

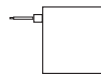
# 2.11

## Coils and Connectors

# MA 16/MA 16 L



MA 16



MA 16 L



16 mm wide solenoid system for valves type MD and MK, including valve-head.

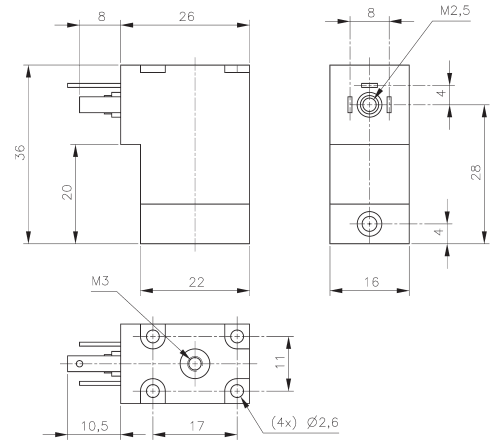
Coil made from 25 % glass filled thermoplastic PA material, epoxy filled. Valve head glass filled thermoplastic PA including a manual override to push.

## MA 16

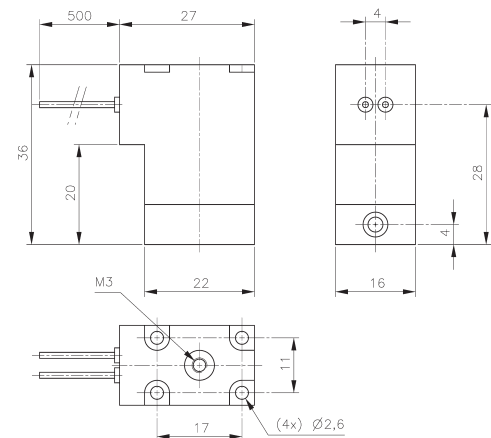
Interface form C (DIN EN 175301-803), with 8 mm contact distance, connectors are displayed on page 2. 11.3. Equipped with appropriate connector coil offers IP 65.

## MA 16 L (Flying leads version)

Have a standard cable length of 500 mm, others are available on request. The coils are not grounded, take national safety regulations into consideration!

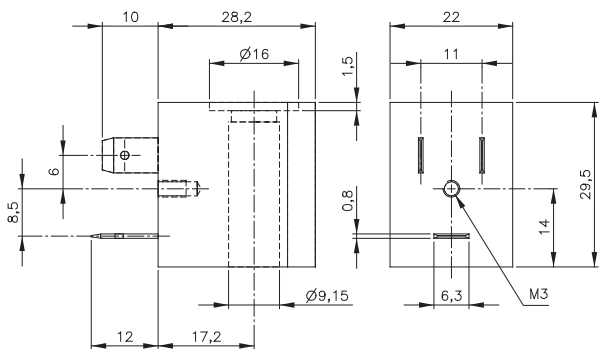


MA 16

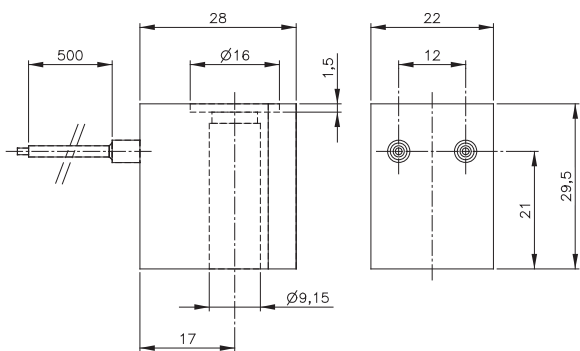


MA 16 L

Type	Voltage	Ampere	Power cons.	Connection
MA 16 6DC	6 V=	300 mA	1,8 W	Form C (DIN EN 175301-803)
MA 16 L 6DC	6 V=	300 mA	1,8 W	Flying leads 500 mm long
MA 16 12DC	12 V=	150 mA	1,8 W	Form C (DIN EN 175301-803)
MA 16 L 12DC	12 V=	150 mA	1,8 W	Flying leads 500 mm long
MA 16 24DC	24 V=	75 mA	1,8 W	Form C (DIN EN 175301-803)
MA 16 L 24DC	24 V=	75 mA	1,8 W	Flying leads 500 mm long
MA 16 24AC	24 V~	125 mA	3 VA	Form C (DIN EN 175301-803)
MA 16 L 24AC	24 V~	125 mA	3 VA	Flying leads 500 mm long
MA 16 110AC	110 V~	27 mA	3 VA	Form C (DIN EN 175301-803)
MA 16 L 110AC	110 V~	27 mA	3 VA	Flying leads 500 mm long
MA 16 230AC	230 V~	13 mA	3 VA	Form C (DIN EN 175301-803)
MA 16 L 230AC	230 V~	13 mA	3 VA	Flying leads 500 mm long



