (Perbunan), others see option selector
Inner parts: stainless steel 1.4104 (430 F) brass 2.0401 (Ms 58)

Further versions

For temperatures from -40 ... +180°C;
Seat seal FKM, EPDM, FFKM
Assembled oil and grease-free

Technical data

Switching function: Normally closed

Symbol	Port size	Orifice (mm)	Operating pressure (bar) min.		Flow (l/min)		Weight without solenoid (kg)	Dimension No.	Solenoid group *2)	Model *1)
				max.						
	G 1/4	2	0	10	120	0,32	1	13B	9600210	
	1/4 NPT	2	0	10	120	0,32	1	13B	9603210	
	G 1/4	2	0	18	120	0,52	1	13D	9600240	
	G 1/4	3	0	6	200	0,32	1	13C	9600320	
	1/4 NPT	3	0	6	200	0,32	1	13C	9603320	
	G 1/4	3	0	14	200	0,52	1	13D	9600340	
	1/4 NPT	3	0	14	200	0,52	1	13D	9603340	
	G 1/4	4	0	8	350	0,52	2	16C	9601430	
	1/4 NPT	4	0	8	350	0,52	2	16C	9604430	
	G 1/4	4	0	10	350	0,52	1	16D	9601440	
G 1/4	5	0	7	450	0,52	2	16D	9601540		

Switching function: Normally open

Symbol	Port size	Orifice (mm)	Operating pressure (bar) min.		Flow (l/min)		Weight without solenoid (kg)	Dimension No.	Solenoid group *2)	Model *1)
				max.						
	G 1/4	2	0	9	100	0,5	3	13B	9602210	
	1/4 NPT	2	0	9	100	0,5	3	13B	9605210	
	G 1/4	3	0	9	160	0,7	3	13D	9602340	
	1/4 NPT	3	0	9	160	0,7	3	13D	9605340	
	G 1/4	4	0	6	300	0,7	3	16D	9602440	
	1/4 NPT	4	0	6	300	0,7	3	16D	9605440	

Switching function: supply port 1, 2 or 3

Symbol	Port size	Orifice (mm)	Operating pressure (bar) min.		Flow (l/min)		Weight without solenoid (kg)	Dimension No.	Solenoid group *2)	Model *1)
				max.						
	G 1/4	2	0	7	120	0,32	1	13D	9600210	
	1/4 NPT	2	0	7	120	0,32	1	13D	9603210	

*1) When ordering please indicate solenoid, voltage and current type (frequency).

*2) Technical data and ordering information see following pages.

Solenoid operators, solenoids group 13B

	Power consumption		Rated current		Ex-Protection	Protection	Temperature	Electrical connection	Weight	Dimension	Circuit	Model
	24 V d.c.	230 V a.c.	24 V d.c.	230 V a.c.	(ATEX-Category)	class *7)	Ambient/ Fluid (°C)		(kg)	No.	diagram	
	[W]	[VA]	[mA]	[mA]							No.	
	8,0	-	331	-	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803, Form A *6)	0,15	1	1	0246
	-	9,2	-	40	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803, Form A *6)	0,16	2	7	3206
	8,0	-	331	-	II3G II3D	Ex nA II T4 Ex tD A22 IP65 T 110°C	-20 ... +60	Special connector DIN EN 175301-803, Form A indicated in delivery	0,16	1	1	3216
	-	9,2	-	40	II3G II3D	Ex nA II T4 Ex tD A22 IP65 T 110°C	-20 ... +60	Special connector DIN EN 175301-803, Form A indicated in delivery	0,16	2	6	3218
	6,9	-	289	-	II2G II2D	Ex mb II T4 Ex tD A21 IP66 T 110°C *1)	-20 ... +60	Cable 3 m long	0,4	5	4	0292 *8)
	-	8,7	-	34	II2G II2D	Ex mb II T4 Ex tD A21 IP66 T 110°C *1)	-20 ... +60	Cable 3 m long	0,4	5	7	0293 *8)
	3,9	-	162	-	II2G II2D	Ex emb II T4/T6 Ex tD A21 IP66 T130°C *2), *10)	-40 ...+80 T4 -40 ...+55 T6 -40 ...+80	M20 x 1,5 *6)	0,5	6	4	4210 *8)
	-	5,3	-	23	II2G II2D	Ex emb II T4/T6 Ex tD A21 IP66 T130°C *2), *10)	-40 ...+80 T4 -40 ...+55 T6 -40 ...+80	M20 x 1,5 *6)	0,5	6	7	4211 *8)
	3,9	-	162	-	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ...+80 T4 -40 ...+55 T6 -40 ...+80	1/2-14 NPT *6)	0,8	7	4	4610 *8)
	-	5,3	-	23	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ...+80 T4 -40 ...+55 T6 -40 ...+80	1/2-14 NPT *6)	0,8	7	7	4611 *8)
	3,9	-	162	-	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ...+80 T4 -40 ...+55 T6 -40 ...+80	M20 x 1,5 *6)	0,8	7	4	4612 *8)
	-	5,3	-	23	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ...+80 T4 -40 ...+55 T6 -40 ...+80	M20 x 1,5 *6)	0,8	7	7	4613 *8)
	5,5	-	-	228	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm	0,5	8	1	3722
	-	5,9	-	26	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm	0,5	8	5	3723

