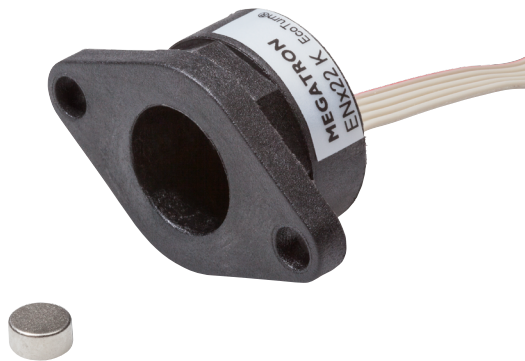


# Data Sheet for Angle Sensors

Hall-Effect Single-Turn Rotary Encoder with Serial Output

Series ENS22 K



- SPI- or SSI- Interface
- Resolution up to 14 bit (16384 positions)
- Unlimited Life expectancy
- Potted electronics

The Halleffect Kit-Encoder Series ENS22 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 acessorie 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..360°	
Independent linearity (best straight line) 1.)	± 0,5 %	
Output signal	SPI	SSI
Theoretical Resolution	14 bit	12 bit
Updaterate	0,2 ms	0,1 ms
Supply voltage	5 VDC ± 10 %	9-30 VDC
Power consumption (no load)	≤ 30 mA	
Insulation voltage 1.)	1000 VAC @ 50 Hz, 1 min	
Insulation resistance 1.)	2 MOhm @ 500 VDC, 1 min	

## Mechanical Date, Environmental Conditions, Miscellaneous

Mechanical angle of rotation 1.)	Without stops
Lifetime	unlimited
Operating temperature range	-40..+85 °C (fixed cable, extended temperature range on request)
Storage temperature range	-40..+105 °C
Protection grade (IEC 60529)	IP65
Vibration (IEC 68-2-6, Test Fc)	±1,5 mm / 20 g / 10 bis 2000 Hz / 16 frequency cycles (3x4 h)
Shock (IEC 68-2-27, Test Ea)	50 g / 11 ms / half sine (3x6 Shocks)
Mass	approx. 11 g
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

1.) According IEC 60393

# Data Sheet for Angle Sensors

Hall-Effect Single-Turn Rotary Encoder with Serial Output

Series ENS22 K

## Order code

### Description

Series ENS22 Kit	ENS22 K			
<b>Resolution / supply voltage / interface</b> 14 bit / 5 V ± 10% / SPI		<b>1405SPI</b>		
12 bit / 5 V ± 10% / SSI (*)		1205SSI (*)		
12 bit / 24 V (9-30 V) / SSI (*)		1224SSI (*)		
<b>Without stops; clockwise rising signal; 360°</b>			<b>OCW360</b>	
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

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

For example:

- Mu-Metal shielding
- Other mechanical angle
- Other starting torque
- Special housings
- Special magnet holder

**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

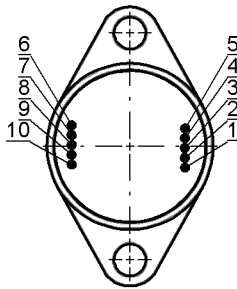


Hall-Effect Single-Turn Rotary Encoder with Serial Output

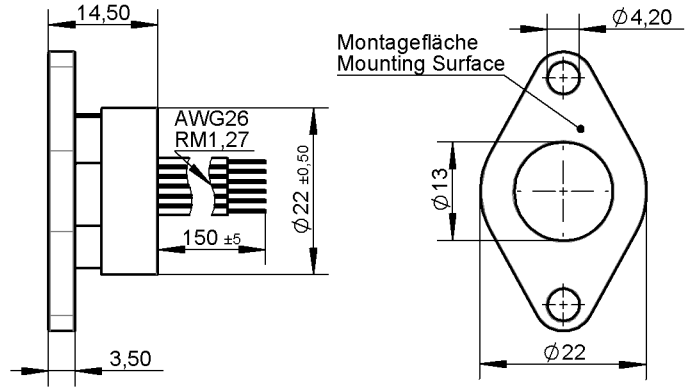
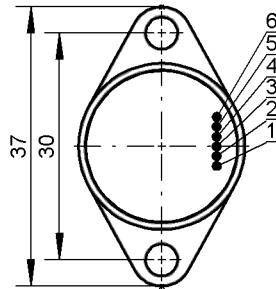
Series ENS22 K

## Drawing

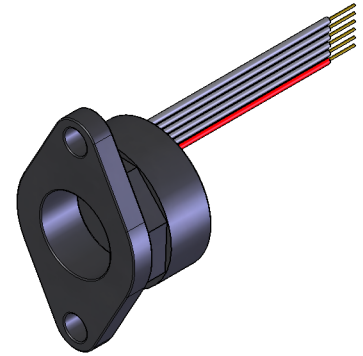
Redundant version



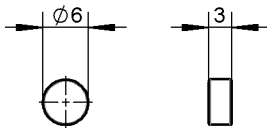
Single version



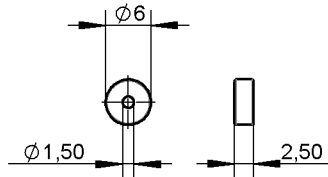
Cable assignment	
VSUP 1	1
GND 1	2
DAT 1	3
CLK 1	4
CS 1	5
VSUP 2	6
GND 2	7
DAT 2	8
CLK 2	9
CS 2	10



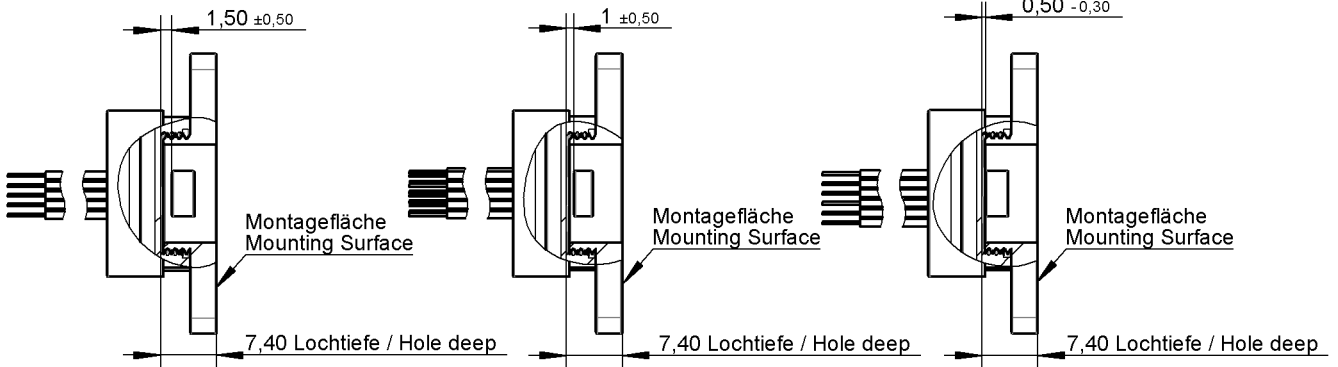
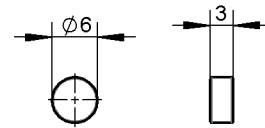
SPI



SPI redundant



SSI



20.11.2012