MA 22/MA 22 D/MA 22 U



MA 22 L

AC-coils can be operated at 50 Hz and 60 Hz.  
30 mm wide coils with interface ISO 4400  
EN 175301-803-A are available on request.



22 mm wide coils for solenoid valves of MH-type, 22 mm, 30 mm and 40 mm wide.

### MA 22

Housing made from heat resistant thermoplastic polyester material 30 % glass filled.  
Interface industryform B (DIN / ISO 436 50), connectors are displayed on page 2.11.3.  
Equipped with appropriate connector, solenoid offers IP 65. Isolation class H.

### MA 22 L (Flying leads version)

Housing made from heat resistant thermoplastic polyester material with 30 % glass filled.  
Standard cable length of 500 mm, others are available on request. The coils are not grounded, please take national safety regulations into consideration! Isolation class H.

### MA 22 D (Epoxy version)

Housing made from Epoxy, interface industryform B (DIN/ISO 436 50).  
Equipped with connector ST 22 and ST 222 V (please refer to page 2.11.3) solenoid system offers IP 65.  
Equipped with connector ST 22 L 500 and additional O-rings the system offers IP 67.

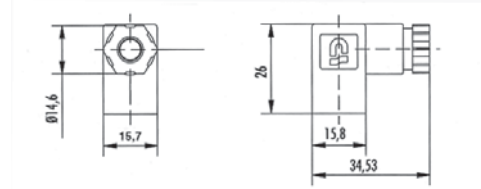
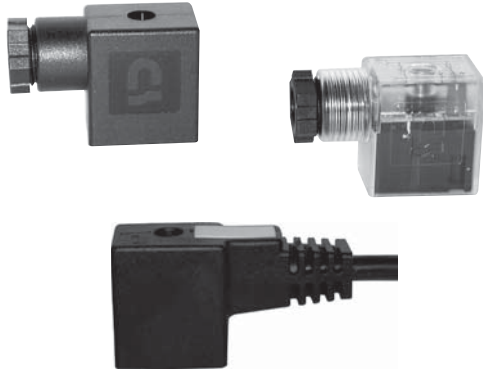
### MA 22 U

Same as MA 22 but with UL-certification.



Type	Voltage	Tolerance	Ampere	Power cons.	Connection
MA 22 12 DC	12 V=	±10 %	250 mA	3 W	Industryform B (DIN 436 50)
MA 22 24DC	24 V=	±10 %	125 mA	3 W	Industryform B (DIN 436 50)
MA 22 L700 24DC	24 V=	±10 %	125 mA	3 W	Flying leads 700 mm long
MA 22 48DC	48 V=	±10 %	62 mA	3 W	Industryform B (DIN 436 50)
MA 22 24AC	24 V~	±10 %	200 mA	5 VA	Industryform B (DIN 436 50)
MA 22 110AC	110 V~	±10 %	45 mA	5 VA	Industryform B (DIN 436 50)
MA 22 L500 110AC	110 V~	±10 %	45 mA	5 VA	Flying leads 500 mm long
MA 22 230AC	230 V~	±10 %	22 mA	5 VA	Industryform B (DIN 436 50)
MA 22 L500 230AC	230 V~	±10 %	22 mA	5 VA	Flying leads 500 mm long
MA 22 D 24DC	24 V=	±10 %	125 mA	3 W	Industryform B (DIN 436 50)
MA 22 D 24AC	24 V=	±10 %	200 mA	5 VA	Industryform B (DIN 436 50)
MA 22 D 230AC	230 V~	±10 %	22 mA	5 VA	Industryform B (DIN 436 50)
MA 22 U 24DC	24 V=	±10 %	125 mA	3 W	Industryform B (DIN 436 50)
MA 22 U 24AC	24 V=	±10 %	200 mA	5 VA	Industryform B (DIN 436 50)
MA 22 U 110AC	110 V~	±10 %	45 mA	5 VA	Industryform B (DIN 436 50)
MA 22 U 230AC	230 V~	±10 %	22 mA	5 VA	Industryform B (DIN 436 50)

