

MAIN FEATURES

Industry standard multiturn absolute encoder for factory automation applications.

- Optical sensor technology (OptoASIC + Patented Energy Harvesting)
- Resolution up to 48 bit (18 bit single turn + 30 bit multiturn)
- Power supply up to +30 VDC with SSI as electrical interface
- Code reset for easy setup
- Cable or connector output
- Solid shaft diameter up to 10 mm
- Mounting by synchronous, clamping or centering 2,5" square flange

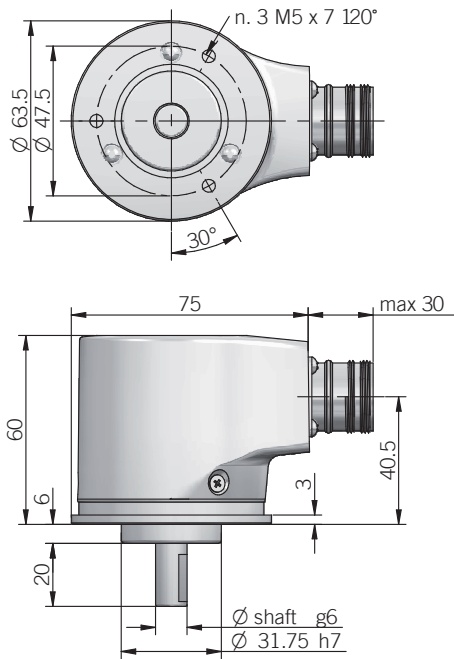


ORDERING CODE	EAMH	63A	12 / 13	G	8/30	S	X	2048	RS	10	X	HA	R	.XXX
SERIES multiturn absolute encoder EAMH														
MODEL synchronous flange ø 31.75 mm 63A synchronous flange ø 50 mm 58B clamping flange ø 36 mm 58C centering square flange ø 31.75 mm 63D centering square flange ø 50 mm 63E														
MULTITURN RESOLUTION bit 12 / 14 / 15 see table for preferred combinations														
SINGLETURN RESOLUTION bit 13 / 18 see table for preferred combinations														
CODE TYPE binary B gray G														
POWER SUPPLY 8 ... 30 V DC 8/30														
ABSOLUTE ELECTRICAL INTERFACE Serial Synchronous Interface - SSI S														
OPTION to be reported if not used X reset ZE														
INCREMENTAL RESOLUTION (powers of 2) ppr from 128 to 8192														
INCREMENTAL ELECTRICAL INTERFACE available with PC or HA output type line driver HTL L push pull P line driver RS-422 RS														
SHAFT DIAMETER (mod. 58 B) mm 6 (mod. 63 A / D) 3/8"- mm 9,52 (mod. 58 C - 63 A / D / E) mm 10														
ENCLOSURE RATING IP 65 shaft side / IP67 cover side X IP 67 S														
OUTPUT TYPE cable (standard length 1,5 m) PC 12 pin M23 connector HA 8 pin M12 connector M12 (without RESET option, only for legacy (not for new designs)) 7 pin MIL connector MC female connector included, without female please add 162 as variant code														
DIRECTION TYPE radial R														
VARIANT custom version XXX														

PRELIMINARY

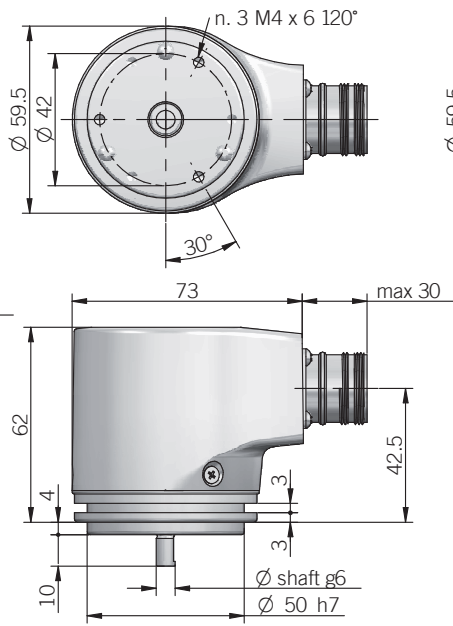
 only with additional incremental output

63 A



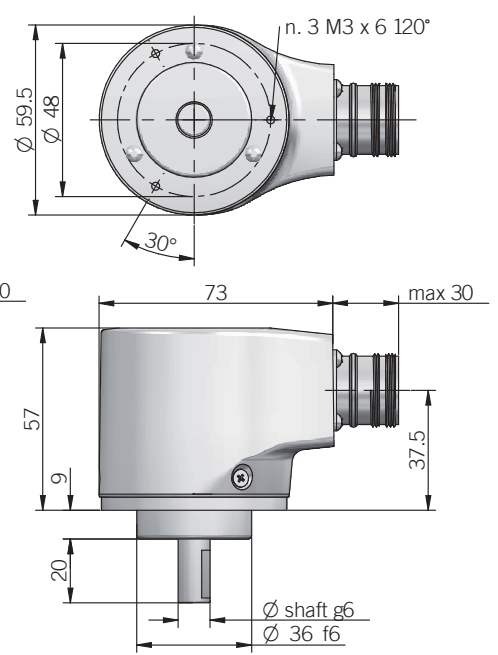
for fixing clamps please refer to Accessories

