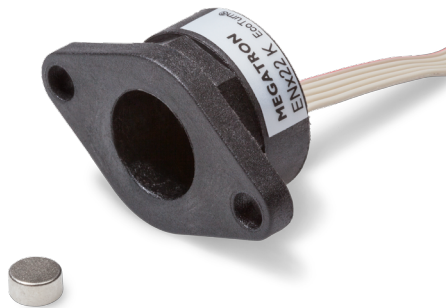


Data Sheet for Angle Sensors

Hall-Effect Single-Turn Rotary Encoder with Analog Output

Series ENA22 K



- No mechanical wearing
- Analog output (voltage, current, redundant)
- Versatile programming ex works
- Potted electronics
- Life expectancy > 25 x 10⁶ shaft revolutions

The Halleffect Kit-Encoder Series ENA22 K has an endless mechanical life expectancy because there ins'nt any bearing nor wear. A separate magnet is enclosed. There are push on magnet holders as an accessorie available. Due to the easy connection of the flat ribbon cable, e.g. using IDC, the cost of soldering can be reduced as well.

Electrical Data

Effective electrical angle of rotation 1.)	0..10° - 0..360°				
Independent linearity (best straight line) 1.)	±0,5 % @ 360°				
Output signal	0..5 V ratiometric	0..10 V	0..5 V	0..20 mA	4..20 mA
Resolution	12 bit (4096 steps) (electrical angle 90°..360°)				
Update rate	1 ms				
Supply voltage	5 V ±10 %	15..30 V	9.. 30 V		
Power consumption (no load)	< 10 mA				
Output load	≥ 5 kOhm			≤ 500 Ohm	
Insulation voltage 1.)	1000 VAC @ 50 Hz, 1 min				
Insulation resistance 1.)	2 MOhm @ 500 VDC, 1 min				

Mechanical and Environmental Data

Mechanical angle of rotation 1.)	Endless
Lifetime 2.)	Mechanical unlimited
Operating temperature range	-40..+85 °C (fixed cable, other temperature on request)
Storage temperature range	
Standard	-40..+105 °C
Option P	-40..+90 °C
Protection grade (IEC 60529)	IP65
Sealing shaft/bearing	
Standard	No sealing (IP40)
Option D	O-sealing ring (IP55S)
Vibration (IEC 68-2-6, Test Fc)	±1,5 mm / 20 g / 10 bis 2000 Hz / 16 frequency cycles (3x4 h)
Mechanical shock (IEC 68-27, Test Ea)	50 g / 11 ms / halfsine (3x6 shocks)
Mass	Approx. 11 g
Included in delivery	Sensor magnet
Material housing	Plastic

Emission / Immunity

EN 55011 Emission AC/DC power	Class B
EN 55011 Emission housing	Class B
EN 61000-4-2 Immunity housing ESD	Class B
EN 61000-4-3 Immunity RF sine wave	Class A
EN 61000-4-4 Immunity DC power, I/O cable: Burst	Class B
EN 61000-4-5 Immunity DC power, I/O cable: Surge	Class B
EN 61000-4-6 Immunity DC power, I/O cable: Conducted sine wave	Class A

Data Sheet for Angle Sensors

Hall-Effect Single-Turn Rotary Encoder with Analog Output

Series ENA22 K

Order code

Description

Series ENA22 Kit with single electronic	ENA22K			
Supply voltage / Output signal 5 V ± 10 % / 0..5 V ratiometric 24 V (9..30 V) / 0..5 V (*) 24 V (15..30 V) / 0..10 V 24 V (9..30 V) / 4..20 mA 24 V (9..30 V) / 0..20 mA (*)			0505 DC05 (*) 2410 2442 2420 (*)	
Without mechanical stops; clockwise; 360°				OCW360
Signal raising in counterclockwise (*)				OCCW360(*)
Free choice of the electrical angle (*)				OC(C)Wxxx (*)
Other cable length [m] (*)				CVxx (*)

Order code redundant outputs

Description

Series ENA22	ENA22K			
Redundant electronic		X		
Supply voltage / Output signal 5 V ± 10 % / 0..5 V ratiometric 24 V (9..30 V) / 0..5 V (*) 24 V (15..30 V) / 0..10 V			0505 DC05 (*) 2410	
Without mechanical stops; clockwise; 360°				OCW360/CW360
Signal raising in counterclockwise (*)				OCCW360/CCW360(*)
Free choice of the electrical angle (*)				OC(C)Wxxx/C(C)Wxxx (*)
Other cable length [m] (*)				CVxx (*)

short-term stock types can be found on: <http://www.megatron.de/en/stocklists/angle-sensors/lagerliste.html>

bold print = standard option

(*) = on request available for projects

Accessories

Push-on-magnetholder: <http://www.megatron.de/en/products/accessories/series-push-on-magnetholder.html>

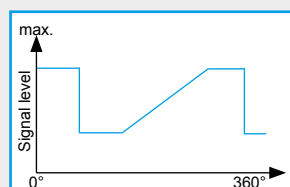
Magnetholder with Set Screws: <http://www.megatron.de/en/products/accessories/series-magnetholder-with-set-screws.html>