# ST 16/ST 22/ ST 22 L 5000 ST 222 V \_\_ L 1500/ST 30 Ex nA/ST 30 Ex ia

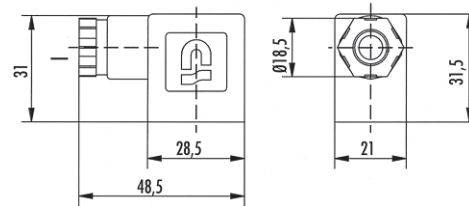


ST 16

Connectors as accessories for Hafner valves.

### Type ST 16 and ST 22

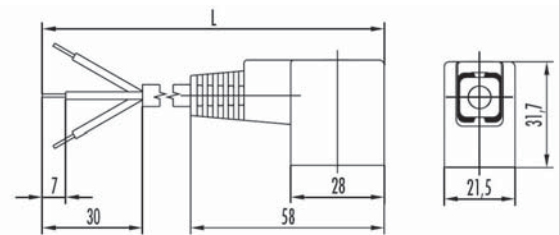
using the enclosed flat seal and fastening screw and nut appropriately the system reaches protection class IP 65 in accordance to IEC 60 529.



ST 22

### Type ST 22 L 5000/ST 222 V \_\_ L1500

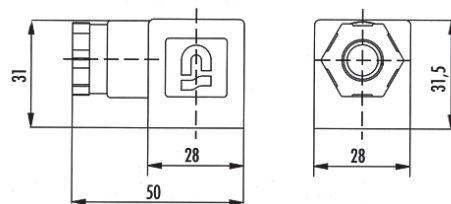
in combination with MA 22 D, using the enclosed flat seal, adding 2 O-rings at the top of the solenoid system and fastening screw and nut appropriately the system reaches protection class IP 67 in accordance to IEC 60 529.



ST 22 L 5000/ ST 222 V \_\_ L 1500

### Type ST 30 Ex ia

Connector to be used in combination with MA 30 Ex ia. Connector is classified for zone 21, cat. IID. Can also be used in combination with intrinsically safe coils in zone 1 (cat. IIG). Includes flat silicon seal.



ST 30 Ex nA/ ST 30 Ex ia

### Type ST 30 Ex nA

Connector to be used in combination with MA 30 Ex na. Connector is classified for zone 2 and 22, cat. IIIG and IIID. Includes profiled NBR seal.

Other connectors are available on request.

Type	Form	LED	VAR	Operat. voltage	Max. current	Cable diameter	Cable length [mm]	Cable material
ST 16	C, ISO 15219	no	no	0 - 250 V	6 A	5 - 6,5 mm		
ST 162 V 24	C, ISO 15219	red	yes	24 V ±10 %	6 A	5 - 6,5 mm		
ST 162 V 230	C, ISO 15219	red	yes	230 V ±10 %	6 A	5 - 6,5 mm		
ST 22	Industrial	no	no	0 - 250 V	10 A	6 - 8 mm		
ST 222 V 24	Industrial	red	yes	24 V ±10 %	10 A	6 - 8 mm		
ST 222 V 230	Industrial	red	yes	230 V ±10 %	10 A	6 - 8 mm		
ST 22 L 5000	Industrial	no	no	0 - 250 V	6 A	6,5 mm	5.000	PVC
ST 222 V 24 L 1500	Industrial	red	yes	24 V ±10 %	6 A	6,5 mm	1.500	PUR
ST 222 V110 L1500	Industrial	red	yes	110 V ±10 %	6 A	6,5 mm	1.500	PVC
ST 222 V230 L1500	Industrial	red	yes	230 V ±10 %	6 A	6,5 mm	1.500	PVC
ST 30 Ex ia	A, ISO 4400	no	no	0 - 250 V	10 A	6 - 8 mm		
ST 30 Ex nA	A, ISO 4400	no	no	0 - 250 V	10 A	4 - 8 mm		