Standard voltages 24 V d.c., 230 V a.c., other voltages on request.

Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*1) EG-Type-Examination-Certificate PTB 06 ATEX 2054 X

*2) EG-Type-Examination-Certificate KEMA 98 ATEX 4452 X

*3) EG-Type-Examination-Certificate PTB 02 ATEX 2085 X

*4) CSA-LR 57643-6, FM Approval

*5) Required connector: type 0570275

*6) Connector cable gland not supplied, see table »Accessories«

*7) IP-Protection class according to EN60529

*8) Suitable for outdoor installation

*10) IEC Ex Certificate of Conformity

Attention:

The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.

Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex dmb; if a cable gland with Ex e type of protection is used, the solenoid will have protection class Ex emb.

Solenoid operators, solenoids group 13C

	Power consumption 24 V d.c. (W)	230 V a.c. (VA)	Rated current 24 V d.c. (mA)	230 V a.c. (mA)	Ex-Protection (ATEX- Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimen- sion No.	Circuit diagram No.	Model
	12,1	-	504	-	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803, Form A *6)	0,117	1	1	0200
	-	11,3	-	49	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803, Form A *6)	0,160	2	6	3204
	12,1	-	504	-	II3G II3D	Ex nA II T4 Ex tD A22 IP65 T 130°C	-20 ... +60	Special connector DIN EN 175301-803, Form A indicated in delivery	0,127	1	1	3217
	-	11,3	-	49	II3G II3D	Ex nA II T4 Ex tD A22 IP65 T 120°C	-20 ... +50	Special connector DIN EN 175301-803, Form A indicated in delivery	0,17	2	6	3219
	10,7	-	446	-	II2G II2D	Ex mb II T4 Ex tD A21 IP66 T 110°C *1)	-20 ... +40	3 m cable	0,4	5	4	0290
	-	12,4	-	54	II2G II2D	Ex mb II T4 Ex tD A21 IP66 T 110°C *1)	-20 ... +40	3 m cable	0,4	5	7	0291
	8,9	-	369	-	II2G II2D	Ex emb II T4/T5 Ex tD A21 IP66 T130°C *2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,5	6	4	4220 *8)
	-	10,0	-	43	II2G II2D	Ex emb II T4/T5 Ex tD A21 IP66 T130°C *2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,5	6	7	4221 *8)
	8,9	-	369	-	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2-14 NPT *6)	0,8	7	4	4620 *8)
	-	10,0	-	43	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2-14 NPT *6)	0,8	7	7	4621 *8)
	8,9	-	369	-	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,8	7	4	4622 *8)
	-	10,0	-	43	II2G II2D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,8	7	7	4623 *8)
	8,9	-	369	-	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm	0,5	8	1	3724
	-	9,5	-	41	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm	0,5	8	5	3725

Standard voltages 24 V d.c., 230 V a.c., other voltages on request.

Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*1) EG-Type-Examination-Certificate PTB 06 ATEX 2054 X

*2) EG-Type-Examination-Certificate KEMA 98 ATEX 4452 X

*3) EG-Type-Examination-Certificate PTB 02 ATEX 2085 X

*4) CSA-LR 57643-6, FM Approval

*5) Required connector: type 0570275

*6) Connector cable gland not supplied, see table »Accessories«

*7) IP-Protection class according to EN60529

*8) Suitable for outdoor installation





*10) IEC Ex Certificate of Conformity

Attention:

The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.

Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex dmb; if a cable gland with Ex e type of protection is used, the solenoid will have protection class Ex emb.

Solenoid operators, solenoids group 13D

	Power consumption		Rated current		Ex-Protection (ATEX-Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimension No.	Circuit diagram No.	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)								
	16,9	--	703	-	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803 Form A *6)	0,27	3	1	0700
	-	17,3	-	75	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803 Form A *6)	0,32	4	6	3703
	11,4	-	475	-	II2G	Ex emb II T4/T5 *2), *10) Ex tD A21 IP66 T130°C *2), *10)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	M20 x 1,5 *6)	0,5	6	4	4230
	-	15,2	-	66	II2G	Ex emb II T4/T5 *2), *10) Ex tD A21 IP66 T130°C *2), *10)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	M20 x 1,5 *6)	0,5	6	7	4231 *8)
	11,4	-	475	-	II2G	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	1/2 x 14 NPT *6)	0,8	7	4	4630 *8)
	-	15,2	-	66	II2G	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	1/2 x 14 NPT *6)	0,8	7	7	4631 *8)
	11,4	-	475	-	II2G	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	1/2 x 14 NPT *6)	0,8	7	4	4632 *8)
	-	15,2	-	66	II2G	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	M20 x 1,5 *6)	0,8	7	7	4633 *8)
	13,6	-	567	-	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm long	0,5	8	1	3726
	-	15,7	-	68	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm long	0,5	8	5	3727

Standard voltages 24 V d.c., 230 V a.c., other voltages on request.

Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*2) EG-Type-Examination-Certificate KEMA 98 ATEX 4452 X

*3) EG-Type-Examination-Certificate PTB 02 ATEX 2085 X

*4) CSA-LR 57643-6, FM Approval

*5) Required connector: type 0570275

*6) Connector cable gland not supplied, see table »Accessories«

*7) IP-Protection class according to EN60529

*8) Suitable for outdoor installation

*10) IEC Ex Certificate of Conformity

Attention:

The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.

Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex dmb; if a cable gland with Ex e type of protection is used, the solenoid will have protection class Ex emb.

Solenoid operators, solenoids group 16C

	Power consumption 24 V d.c. (W)	230 V a.c. (VA)	Rated current 24 V d.c. (mA)	230 V a.c. (mA)	Ex-Protection (ATEX- Category)	Protection class *7)	Temperature Ambient/ Fluid (°C)	Electrical connection	Weight (kg)	Dimen- sion No.	Circuit diagram No.	Model
	6,8	-	284	-		IP65 (with connector) *5)	-25...+60	Connector DIN EN 175301-803 Form A *6)	0,33	2	1	0827
	-	10,6	-	46		IP65 (with connector) *5)	-25...+60	Connector DIN EN 175301-803 Form A *6)	0,34	3	6	3805
	-	10,6	-	46	I13G I13D	Ex nA II T4 Ex tD A22 IP65 T 110°C	T4: -20 ... +60	Special connector DIN EN 175301-803, Form A indicated in delivery	-	4	6	3818
	8,9	-	369	-	I12G I12D	Ex emb II T4/T5 Ex tD A21 IP66 T130°C *2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,500	6	4	4270 *8)
	-	10,0	-	43	I12G I12D	Ex emb II T4/T5 Ex tD A21 IP66 T130°C *2), *10)	-40 ... +65 T4 -40 ... +55 T5 -40 ... +65	M20 x 1,5 *6)	0,500	6	7	4271 *8)
	8,9	-	369	-	I12G I12D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2 - 14 NPT *6)	0,800	7	4	4670 *8)
	-	10,0	-	43	I12G I12D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	1/2 - 14 NPT *6)	0,800	7	7	4671 *8)
	8,9	-	369	-	I12G I12D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,800	7	4	4672 *8)
	-	10,0	-	43	I12G I12D	Ex dmb IIC T4/T6 Ex emb II T4/T6 Ex tD A21 IP66 T130°C *3)	-40 ... +70 T4 -40 ... +40 T6 -40 ... +70	M20 x 1,5 *6)	0,800	7	7	4673 *8)
	8,9	-	369	-	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm long	0,500	8	1	3824
	-	9,5	-	41	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9	-20 ... +60	Flying leads 450 mm long	0,500	8	5	3825

