

# EA 58 B / C - 63 A / D / E

## VIT PARALLEL - SSI

### SOLID SHAFT SINGLETURN ABSOLUTE ENCODER



### Specifications

Industry standard singleturn absolute encoder for factory automation applications.

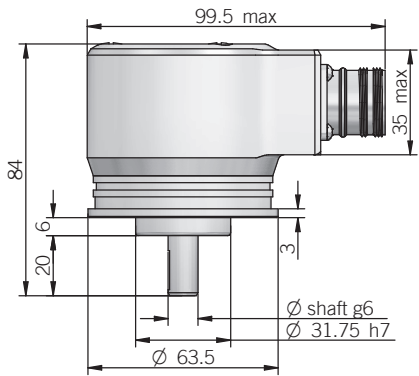
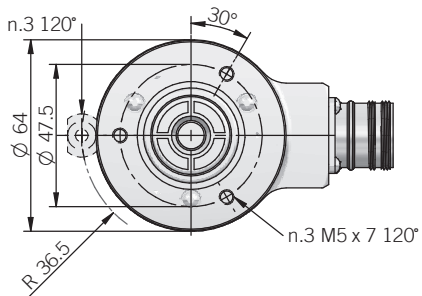
- Solid shaft diameter up to 10 mm
- Optical sensor technology (OptoASIC)
- Cable or connector output
- Mounting by synchronous, clamping or centering 2,5" square flange
- Power supply up to +28 VDC with Bit Parallel or SSI
- Code reset for easy setup
- Resolution up to 13 bit (8192 ppr)

ORDERING CODE	EA	63A	256	G	8/28	P	P	X	10	X	6	PD	R	.XXX
<b>BIT PARALLEL</b>														
<b>SERIES</b> singleturn absolute encoder	EA													
<b>MODEL</b> 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												
<b>RESOLUTION</b> (powers of 2) ppr from (multiples and submultiples of 360) ppr from (multiples and submultiples of 1000) ppr from			256 360 1000											
<b>CODE TYPE</b> binary gray (no powers of 2) binary offset code (no powers of 2) gray offset code				G	8/28	P	P	X						
<b>POWER SUPPLY</b> 8 ... 28 V DC					8/28									
<b>ELECTRONIC INTERFACE</b> push pull						P								
<b>LOGIC</b> negative positive							P							
<b>OPTIONS</b> latch (binary code) strobe to be reported if not used								X						
<b>SHAFT DIAMETER</b> (mod. 58 B) mm (mod. 63 A / D) (9,52mm 3/8") mm (mod. 58 C - 63 A / D / E) mm									10					
<b>ENCLOSURE RATING</b> IP 54 IP 66										X	S			
<b>MAX ROTATION SPEED</b> (IP 66) 3000 rpm (IP 54) 6000 rpm												3		
<b>OUTPUT TYPE</b> cable (standard length 1,5 m) (with option "latch") cable (standard length 1,5 m) 19 pin MIL connector												PD	PE	MA
<i>female connector included, without female please add 162 as variant code</i>														
<b>DIRECTION TYPE</b> axial radial													A	R
<b>VARIANT</b> custom version														XXX

ORDERING CODE	EA	63A	256	G	8/28	S	X	X	10	X	6	PC	R	.XXX
<b>SSI</b>														
<b>SERIES</b> singleturn absolute encoder	EA													
<b>MODEL</b> 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												
<b>RESOLUTION</b> (powers of 2) ppr from (multiples and submultiples of 360) ppr from (multiples and submultiples of 1000) ppr from			2 to 8192 90 to 3600 250 to 4000											
<b>CODE TYPE</b> binary gray (no powers of 2) binary offset code (no powers of 2) gray offset code				B G BC GC										
<b>POWER SUPPLY</b> 8 ... 28 V DC			8/28											
<b>ELECTRONIC INTERFACE</b> Serial Synchronous Interface - SSI				S										
<b>LOGIC</b> to be reported							X							
<b>OPTIONS</b> to be reported if not used reset								X ZE						
<b>SHAFT DIAMETER</b> (mod. 58 B) (mod. 63 A / D (9,52mm 3/8")) (mod. 58 C - 63 A / D / E)									6 9 10					
<b>ENCLOSURE RATING</b> IP 54 IP 66										X S				
<b>MAX ROTATION SPEED</b> (IP 66) 3000 rpm (IP 54) 6000 rpm											3 6			
<b>OUTPUT TYPE</b> cable (standard length 1,5 m) 7 pin MIL connector (with option "reset") 10 pin MIL connector 12 pin M23 connector 8 pin M12 connector <i>female connector included, without female please add 162 as variant code</i>												PC MC MD HA M12		
<b>DIRECTION TYPE</b> axial radial													A R	
<b>VARIANT</b> custom version														XXX

