

MAIN FEATURES

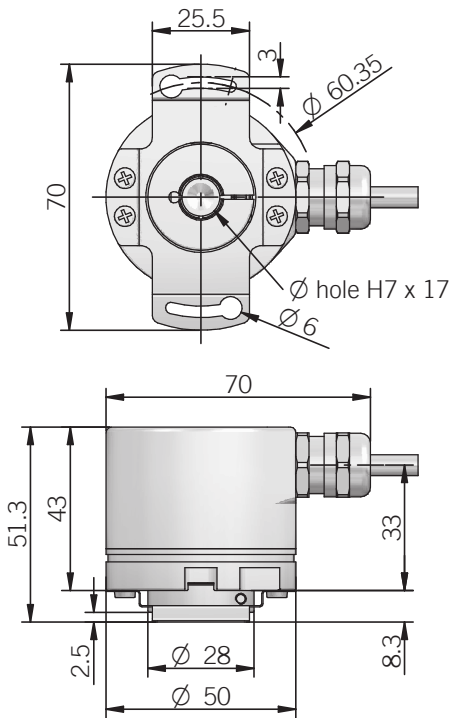
Singleturn absolute magnetic encoder size 50 mm with blind hollow shaft

- Resolution 12 bit
- Power supply up to +28 V DC with analogue (voltage or current) as electrical interface
- Code reset for easy setup
- Cable or M12 output, other connector available on cable end
- Sturdy construction (separated chambers)
- Blind hollow shaft diameter up to 15 mm
- IP 67 enclosure rating
- Mounting by stator coupling or torque pin

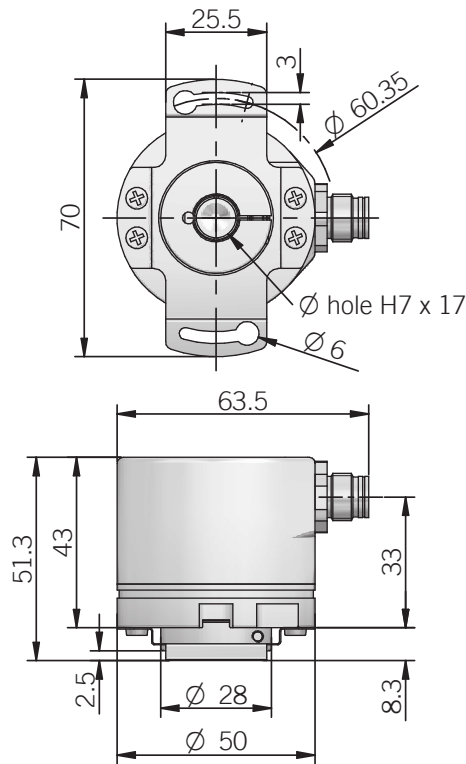


ORDERING CODE	EML	50F	360	X	12/28	V	05	X	6	X	3	P	R	.XXX
SERIES analogue magnetic singleturn absolute encoder EML														
MODEL blind hollow shaft with stator coupling 50F blind hollow shaft with torque pin 50G														
ACTIVE ANGLE degrees 360 degrees 270 degrees 180 degrees 90														
OPTION to be reported if not used X reset ZE														
POWER SUPPLY 12 ... 28 V DC 12/28														
ELECTRICAL INTERFACE voltage V current I														
OUTPUT RANGE 0 ... 5 V 05 0 ... 10 V 010 0 ... 20 mA 020 4 ... 20 mA 420														
OPTIONS to be reported with voltage output / 3 wires current output X 4 wires current output Q														
BORE DIAMETER mm 6 mm 8 (3/8") 9,52 mm 9 mm 10 mm 12 mm 14 mm 15														
ENCLOSURE RATING IP 65 X IP 67 S														
MAX ROTATION SPEED 3000 rpm 3														
OUTPUT TYPE cable (standard length 0,5 m) P M12 connector M12 female connector included, without female please add 162 as variant code														
DIRECTION TYPE axial A radial R														
VARIANT custom version XXX														

