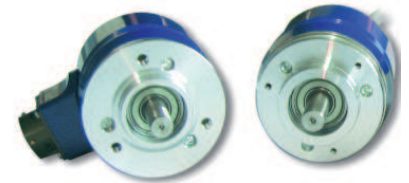


MAIN FEATURES

Industry standard multiturn absolute encoder for factory automation applications.

- Optical sensor technology (OptoASIC + gears)
- Resolution up to 27 bit (13 bit single turn (8192 ppr) + 14 bit multiturn (16384 turns))
- Power supply up to +28 VDC with Bit Parallel or SSI as electronic interface
- Cable or connector output
- Solid shaft diameter up to 10 mm
- Mounting by synchronous, clamping or centering 2,5" square flange

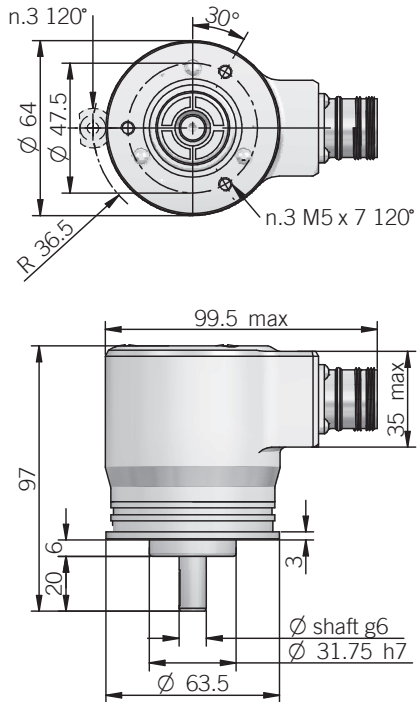


ORDERING CODE	EAM	63A	R	512 / 512	G	8/28	P	P	X	10	X	6	PE	R	.XXX
BIT PARALLEL															
SERIES multiturn absolute encoder	EAM														
MODEL synchronous flange ø 31.75 mm synchronous flange ø 50 mm clamping flange ø 36 mm centering square flange ø 31.75 mm centering square flange ø 50 mm		63A 58B 58C 63D 63E													
			rev. 2.0	R											
MULTITURN RESOLUTION (powers of 2) turns from															
SINGLETURN RESOLUTION (powers of 2) ppr from															
CODE TYPE binary gray															
POWER SUPPLY 8 ... 28 V DC															
ELECTRONIC INTERFACE push-pull															
LOGIC negative positive															
OPTIONS latch to be reported if not used															
SHAFT DIAMETER (mod. 58 B) (mod. 63 A / D) (9,52mm 3/8") (mod. 58 C - 63 A / D / E)															
ENCLOSURE RATING IP 54 IP 66															
MAX ROTATION SPEED (IP 66) 3000 rpm (IP 54) 6000 rpm															
OUTPUT TYPE (up to 13 bit as total resolution) 16 cores cable (standard length 1,5 m) (from 14 to 27 bit as total resolution or with latch option) 32 cores cable (standard length 1,5 m) (up to 13 bit as total resolution) 19 pin MIL connector (from 14 to 27 bit as total resolution) 32 pin MIL connector female connector included, without female please add 162 as variant code															
DIRECTION TYPE axial radial															
VARIANT custom version															

ORDERING CODE SSI	EAM	63A	R	512 / 512	G	8/28	S	X	X	10	X	3	MC	R	.XXX
SERIES multiturn absolute encoder EAM															
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															
rev. 2.0 R															
MULTITURN RESOLUTION (powers of 2) turns from 2 to 16384															
SINGLETURN RESOLUTION (powers of 2) ppr from 2 to 8192															
CODE TYPE binary B gray G															
POWER SUPPLY 8 ... 28 V DC 8/28															
ELECTRONIC INTERFACE Serial Synchronous Interface - SSI S															
LOGIC to be reported X															
OPTIONS to be reported X															
SHAFT DIAMETER (mod. 58 B) mm 6 (mod. 63 A / D) (9,52mm 3/8") mm 9 (mod. 58 C - 63 A / D / E) mm 10															
ENCLOSURE RATING IP 54 X IP 66 S															
MAX ROTATION SPEED (IP 66) 3000 rpm 3 (IP 54) 6000 rpm 6															
OUTPUT TYPE cable (standard length 1,5 m) PC 7 pin MIL connector MC 12 pin M23 connector HA 8 poles M12 connector M12 <i>female connector included, without female please add 162 as variant code</i>															
DIRECTION TYPE axial A radial R															
VARIANT custom version XXX															