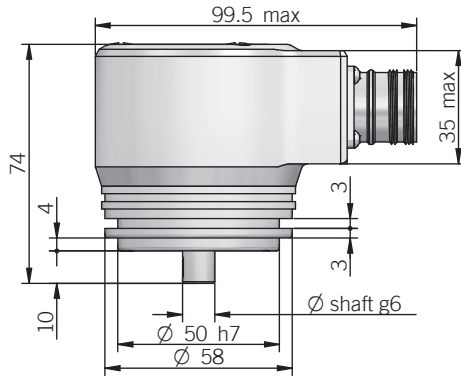
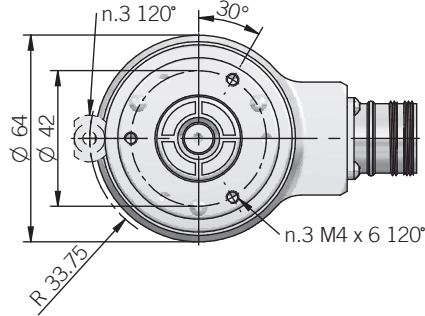
## EA 63 A

fixing clamps not included

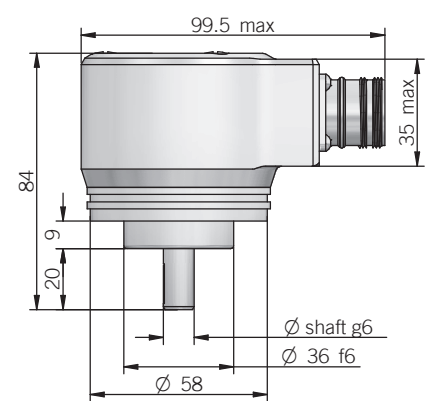
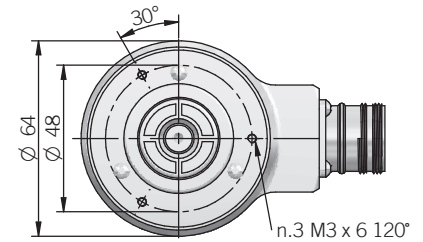


## EA 58 B

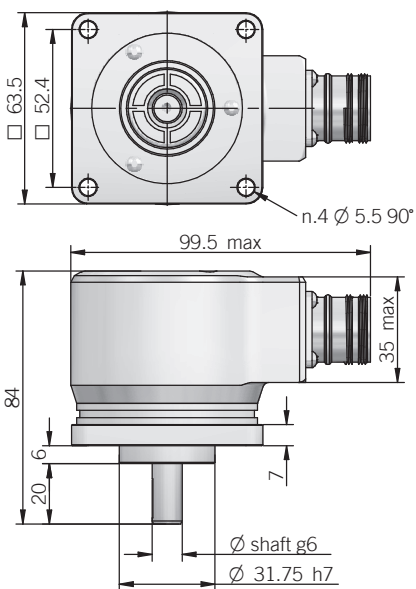
fixing clamps not included



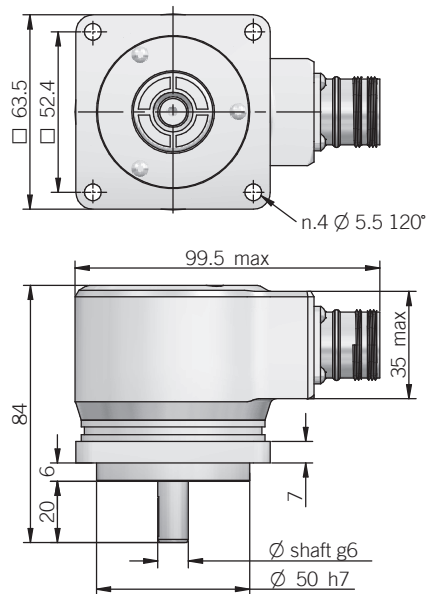
## EA 58 C



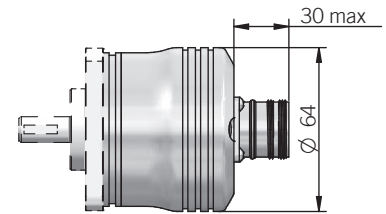
## EA 63 D



## EA 63 E



## Dimensions with axial output



### ELECTRICAL SPECIFICATIONS

<b>Resolution</b>	from 2 to 8192 ppr
<b>Power supply</b>	8/28 = 7,6 ... 29,4 V DC
<b>Current consumption without load</b>	100 mA
<b>Max load current</b>	20 mA / channel
<b>Output type</b>	P = push-pull (active short circuit protection)* S = RS-422
<b>Auxiliary inputs (U/D - Latch - Reset)</b>	active high (+Vdc) connect to 0V if not used / Reset t <sub>min</sub> 150 ms
<b>Max frequency</b>	output: 25 kHz LSB (Bit Parallel) clock input: 100 kHz ... 1 MHz (SSI)
<b>SSI monostable time (T<sub>m</sub>)</b>	18 μs
<b>SSI pause time (T<sub>p</sub>)</b>	> 35 μs
<b>SSI frame</b>	(MSB ... LSB) 13 bit data length
<b>Accuracy</b>	± 1/2 LSB
<b>Counting direction</b>	decreasing clockwise (shaft view)
<b>Start-up time</b>	150 ms
<b>Electromagnetic compatibility</b>	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