Standard voltages 24 V d.c., 230 V a.c., other voltages on request.
Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*2) EG-Type-Examination-Certificate KEMA 98 ATEX 4452 X

*3) EG-Type-Examination-Certificate PTB 02 ATEX 2085 X

*4) CSA-LR 57643-6, FM Approval

*5) Required connector: type 0570275

*6) Connector cable gland not supplied, see table »Accessories«

*7) IP-Protection class according to EN60529

*8) Suitable for outdoor installation

*10) IEC Ex Certificate of Conformity

Attention:

The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.

Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex dmb; if a cable gland with Ex e type of protection is used, the solenoid will have protection class Ex emb.

Solenoid operators, solenoids group 16D

	Power consumption		Rated current		Ex-Protection	Protection	Temperature	Electrical	Weight	Dimension	Circuit	Model
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)	(ATEX- Category)	class *7)	Ambient/ Fluid (°C)	connection	(kg)	No.	diagram No.	
	16,9	-	703	-	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803 Form A *6)	0,26	3	1	0800
	-	17,3	-	75	-	IP 65 (with connector) *5)	-25 ... +60 Fluid: max. 80	Connector DIN EN 175301-803 Form A *6)	0,35	4	6	3803
	16,9	-	703	-	II3G II3D	Ex nA II T4 Ex tD A22 IP65 T 130°C	-20 ... +60	Special connector DIN EN 175301-803, Form A indicated in delivery	0,27	3	1	3817
	-	17,3	-	75	II3G II3D	Ex nA II T4 Ex tD A22 IP65 T 120°C	-20 ... +50	Special connector DIN EN 175301-803, Form A indicated in delivery	0,36	4	6	3819
	11,4	-	475	-	II2G II2D	Ex emb II T4/T5 *2), *10) Ex tD A21 IP66 T130°C *2), *10)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	M20 x 1,5 *6)	0,5	6	4	4280 *8)
	-	15,2	-	66	II2G II2D	Ex emb II T4/T5 *2), *10) Ex tD A21 IP66 T130°C *2), *10)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	M20 x 1,5 *6)	0,5	6	7	4281 *8)
	11,4	-	475	-	II2G II2D	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	1/2 x 14 NPT *6)	0,8	7	4	4680 *8)
	-	15,2	-	66	II2G II2D	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	1/2 x 14 NPT *6)	0,8	7	7	4681 *8)
	11,4	-	475	-	II2G II2D	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	M20 x 1,5 *6)	0,8	7	4	4682 *8)
	-	15,2	-	66	II2G II2D	Ex dmb IIC T4/T5 Ex emb II T4/T5 Ex tD A21 IP66 T130°C *3)	-40 ... +50 T4 -40 ... +40 T5 -40 ... +50	M20 x 1,5 *6)	0,8	7	7	4683 *8)
	13,6	-	567	-	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9 *4)	-20 ... +60	Flying leads 450 mm long	0,5	8	1	3826
	-	15,7	-	68	-	XP/DIP, Div. 1 & 2 Cl. I, Gr. A-D Cl. II/III, Gr. E-G T3 (160°C) *4) NEMA 4, 4X, 6, 6P, 7, 9 *4)	-20 ... +60	Flying leads 450 mm long	0,5	8	5	3827

Standard voltages 24 V d.c., 230 V a.c., other voltages on request.

Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*2) EG-Type-Examination-Certificate KEMA 98 ATEX 4452 X

*3) EG-Type-Examination-Certificate PTB 02 ATEX 2085 X

*4) CSA-LR 57643-6, FM Approval

*5) Required connector: type 0570275

*6) Connector cable gland not supplied, see table »Accessories«

*7) IP-Protection class according to EN60529

*8) Suitable for outdoor installation

*10) IEC Ex Certificate of Conformity

Attention:

The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.

Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex dmb; if a cable gland with Ex e type of protection is used, the solenoid will have protection class Ex emb.