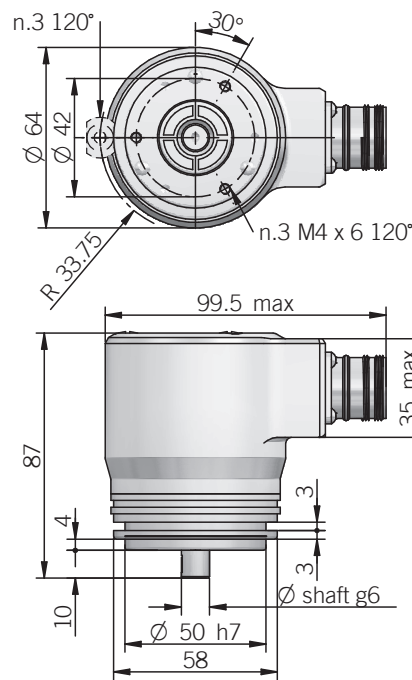
EAM 63 A

fixing clamps not included

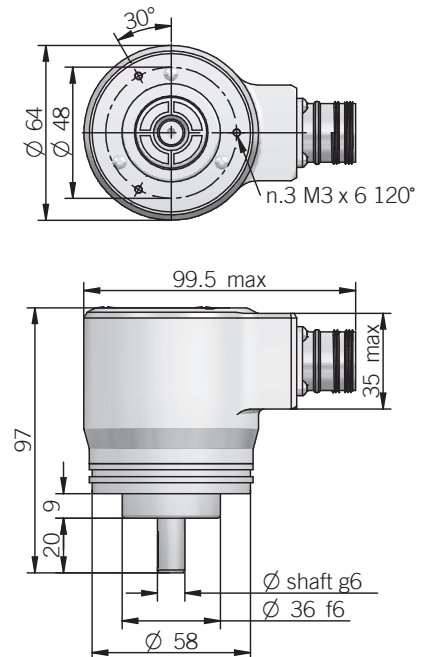


EAM 58 B

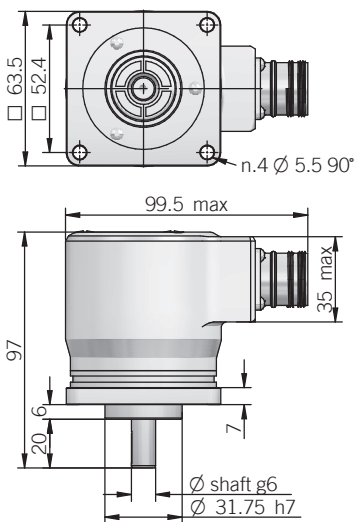
fixing clamps not included



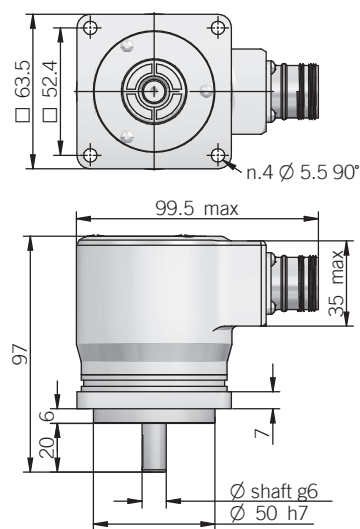
EAM 58 C



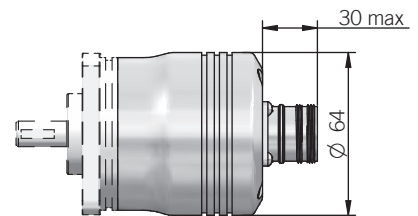
EAM 63 D



EAM 63 E



Dimensions with axial output



dimensions in mm

BIT PARALLEL CONNECTIONS

Function	Binary / Gray	Cable output PD	Cable output PE	19 pin MA connector	32 pin ME connector
bit 1 (LSB)	B ⁰ / G ⁰	green	green	A	A
bit 2	B ¹ / G ¹	yellow	yellow	B	B
bit 3	B ² / G ²	blue	blue	C	C
bit 4	B ³ / G ³	brown	brown	D	D
bit 5	B ⁴ / G ⁴	orange or pink	orange or pink	E	E
bit 6	B ⁵ / G ⁵	white	white	F	F
bit 7	B ⁶ / G ⁶	grey	grey	G	G
bit 8	B ⁷ / G ⁷	purple	purple	H	H
bit 9	B ⁸ / G ⁸	grey / pink	grey / pink	J	J
bit 10	B ⁹ / G ⁹	white / green	white / green	K	K
bit 11	B ¹⁰ / G ¹⁰	brown / green	brown / green	L	L
bit 12	B ¹¹ / G ¹¹	white / yellow	white / yellow	M	M
bit 13	B ¹² / G ¹²	yellow / brown	yellow / brown	N	N
bit 14	B ¹³ / G ¹³	/	white / grey	/	P
bit 15	B ¹⁴ / G ¹⁴	/	grey / brown	/	R
bit 16	B ¹⁵ / G ¹⁵	/	white / pink	/	S
bit 17	B ¹⁶ / G ¹⁶	/	pink / brown	/	T
bit 18	B ¹⁷ / G ¹⁷	/	white / blue	/	U
bit 19	B ¹⁸ / G ¹⁸	/	brown / blue	/	V
bit 20	B ¹⁹ / G ¹⁹	/	white / red	/	W
bit 21	B ²⁰ / G ²⁰	/	brown / red	/	X
bit 22	B ²¹ / G ²¹	/	white / black	/	Y
bit 23	B ²² / G ²²	/	brown / black	/	Z
bit 24	B ²³ / G ²³	/	grey / green	/	a
bit 25	B ²⁴ / G ²⁴	/	yellow / pink	/	b
bit 26	B ²⁵ / G ²⁵	/	yellow / blue	/	c
bit 27	B ²⁶ / G ²⁶	/	green / blue	/	d
LATCH	/	yellow / grey	yellow / grey	R	e
0 Volt	/	black	black	T	j
U / D	/	red / blue	red / blue	U	g
+ Vdc	/	red	red	V	h
≡	/	shield	shield	S	housing