For higher quantities or on-going demand, additional options are available as described below

Customized output signal

For example:

- Customized signal characteristic
- Mu-Metal shielding
- Other mechanical angle
- Other starting torque



For example:

- Other minimum and maximum signal level
- Multi point programming

For technical advice, projects, samples, questions about pricing, delivery times and availability please contact us

Tel.: +49 89 46094-500
export@megatron.de

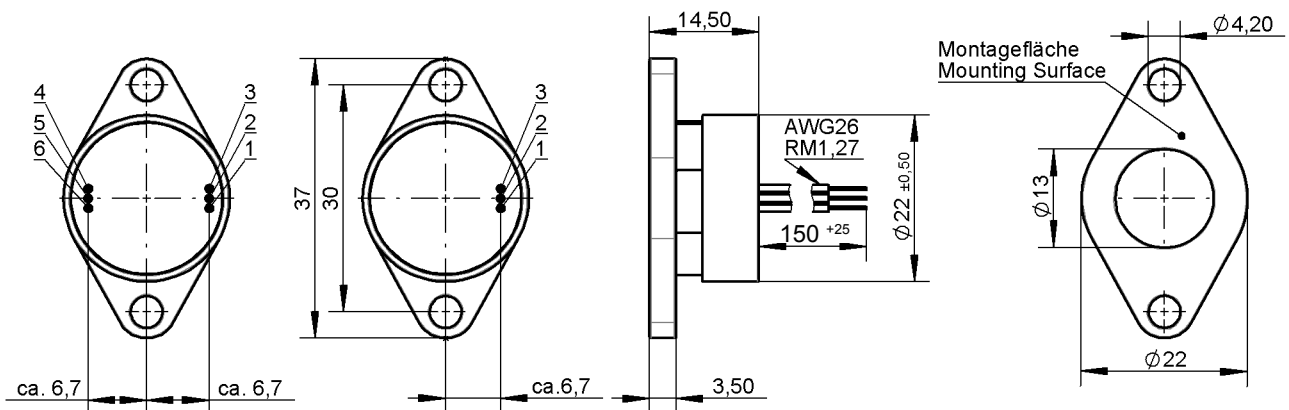
Data Sheet for Angle Sensors

Hall-Effect Single-Turn Rotary Encoder with Analog Output

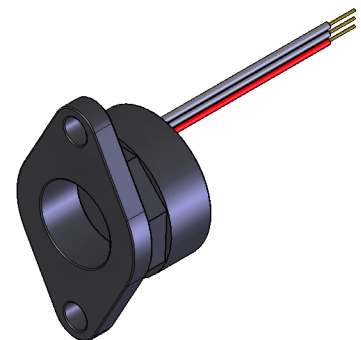
Series ENA22 K

Drawing

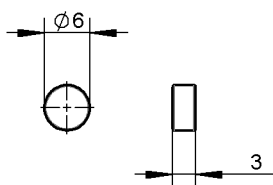
Redundant version Single version



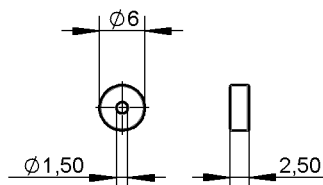
Cable assignment	
VSUP 1	1
OUT 1	2
GND 1	3
VSUP 2	4
OUT 2	5
GND 2	6



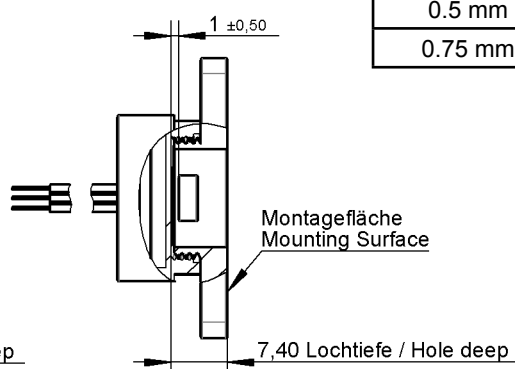
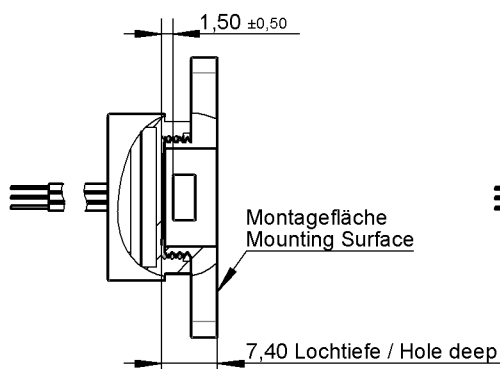
Magnet for standard electronic
Dimensions and
mounting instruction



Magnet for redundant electronic
Dimensions and
mounting instruction



Excentricity Magnet vs. Accuracy	
Excentricity	Accuracy @ 360°
0.5 mm	0.6°
0.75 mm	1.2°



20.11.2012