Accessories

Cable gland
Protection class
Ex e, Ex d (ATEX),

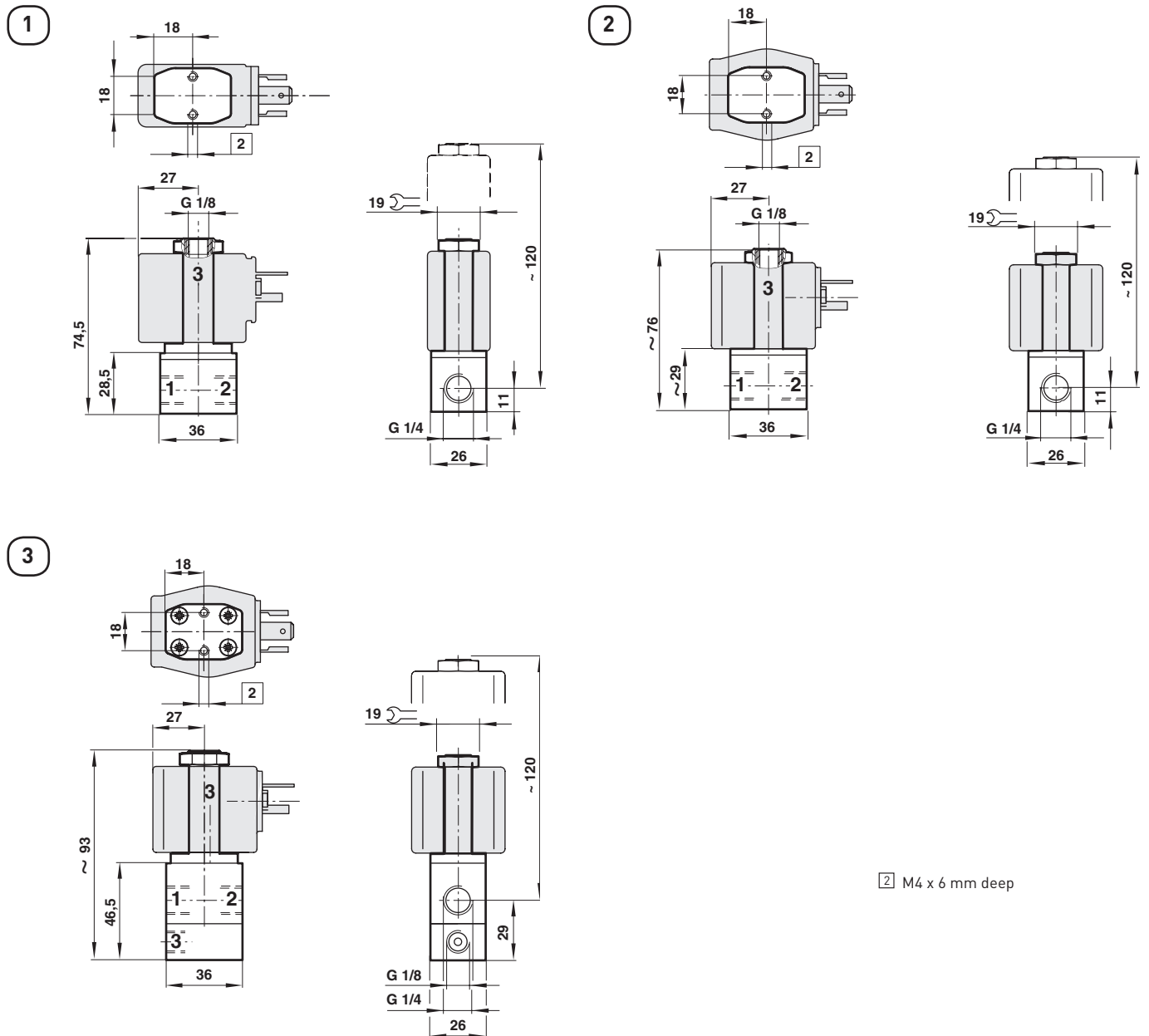


Connector



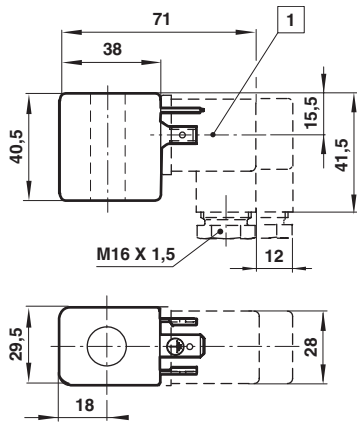
Page 10 Thread	Cable Ø	Material	Protection class (ATEX)	Model	Model
M 20x1,5	5,0...8,0 mm	Nickel plated brass	II2GD Ex e	0588819	0570275
M 20x1,5	10...14 mm	Nickel plated brass	II2GD Ex d	0588851	
1/2-14-NPT	7,5...11,9 mm	Nickel plated brass	II2GD Ex d	0588925	