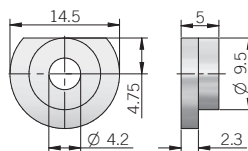
<b>Shaft diameter</b>	∅ 6 / 9,52 (3/8") / 10 mm
<b>Enclosure rating</b>	X = IP 54 (IEC 60529) S = IP 66 (IEC 60529)
<b>Max rotation speed</b>	3000 rpm (IP 66) 6000 rpm (IP 54)
<b>Max shaft load</b>	10 N axial / 20 N radial with ∅6 shaft 100 N axial / radial
<b>Shock</b>	50 G, 11 ms (IEC 60068-2-27)
<b>Vibration</b>	10 G, 10 ... 2000 Hz (IEC 60068-2-6)
<b>Moment of inertia</b>	1,5 x 10 <sup>-6</sup> kgm <sup>2</sup>
<b>Starting torque (at +20°C / +68°F)</b>	< 0,02 Nm (IP 54) < 0,06 Nm (IP 66)
<b>Body material</b>	EN-AW 2011 aluminum
<b>Shaft material</b>	1.4305 / AISI 303 stainless steel
<b>Housing material</b>	painted aluminum
<b>Bearings</b>	2 ball bearings
<b>Bearings life</b>	10 <sup>9</sup> revolutions
<b>Operating temperature</b>	0° ... +60°C (+32° ... +140°F)
<b>Storage temperature</b>	-15° ... +70°C (+5° ... +158°F)
<b>Weight</b>	500 g (17,64 oz)

### BIT PARALLEL CONNECTIONS

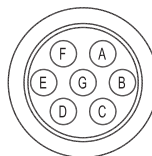
Function	Binary / Gray	Cable output PD	Cable output PE	19 pin MA
bit 1 (LSB)	B <sup>0</sup> / G <sup>0</sup>	green	green	A
bit 2	B <sup>1</sup> / G <sup>1</sup>	yellow	yellow	B
bit 3	B <sup>2</sup> / G <sup>2</sup>	blue	blue	C
bit 4	B <sup>3</sup> / G <sup>3</sup>	brown	brown	D
bit 5	B <sup>4</sup> / G <sup>4</sup>	orange or pink	orange or pink	E
bit 6	B <sup>5</sup> / G <sup>5</sup>	white	white	F
bit 7	B <sup>6</sup> / G <sup>6</sup>	grey	grey	G
bit 8	B <sup>7</sup> / G <sup>7</sup>	purple	purple	H
bit 9	B <sup>8</sup> / G <sup>8</sup>	gray / pink	gray / pink	J
bit 10	B <sup>9</sup> / G <sup>9</sup>	white / green	white / green	K
bit 11	B <sup>10</sup> / G <sup>10</sup>	brown / green	brown / green	L
bit 12	B <sup>11</sup> / G <sup>11</sup>	white / yellow	white / yellow	M
bit 13	B <sup>12</sup> / G <sup>12</sup>	yellow / brown	yellow / brown	N
STROBE	/	/	green / blue	P
LATCH	/	/	yellow / grey	R
0 Volt	/	black	black	T
U / D	/	red / blue	red / blue	U
+ Vdc	/	red	red	V
⊥	/	shield	shield	S

### ACCESSORIES

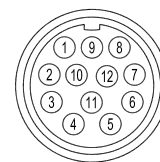
set n.3 fixing clamps for model 58 B - 63 A  
P/N 94080001



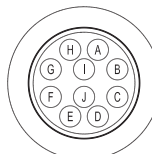
MC connector (7 pin)  
Amphenol MS3102-E-16-S  
solder side view FV



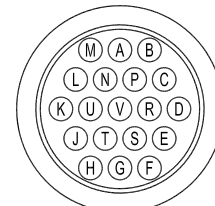
HA connector (12 pin) - M23 CCW  
Hummel 7.410.000000 -  
7.002.912.603  
solder side view FV



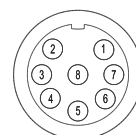
MD connector (10 pin)  
Amphenol MS3102-E-18-1  
solder side view FV



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



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



### SSI CONNECTIONS

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

dimensions in mm