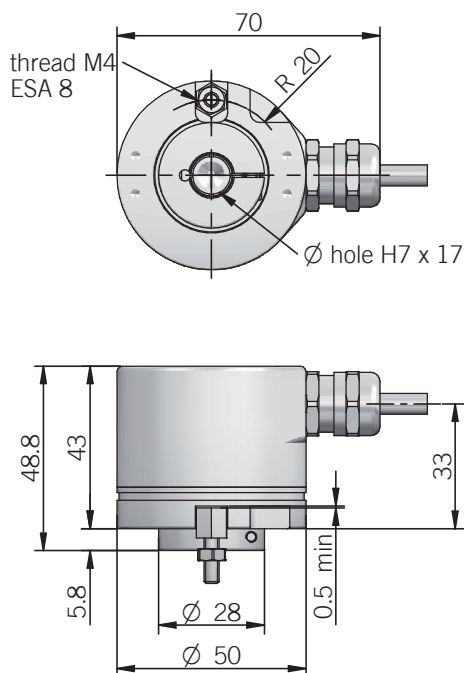
50 F
radial cable output



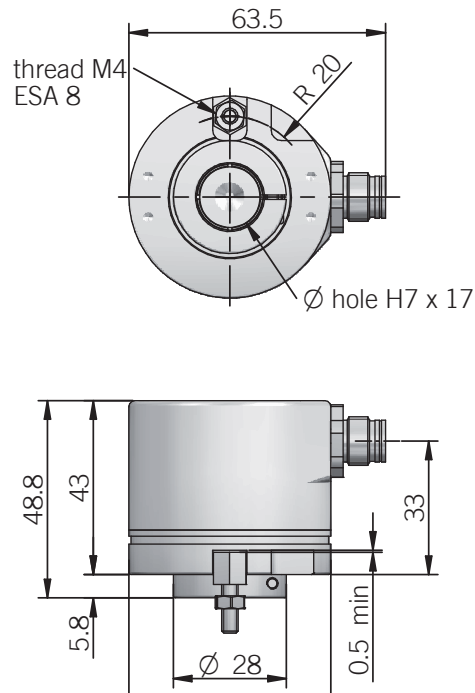
50 F
radial M12 output



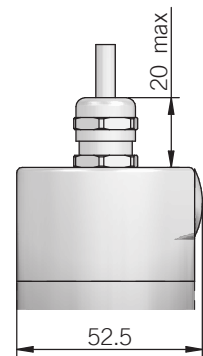
50 G
radial cable output



50 G
radial M12 output



Axial output



torque pin is included in model G, for mounting instruction please refer to product installation notes
dimensions in mm

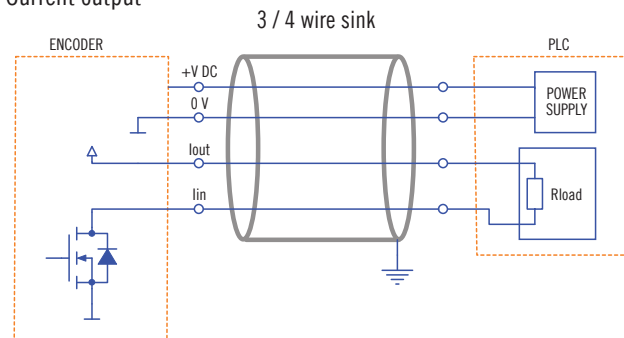
ELECTRICAL SPECIFICATIONS

Resolution	12 bit
Output DAC resolution	12 bit
Active angle	90 ... 360 mechanical degrees
Power supply¹	11,4 ... 29,4 V DC (reverse polarity protection)
Current consumption without load	40 mA max
Electrical interface²	voltage (0 ... 5 V / 0 ... 10 V) current (0 ... 20 mA / 4 ... 20 mA)
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET tmin 150 ms
Load	$R_{min} = 1 \text{ k}\Omega$ (voltage output) $R_{max} = (V_{DC} - 2) / 0.02$ (current output)
Output update frequency	100 kHz
Signal pattern	decreasing clockwise (shaft view)
Start-up time	150 ms
Linearity error	< 1 %
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2015/863/EU directive
UL / CSA	certificate n. E212495

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

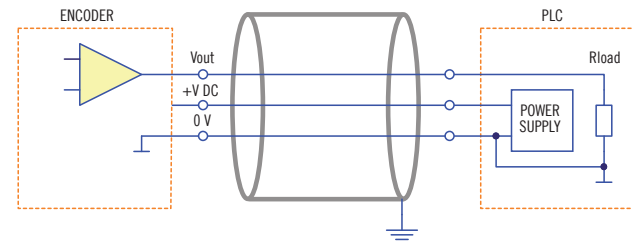
ELECTRICAL INTERFACE

Current output



with 3 wires interface I_{out} is internally connected to +V DC
 where $R_{LOAD \text{ max}} = (V_{DC} - 2) / 0.02$

Voltage output



where $R_{LOAD \text{ min}} = 1 \text{ k}\Omega$

MECHANICAL SPECIFICATIONS

Bore diameter	$\varnothing 6^* / 8^* / 9,52^* (3/8") / 10^* / 12^* / 14 / 15 \text{ mm}$ * with supplied shaft adapter
Enclosure rating	X = IP 65 (IEC 60529) S = IP 67 (IEC 60529)
Max rotation speed	3000 rpm continuous
Max shaft load³	30 N axial / 50 N radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	20 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	$4 \times 10^{-6} \text{ kgm}^2 (95 \times 10^{-6} \text{ lbf}^2)$
Starting torque (at +20°C / +68°F)	< 0,03 Nm (4,25 Ozin)
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	EN-AW 2011 aluminum
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature^{4, 5}	-25° ... +85°C (-13° ... +185°F)
Storage temperature⁵	-25° ... +85°C (-13° ... +185°F)
Fixing torque for collar clamping	1 Nm (142 Ozin) recommended
Weight	200 g (7,05 oz)

CONNECTIONS

Function	Cable (voltage)	Cable (current)	5 pin M12	8 pin M12*
+ V DC	red	red	2	8
0 V	black	black	4	5
Vout	green	/	3	/
Iin	/	yellow	3	3
Iout	/	green	/	2
U / D	blue	blue	5	7
RESET	white	white	1	1
⊕	shield	shield	housing	housing

* with Q current output
 M12 connector (5 pin) M12 A coded solder side view FV
 M12 connector (8 pin) M12 A coded solder side view FV



SIGNAL PATTERN (decreasing CW)