Dimensions
Valves

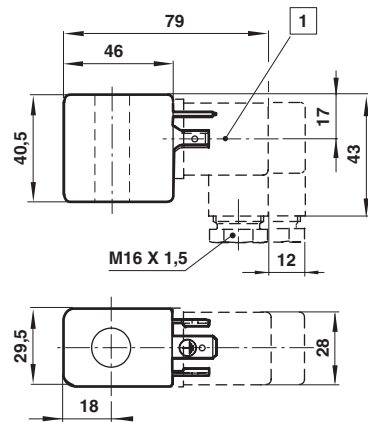


**Dimensions
Solenoid operators**

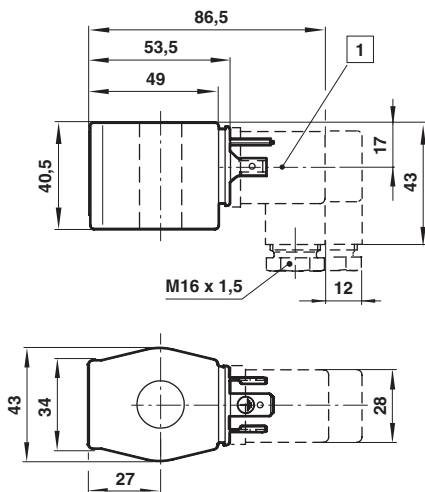
1



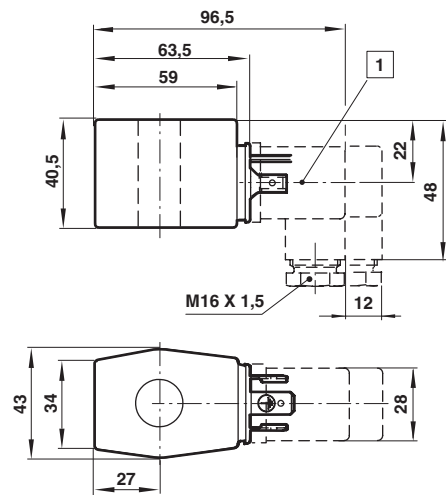
2



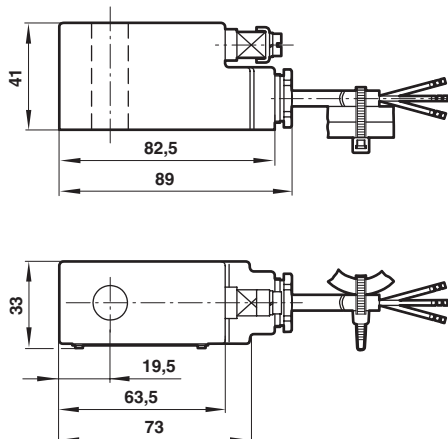
3



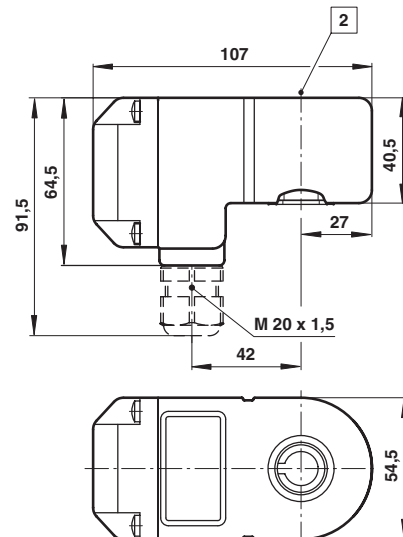
4



5

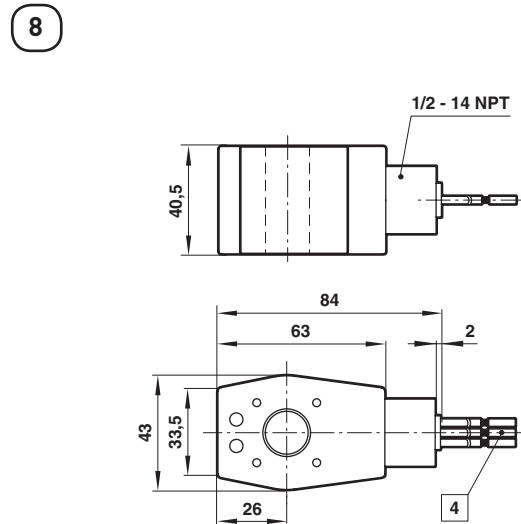
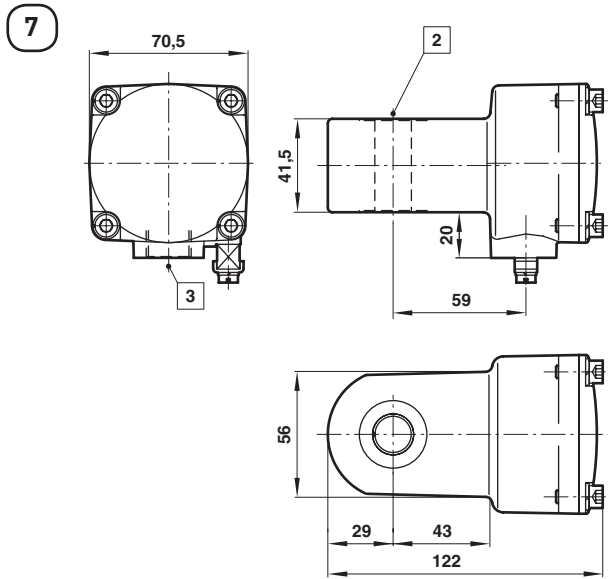


6



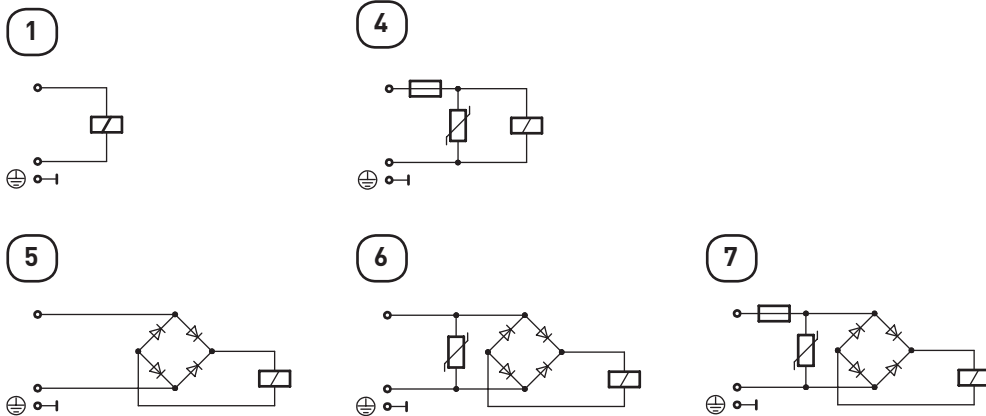
1 Connector can be indexed by 4x90°

2 Ø 16 or 13 (with spacer tube)

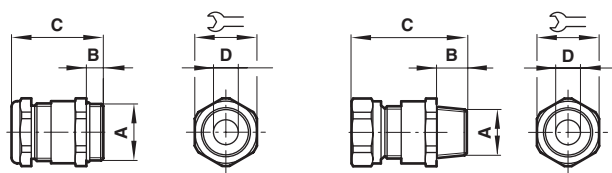


- 2 Ø 16 or 13 (with spacer tube)
- 3 M20 x 1,5 or 1/2 - 14 NPT
- 4 Flying leads AWG 18 (450 mm long)

Circuit diagrams



Cable gland



0588925 only

A	B	C	∅ D		Model
M20 x 1,5	9	36	5 ... 8	22	0588819
M20 x 1,5	14	39	10 ... 14	24	0588851
1/2-14 NPT	15	58	7,5 ... 11,9	24	0588925

Warning

These products are intended for use in industrial compressed air and fluid systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.