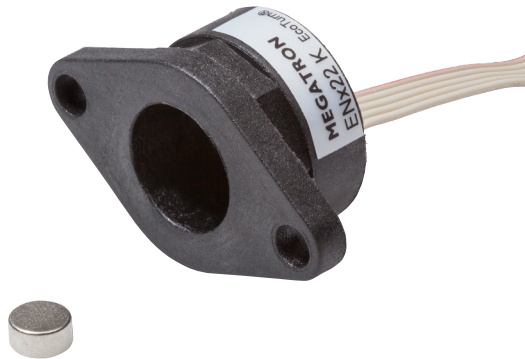


# Data Sheet for Angle Sensors

## Hall-Effect Single-Turn Rotary Encoder with Serial Output

Series ENS22K



- SSI- Interface (SPI redundant on request)
- Resolution up to 12 bit
- Unlimited Life expectancy
- Potted electronics

The Hall effect Kit-Encoder Series ENS22 K has an endless mechanical life expectancy because there isn't any bearing nor wear. A separate magnet is enclosed. There are push on magnet holders as an accessory 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	SSI
Theoretical Resolution	12 bit
Update rate	0,1 ms
Supply voltage	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 ENS22K

## Order code

### Description

Series ENS22 Kit	ENS22 K			
Resolution / supply voltage / interface				
14 Bit / 5V ± 10% / SPI redundant (*)		1405SPI (*)		
12 bit / 5 V ± 10% / SSI (*)		1205SSI (*)		
12 bit / 24 V (9-30 V) / SSI		1224SSI		
Without stops; clockwise rising signal; 360°			OCW360	
Other cable length [m] (*) (SPI redundant max. 0,6m)				CVxx (*)

(\*) = on request available for projects

**On request 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
- SPI redundant version on request (cable length max. 0,6m)

# Data Sheet for Angle Sensors

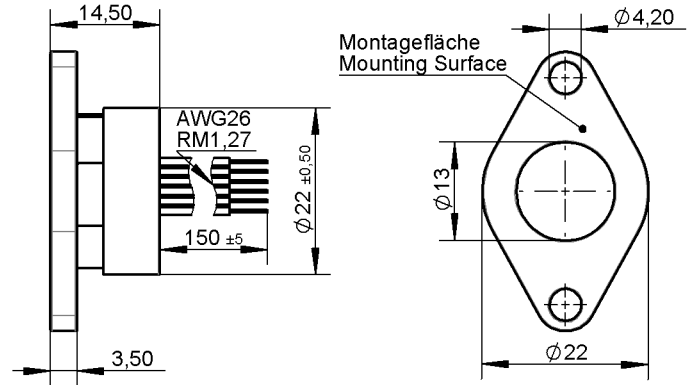
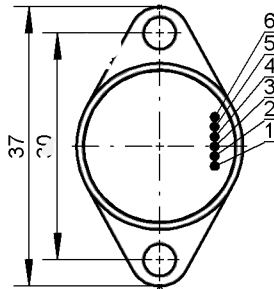
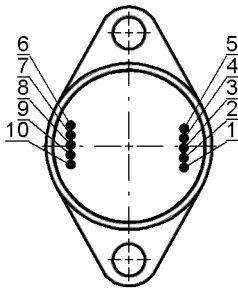
Hall-Effect Single-Turn Rotary Encoder with Serial Output

Series ENS22K

## Technical Drawing

Redundant SPI version  
\*on request

SSI single version



Cable assignment Redundant SPI version *on request	
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

Cable assignment Single SSI version	
VSUP 1	1
GND 1	2
CLK +	3
CLK -	4
DAT +	5
DAT -	6

