

Cable transducer

Analog output / redundant

Measuring length absolute up to 2.3 m

BMMS K23 analog - MAGRES



BMMS K23 analog with flange connector M12

Technical data - electrical ratings

Voltage supply	8...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption typ.	35 mA (24 VDC, w/o load)
Initializing time	≤500 ms after power on
Response time	<1 ms
Interface	Analog 0...10 V / 0.5...4.5 V / 4...20 mA / Resolution: 12 bit
Function	Linear position feedback
Linearity	±0.16 % full scale output (f.s.o.)
Absolute accuracy	±0.36 % f.s.o. (+25 °C) ±0.64 % f.s.o. (-40...+85 °C)
Sensing method	Magnetic
Repeatability typ.	1 mm
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Programmable parameters	Measuring range teachable
Diagnostic functions	Self-diagnosis Reading back voltage output
Factory setting	Entire measuring range Min. output at 0 m Max. output at 2.3 m

Features

- Magnetic sensing method
- Resolution: 12 bit
- Interface analog 0...10 V / 0.5...4.5 V / 4...20 mA
- Measuring length up to 2.3 m
- Removable stickers for water outlet
- Teach inputs
- Extremely light thanks to housing of plastic and aluminum
- Available with redundant absolute signals

Technical data - mechanical design

Protection DIN EN 60529	IP 65 (encoder)
Materials	Encoder housing: aluminium Cable-pull housing: PA6 GF30 Cable: Stainless steel cable coated with polyamide
Operating temperature	-40...+85 °C
Service life	Typ. >500000 strokes
Measuring length	2.3 m
Cable acceleration	≤50 m/s ²
Cable diameter	0.45 mm
Pull-in force	>3 N
Pull-out force	≤9 N
Relative humidity	95 % temporary condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 10-2000 Hz DIN EN 60068-2-27 Shock 50 g, 11 ms
Weight approx.	400 g
Connection	Flange connector M12, 5-pin Flange connector M12, 8-pin Cable 2 m
Bending radius	Cable: >55 mm
Special characteristics	Coated electronic
Instruction	Please consider the assembly instructions

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10153968	Female connector M12, 5-pin, straight, without cable
11046266	Female connector M12, 5-pin, straight, shielded, 5 m cable
10156842	Cable with male/female M12, 5-pin, angled, A-coded, 5 m
11144306	Cable with male/female M12, 5-pin, straight, A-coded, 5 m
10146775	Female connector M12, 8-pin, straight, without cable

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Terminal significance

+Vs	Cable transducer supply voltage. (Redundant configuration provides decoupled dual voltage supply (+Vs1/+Vs2) separated by diodes.
0 V	Cable transducer ground connection relating to +Vs.
Iout	Current output. Load: $<500\ \Omega$
Uout	Voltage output. Current output: max. 10 mA Load resistor: $>1\ \text{k}\Omega$ between Uout / 0 V
Set	Teach input. Resting state: Low Level High: $>0.7 \times +Vs$ Level Low: $<0.3 \times +Vs$ Pull-Down resistor: $10\ \text{k}\Omega$
DV/Status	Diagnostic output/Teach output. $R_L - Vs$: High: $>(+Vs - 1.0\ \text{V})$ Low: $<3.0\ \text{V}$ $R_L - \text{GND}$: High: $>(+Vs - 3.0\ \text{V})$ Low: $<1.0\ \text{V}$ $I_{L\text{max}} = 10\ \text{mA}$ Upon any short-time disturbance, DV will go on Low for 1 second.

Teach process

Activate teach process

After power on set "Set-input" on HIGH for >5 seconds and afterwards on LOW level.

DV/Status output: Oscillates after 5 seconds.

Position 1

Get cable transducer on position 1 intended for voltage output 1 / current output 1. Set "Set-input" for 1 second on HIGH level.

DV/Status output: Switches to HIGH level for 3 seconds and flashes shortly.

Position 2

Get cable transducer on position 2 intended for voltage output 2/current output 2. Set "Set-input" for 1 second on HIGH level.