BIT PARALLEL CONNECTOR OR CABLE CHOICE

According to the resolution and the chosen number of turns is possible to calculate the connections required by the connector or the cable. From the below table is possible to know the connection number.

EXAMPLE 1:
 256 PPR = 8 connections
 N° turns 32 = 5 connections
 Total connections 13.

EXAMPLE 2:
 4096 PPR = 12 connections
 N° turns 4096 = 12 connections
 Total connections 24.

From 1 to 13 connections a 16 cores cable (PD) or a 19 cores connector (MA) have to be considered.

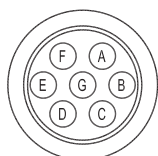
From 14 to 27 connections a 32 cores cable (PE) or a 32 cores connector (ME) have to be considered.

If LATCH is used a cable or a 32 poles connector is required.

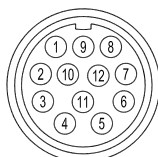
SSI CONNECTIONS

Function	Cable output PC	7 pin MC	12 pin HA	8 pin M12
+ Vdc	red	G	8	8
0 Volt	black	F	1	5
data +	green	C	2	3
data -	brown	D	10	2
clock +	yellow	A	3	4
clock -	orange or pink	B	11	6
U / D	red / blue	E	5	7
≡	shield	housing	9	housing

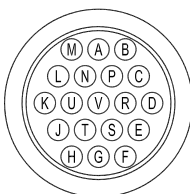
MC connector (7 pin)
Amphenol MS3102-E-16-S
solder side view FV



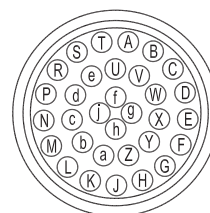
HA connector (12 pin) - M23 CCW
Hummel 7.410.000000 -
7.002.912.603
solder side view FV



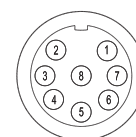
MA connector (19 pin)
Amphenol 62IN 12E 14-19 P
solder side view FV



ME connector (32 pin)
Glenair IPT 02 A 18-32 P F6
solder side view FV



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



ELECTRICAL SPECIFICATIONS

Multiturn resolution	from 2 to 16384 turns
Singleturn resolution	from 2 to 8192 ppr
Power supply	8/28 = 7,6 ... 29,4 V DC
Current consumption without load	100 mA
Max load current	20 mA / channel
Output type	P = push pull (active short circuit protection)* S = RS-422
Auxiliary inputs (U/D - Latch)	active high (+Vdc) <i>connect to 0V if not used</i>
Max frequency	output: 25 kHz LSB (Bit Parallel) clock input: 100 kHz ... 1 MHz (SSI)
SSI monostable time (Tm)	18 μ s
SSI pause time (Tp)	> 35 μ s
Accuracy	\pm 1/2 LSB
SSI frame	Tree format (MSB ... LSB) up to 12 bit multiturn = lenght 25 bit (12MT + 13ST) 13 to 14 bit multiturn = lenght 27 bit (14MT + 13ST)
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Electromagnetic compatibility	IEC 61000-6-2 IEC 61000-6-4

*output levels according to power supply, for further details please see under *Technical basics* section

MECHANICAL SPECIFICATIONS

Shaft diameter	\varnothing 6 / 9,52 (3/8") / 10 mm
Enclosure rating	X = IP 54 (IEC 60529) S = IP 66 (IEC 60529)
Max rotation speed	3000 rpm (IP 66) 6000 rpm (IP 54)
Max shaft load	10 N axial / 20 N radial with \varnothing 6 shaft 100 N axial / 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
Starting torque (at +20°C / +68°F)	< 0,02 Nm (IP 54) < 0,06 Nm (IP 66)
Body material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	painting aluminium
Bearings	2 ball bearings
Bearings life	10 ⁹ revolutions
Operating temperature	0° ... +60°C (+32° ... +140°F)
Storage temperature	-15° ... +70°C (+5° ... +158°F)
Weight	500 g (17,64 oz)

ACCESSORIES

set n.3 fixing clamps for model 58 B - 63 A
P/N 94080001

