

MAIN FEATURES

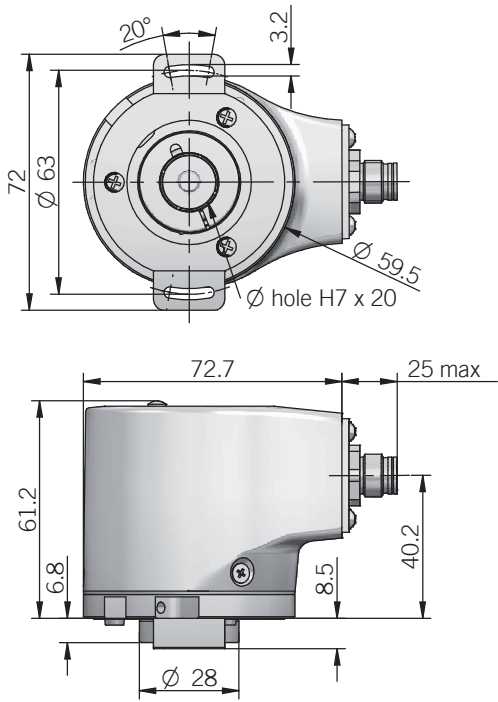
Industry standard singleturn absolute encoder for factory automation applications.

- Optical sensor technology (OptoASIC)
- Programmable measuring range via teach-in function (inputs or cover button)
- Power supply up to +30 VDC with analogue (voltage or current) as electrical interface
- Cable or M12 connector output
- Blind hollow shaft up to 15 mm
- Mounting by stator coupling, torque stop slot or torque pin

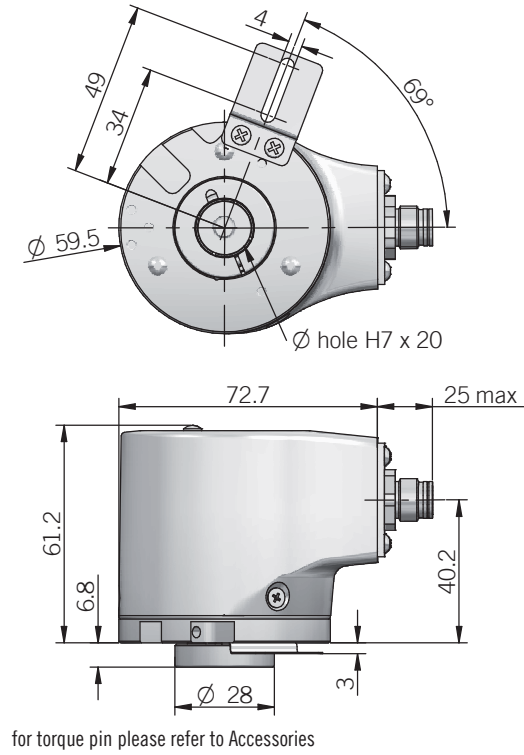


ORDERING CODE	EAL	58F	16B	12/30	V	05	X	15	X	P	R	.XXX
SERIES analogue singleturn absolute encoder EAL												
MODEL blind hollow shaft with stator coupling 58F blind hollow shaft with torque stop slot 63F blind hollow shaft with torque pin 63G												
OUTPUT DAC RESOLUTION 16 bit 16B												
POWER SUPPLY 12 ... 30 V DC 12/30												
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 14 mm 15 other diameters with optional shaft adapter												
ENCLOSURE RATING IP 65 shaft side / IP67 cover side X IP 67 S												
OUTPUT TYPE cable (standard length 1,5 m) P M12 connector M12 female connector included, without female please add 162 as variant code												
DIRECTION TYPE radial R												
VARIANT custom version XXX												