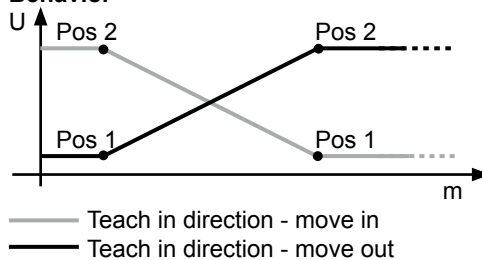
DV/Status output: Switches to LOW level for 3 seconds and oscillates afterwards.

If measuring range is exceeded or the limits are too close to each other, the teaching process was not successful and has to be repeated.

Set / restore default

Set "Set-input" for 16 seconds to HIGH. DV/Status output: Oscillates after 5 seconds. Note: The cable transducer has to be completely drawn in.

Behavior



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Terminal assignment

Cable

for connection reference -5

Core color	Analog signals	
	U/5	V
white	0 V	0 V
brown	+Vs	+Vs
green	d.u.	lout
yellow	Uout	d.u.
grey	Set	Set
pink	DV/Status	DV/Status
Screen: connected to housing		
Cable data: 6 x 0.14 mm ²		

Cable redundant

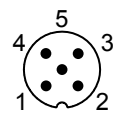
for connection reference -5

Core color	Analog signals	
	Y/7	Z
white	0 V	0 V
brown	+Vs 1	+Vs 1
green	Uout 1	lout 1
yellow	Uout 2	lout 2
grey	Set 1	Set 1
pink	DV/Status 1	DV/Status 1
blue	Set 2	Set 2
red	DV/Status 2	DV/Status 2
black	0 V	0 V
violet	+Vs 2	+Vs 2
Screen: connected to housing		
Cable data: 10 x 0.14 mm ²		

Flange connector M12, 5-pin

for connection reference -N

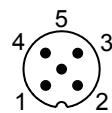
Pin	Analog signals	
	U/5	V
1	0 V	0 V
2	+Vs	+Vs
3	d.u.	lout
4	Uout	d.u.
5	Set	Set



Flange connector M12, redundant, 2 x 5-pin

for connection reference -M

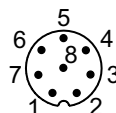
Pin	Connector 1	Connector 2
1	0 V	0 V
2	+Vs 1	+Vs 2
3	Uout 1 (Y/7) lout 1 (Z)	Uout 2 (Y/7) lout 2 (Z)
4	DV/Status 1	DV/Status 2
5	Set 1	Set 2



Flange connector M12, 8-pin

for connection reference -Q

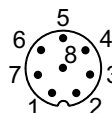
Pin	Analog signals	
	U/5	V
1	0 V	0 V
2	+Vs	+Vs
3	d.u.	lout
4	Uout	d.u.
5	Set	Set
6	DV/Status	DV/Status
7	n.c.	n.c.
8	n.c.	n.c.



Flange connector M12, redundant, 8-pin

for connection reference -Q

Pin	Analog signals	
	Y/7	Z
1	0 V	0 V
2	+Vs	+Vs
3	Uout 1	lout 1
4	Uout 2	lout 2
5	Set 1	Set 1
6	DV/Status 1	DV/Status 1
7	Set 2	Set 2
8	DV/Status 2	DV/Status 2



Measuring length absolute up to 2.3 m

Dimensions

[illegible][illegible]

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Dimensions

Technical drawing of the M6000-10000 pump assembly, showing three views: side, top, and front.

- Side View:** Shows the pump body with a drainage port at the bottom. The total height is approximately 150 mm (ca. 150).
- Top View:** Shows the circular base with four mounting holes (3x Ø4.2). The overall diameter is 88 mm. The distance between the mounting holes is 78 mm. The distance from the center to the mounting holes is 15 mm. The distance from the center to the outer edge is 88 mm. The distance from the center to the mounting holes is 8 mm. The distance from the center to the mounting holes is 8 mm. The distance from the center to the mounting holes is 8 mm. The distance from the center to the mounting holes is 8 mm.
- Front View:** Shows the pump body with a drainage port and a mounting bracket. The overall width is 70.5 mm. The distance from the center to the mounting bracket is 27.5 mm. The distance from the center to the mounting bracket is 43 mm. The distance from the center to the mounting bracket is 70.5 mm. The distance from the center to the mounting bracket is 70.5 mm.