

BLIND HOLLOW SHAFT MAGNETIC MULTITURN ABSOLUTE ENCODER

MAIN FEATURES

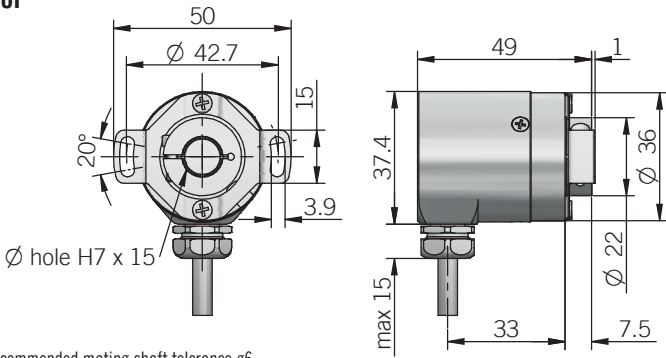
Miniaturized multiturn absolute encoder for limited size applications.

- Magnetic sensor technology without contact (Magnetic ASIC + Patented Energy Harvesting)
- Up to 55 bit as total resolution (15 bit single turn + 40 bit multiturn)
- 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
- Blind hollow shaft up to 10 mm diameter
- Mounting by stator coupling or torque pin



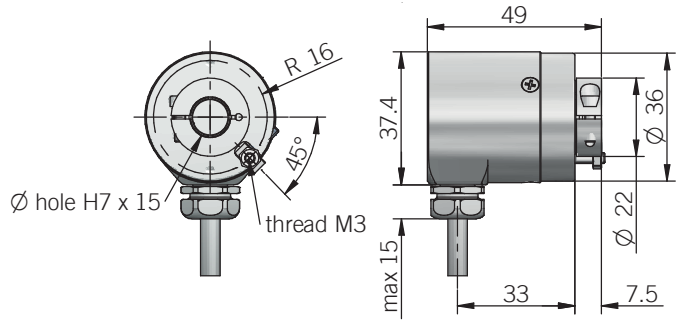
ORDERING CODE	EAM	36F	12 / 13	G	8/30	S	P	X	10	X	8	M12R	.162	+XXX
SERIES magnetic multiturn absolute encoder	EAM													
MODEL blind hollow shaft with stator coupling blind hollow shaft with torque pin		36F 36G												
MULTITURN RESOLUTION turns from 1 to 17 bit														
SINGLETURN RESOLUTION from 1 to 15 bit														
CODE TYPE binary gray					B G									
POWER SUPPLY 5 V DC 8 ... 30 V DC					5 8/30									
ELECTRICAL INTERFACE Serial Synchronous Interface - SSI					S									
LOGIC positive					P									
OPTIONS to be reported if not used reset with external input					X ZE									
BORE DIAMETER (3/8") mm mm					9,52 10									
diameters 4 / 5 / 6 / 6,35 (1/4") / 8 mm with optional shaft adapter, see Accessories														
ENCLOSURE RATING IP 67 cover side / IP 66 shaft side					X									
MAX ROTATION SPEED 8000 rpm					8									
OUTPUT TYPE radial cable (standard length 0,5 m) preferred cable lengths 1,5 / 2 / 3 / 5 / 10 m, to be added after OUTPUT TYPE (eg. PCR5) 8 pin M12 radial plug connector					PR M12R									
SOCKET socket not included to be reported only with connector output (eg. M12R.162), for socket see Accessories					.162									
VARIANT custom version					XXX									

36F



recommended mating shaft tolerance g6
dimensions in mm

36G



torque pin is included, for mounting instruction please refer to product installation notes

ELECTRICAL SPECIFICATIONS

Multiturn resolution	1 to 17 bit for multiturn resolution > 17 bit please contact our offices
Singleturn resolution	1 to 15 bit
Power supply ¹	5 = 4,75 ... 5,25 V DC 8/30 = 7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 400 mW
Electrical interface ²	RS-422 (THVD1451 or similar)
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 (T _m)	20 µs
SSI pause time (T _p)	> 35 µs
SSI frame	tree format MSB ... LSB up to 12 bit multiturn = length 25 bit (12MT + 13ST) 13 to 14 bit multiturn = length 27 bit (14MT + 13ST) 15 to 17 bit multiturn = length 32 bit (17MT + 15ST)
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Accuracy	± 0,35° max
Mean time to dangerous failure (MTTF) ³ according to EN ISO 13849-1	271 years
Mission time (T _m) ³	20 years
Diagnostic coverage (DC) ³	0%
Cable type	shielded - fixed installation conductors section 0,14 mm ² / AWG 26 bending radius min 60 mm
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	file n. E212495

CONNECTIONS

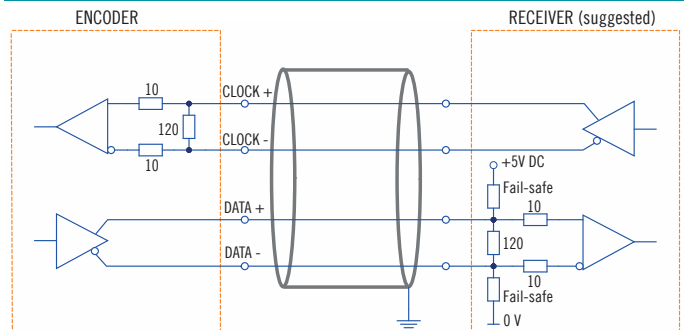
Function	Cable	8 pin M12
+ V DC	red	8
0 V	black	5
DATA +	green	3
DATA -	brown or grey	2
CLOCK +	yellow	4
CLOCK -	orange	6
U / D	red / blue	7
RESET	white	1
≡	shield	housing

MECHANICAL SPECIFICATIONS

Bore diameter	Ø 9,52 (3/8") / 10 mm Ø 4* / 5* / 6* / 6,35 (1/4")* / 8* mm * with optional shaft adapter, please refer to Accessories
Enclosure rating	IP 67 cover side / IP 66 shaft side (IEC 60529)
Rotation speed	8000 rpm continuous / 10000 rpm max
Max shaft load ⁴	20 N (4,5 lbs) 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	aluminum
Shaft material	stainless steel
Housing material	chrome plated steel
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature ^{5, 6}	-30° ... +100°C (-22° ... +212°F) -25° ... +85°C (-13° ... +185°F) with M12 connector
Storage temperature ⁶	-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 this product is not a safety component, for further details refer to TECHNICAL BASICS section
⁴ maximum load for static usage
⁵ measured on the transducer flange
⁶ condensation not allowed

SSI SCHEMATICS



M12 connector (8 pin)
M12 A coded front view