58 F

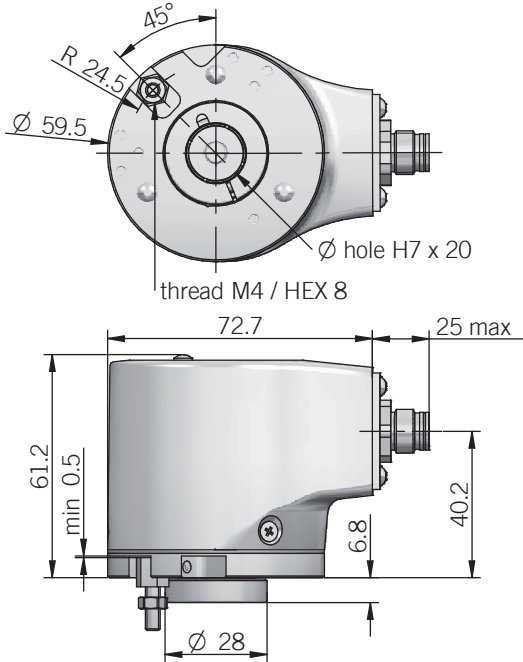


63 F



for torque pin please refer to Accessories

63 G



torque pin is included
dimensions in mm

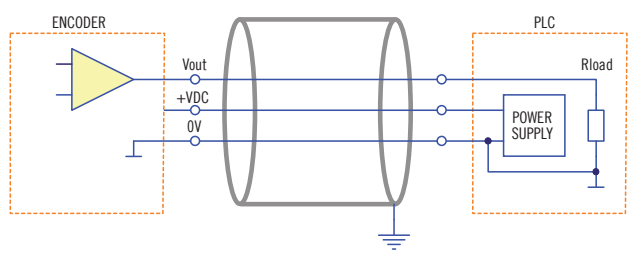
ELECTRICAL SPECIFICATIONS	
Resolution	16 bit
Output DAC resolution	16 bit
Minimum angle	22,5°
Power supply ¹	11,4 ... 30 V DC (reverse polarity protection)
Power draw without load	< 1 W
Electrical interface ²	voltage (0 ... 5 V / 0 ... 10 V) current (0 ... 20 mA / 4 ... 20 mA)
Auxiliary inputs (BEGIN - END - U/D)	active high (+V DC) connect to 0 V if not used / t_{min} 150 ms
Load	$R_{min} = 1 \text{ k}\Omega$ (voltage output) $R_{max} = (V \text{ DC} - 2) / 0,02$ (current output)
Output update frequency	16 kHz
Signal pattern	auto teaching according to commissioning
Start-up time	700 ms
Linearity error	± 250 arc-sec
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2015/863/EU directive
UL / CSA	certificate n. E212495

MECHANICAL SPECIFICATIONS	
Bore diameter	$\varnothing 8^* / 9,52 (3/8)^* / 10^* / 12^* / 14 / 15 \text{ mm}$ * with optional shaft adapter, please refer to Accessories
Enclosure rating IEC 60529	X = IP 65 shaft side / IP67 cover side S = IP 67
Max rotation speed	see table
Max shaft load ³	200 N axial / 60 N radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	$5 \times 10^{-6} \text{ kgm}^2$ ($119 \times 10^{-6} \text{ lbft}^2$)
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	painted aluminium
Bearings	n.2 ball bearings
Bearings life	10^9 revolutions
Operating temperature ^{4, 5}	-20° ... +85°C (-4° ... +185°F)
Storage temperature ⁵	-20° ... +85°C (-4° ... +185°F)
Weight	approx 350 g (12,35 oz)

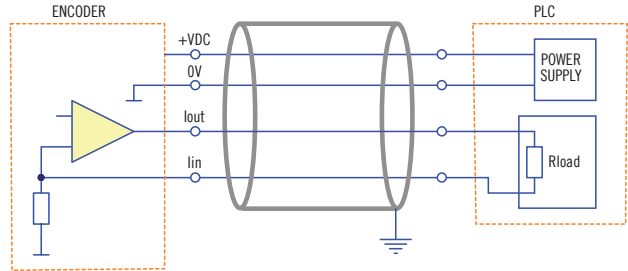
¹ as measured at the transducer without cable influences
² for further details refer to OUTPUT LEVELS on TECHNICAL BASICS section
³ maximum load for static usage
⁴ measured on the transducer flange
⁵ condensation not allowed

ELECTRICAL INTERFACE

Voltage output



Current output



3 / 4 wire source
with 3 wires interface I_{in} is internally connected to 0V

ROTATION SPEED / TEMPERATURE TABLE

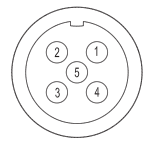
	Temperature °C (°F)	Max speed (rpm)	Max continuous speed (rpm)
IP65	up to +70 (+158)	9000	6000
	+70 ... +85 (+158 ... +185)	6000	3000
IP67	up to +70 (+158)	8000	4000
	+70 ... +85 (+158 ... +185)	4000	2000

CONNECTIONS

Function	Cable	5 pin M12	8 pin M12*
+ V DC	red	2	2
0 V	black	3	3
Vout / Iout	green	1	1
Iin	yellow	/	6
BEGIN	white	4	4
END	brown or grey	5	5
⊥	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