58 B

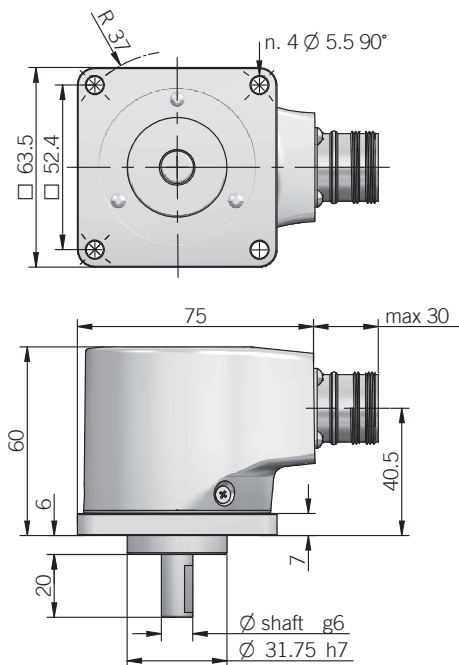


for fixing clamps please refer to Accessories

58 C

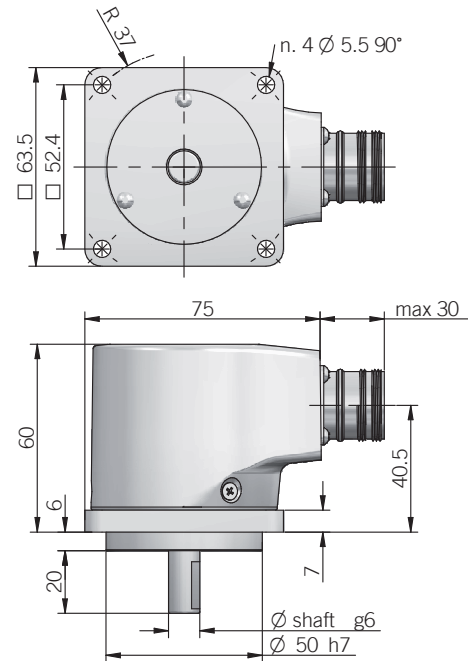


63 D



dimensions in mm

63 E



PRELIMINARY

ELECTRICAL SPECIFICATIONS

Multiturn resolution	12 / 14 / 15 bit for multiturn resolution > 15 bit please contact our offices
Singleturn resolution	up to 18 bit preferred combinations 12 multiturn / 13 singleturn 14 multiturn / 18 singleturn please directly contact our offices for other pulses
Power supply¹	7,6 ... 30 V DC (reverse polarity protection)
Power draw without load	< 1 W
Max load current	20 mA / channel
Absolute electrical interface²	RS-422 compatible
Incremental electrical interface²	L = HTL differential (active short circuit protection) P = Push-Pull (active short circuit protection) RS = RS-422
Max incremental output frequency	128 kHz
Auxiliary inputs (U/D - RESET)	active high (+V DC) connect to 0 V if not used / RESET t_{max} 150 ms
Max frequency	clock input: 100 kHz ... 1 MHz
Code type	binary or gray
Logic	positive
SSI monostable time (Tm)	20 μ s
SSI pause time (Tp)	> 35 μ s
SSI frame	tree format (MSB ... LSB) up to 12 bit multiturn = length 25 bit (12MT + 13ST) 14 bit multiturn = length 32 bit (14MT + 18ST)
SSI status and parity bit	on request
Counting direction	decreasing clockwise (shaft view)
Start-up time	700 ms
Accuracy	\pm 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

Shaft diameter	\varnothing 6 / 9,52 (3/8") / 10 mm
Enclosure rating IEC 60529	X = IP 65 shaft side / IP67 cover side S = IP 67
Max rotation speed	see table
Max shaft load³	200 N axial / 70 N radial
Shock	50 G, 11 ms (IEC 60068-2-27)
Vibration	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
Moment of inertia	1,5 x 10 ⁻⁶ kgm ² (36 x 10 ⁻⁶ lbfm 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 / mild steel
Bearings	n.2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature^{4,5}	-40° ... +100°C (-40° ... +212°F) -20° ... +100°C (-4° ... +212°F) with cable output -30° ... +85°C (-22° ... +185°F) with M12 connector
Storage temperature⁵	-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

ROTATION SPEED DERATING TABLE

Temperature °C (°F)	Max speed (rpm)	Max continuous speed (rpm)
up to +70 (+158)	10000	8000
+70 ... +85 (+158 ... +185)	8000	5000
+85 ... +100 (+185 ... 212)	5000	3000

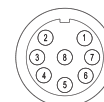
CONNECTIONS

Function	Cable PC	7 pin MC	12 pin HA	12 pin HA	8 pin M12
+ V DC	red	G	8	8	8
0 V	black	F	1	1	5
DATA +	green	C	2	2	3
DATA -	brown	D	10	10	2
CLOCK +	yellow	A	3	3	4
CLOCK -	orange or pink	B	11	11	6
A+	grey	/	/	6	/
A-	blue	/	/	7	/
B+	purple	/	/	9	/
B-	white / green	/	/	12	/
U / D	red / blue	E	5	5	7
RESET	white	/	4	4	1
\equiv	shield	housing	9	housing	housing

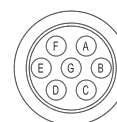
HA connector (12 pin)
M23 CCW Hummel
7.410.000000 - 7.002.912.603
solder side view FV



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



MC connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FV



PRELIMINARY