

MAIN FEATURES

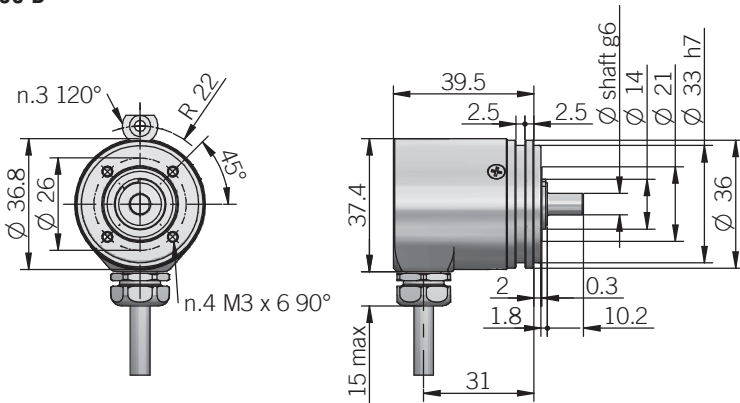
Miniaturized singleturn absolute encoder for limited size applications.

- Magnetic sensor technology without contact (Magnetic ASIC)
- Up to 15 bit as singleturn resolution
- Power supply up to +30 V DC with SSI as electrical interface
- Code reset for easy setup
- Cable or M12 output, other connectors available on cable end
- 6 mm diameter solid shaft
- Mounting by synchronous flange



ORDERING CODE	EMA	36B	13	G	8/30	S	P	X	6	X	8	PR	.XXX
SERIES magnetic singleturn absolute encoder EMA													
MODEL synchronous flange ø 33 mm 36B													
RESOLUTION from 1 to 15 bit 360 / 720 ppr please directly contact our offices for other pulses													
CODE TYPE binary B gray G													
POWER SUPPLY 5 V DC 5 8 ... 30 V DC 8/30													
ELECTRICAL INTERFACE Serial Synchronous Interface - SSI S													
LOGIC positive P													
OPTIONS to be reported if not used X reset ZE													
SHAFT DIAMETER mm 6													
ENCLOSURE RATING IP 67 cover side / IP 65 shaft side X													
MAX ROTATION SPEED 8000 rpm 8													
OUTPUT TYPE radial cable (standard length 0,5 m) PR 8 pin M12 radial connector M12R female connector included, without female please add 162 as variant code													
VARIANT custom version XXX													

36 B



fixing clamps not included, please refer to Accessories dimensions in mm

ELECTRICAL SPECIFICATIONS

Resolution	from 1 to 15 bit 360 / 720 ppr
Power supply¹	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 400 mW
Electrical interface²	RS-422 (SN65LBC179Q or equivalent)
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET t_{min} 150 ms
Clock frequency	100 kHz ... 1 MHz
Code type	binary or gray
SSI monostable time (Tm)	20 μ s
SSI pause time (Tp)	> 35 μ s
SSI frame	(MSB ... LSB) up to 13 bit = length 13 bit 14 to 15 bit = length 15 bit
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Accuracy	$\pm 0,35^\circ$ max
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2015/863/EU directive
UL / CSA	certificate n. E212495

CONNECTIONS

Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown or grey	2
CLOCK +	yellow	4
CLOCK -	orange	6
U / D	red / blue	7
RESET	white	1
---	shield	housing

MECHANICAL SPECIFICATIONS

Shaft diameter	\varnothing 6 mm
Enclosure rating	IP 67 cover side / IP 65 shaft side (IEC 60529)
Rotation speed	8000 rpm continuous / 10000 rpm max
Max shaft load³	20 N axial / radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	0,001 x 10 ⁻⁶ kgm ² (0,02 x 10 ⁻⁶ lbf ²)
Starting torque (at +20°C / +68°F)	< 0,01 Nm (1,42 Ozin)
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	1.0503 / AISI 1045 chrome plated steel
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{4, 5}	-30° ... +100°C (-22° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature⁵	-25° ... +85°C (-13° ... +185°F)
Weight	150 g (5,29 oz)

¹ as measured at the transducer without cable influences

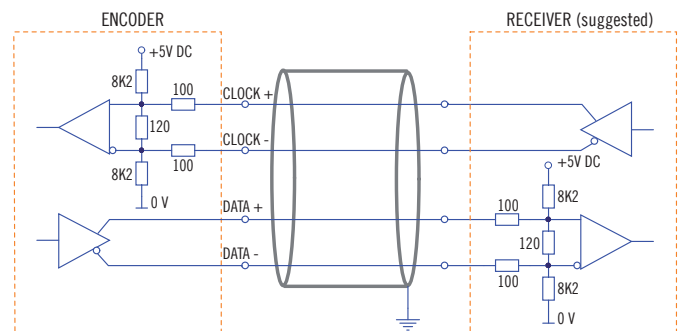
² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section

³ maximum load for static usage

⁴ measured on the transducer flange

⁵ condensation not allowed

SSI SCHEMATICS



M12 connector (8 pin)
M12 A coded
solder side view FV

