

EA 58 B / C - 63 A / D / E BIT PARALLEL - SSI

SOLID SHAFT SINGLETURN ABSOLUTE ENCODER

MAIN FEATURES

Industry standard singleturn absolute encoder for factory automation applications.

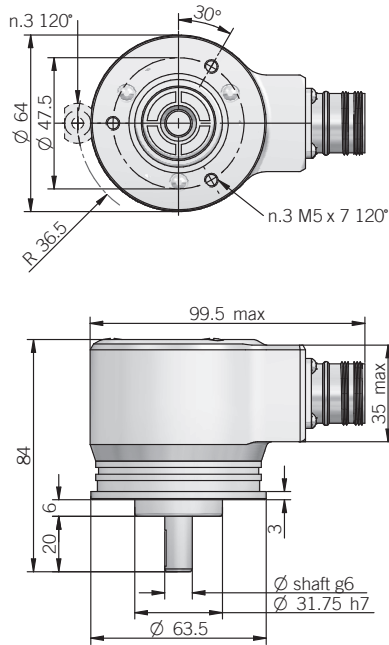
- Optical sensor technology (OptoASIC)
- Resolution up to 13 bit (8192 ppr)
- Power supply up to +28 V DC with Bit Parallel or SSI as electrical interface
- Code reset for easy setup
- Cable or connector output
- Solid shaft diameter up to 10 mm
- Mounting by synchronous, clamping or centering 2,5" square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



ORDERING CODE BIT PARALLEL	EA	63A	256	G	8/28	P	P	X	10	X	6	PD	R	.XXX
SERIES singleturn absolute encoder EA														
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														
RESOLUTION (powers of 2) ppr from 2 to 8192 (multiples and submultiples of 360) ppr from 90 to 3600														
CODE TYPE binary B gray G (no powers of 2) binary offset code (0-XXX) BC (no powers of 2) gray offset code (0-XXX) GC														
POWER SUPPLY 8 ... 28 V DC 8/28														
ELECTRICAL INTERFACE push pull P														
LOGIC negative N positive P														
OPTIONS latch L (binary code) strobe S to be reported if not used X														
SHAFT DIAMETER (mod. 58 B) mm 6 (mod. 63 A / D) (3/8") 9,52 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) PD (with option "latch") cable (standard length 1,5 m) PE 19 pin MIL connector MA female connector included, without female please add 162 as variant code														
DIRECTION TYPE axial A radial R														
VARIANT custom version XXX														

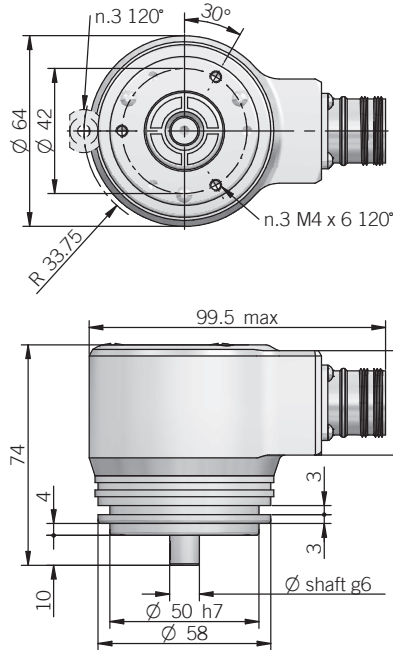
ORDERING CODE SSI	EA	63A	4096	G	8/28	S	X	X	10	X	6	PC	R	.XXX
SERIES singleturn absolute encoder EA														
MODEL synchronous flange ø 31.75 mm 63A synchronous flange ø 50 mm 58B clamping flange ø 36 mm 58C centering square flange ø 31.75 mm 63D centering square flange ø 50 mm 63E														
RESOLUTION ppr 360 / 720 / 1440 / 2880 / 3600 / 4096 / 8192 please directly contact our offices for other pulses														
CODE TYPE binary B gray G (no powers of 2) binary offset code (0-XXX) BC (no powers of 2) gray offset code (0-XXX) GC														
POWER SUPPLY 8 ... 28 V DC 8/28														
ELECTRICAL INTERFACE Serial Synchronous Interface - SSI S														
LOGIC to be reported X														
OPTIONS to be reported if not used X reset ZE														
SHAFT DIAMETER (mod. 58 B) mm 6 (mod. 63 A / D) (3/8") 9,52 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 (with option RESET) 10 pin MIL connector MD 12 pin M23 connector HA 8 pin M12 connector M12 female connector included, without female please add 162 as variant code														
DIRECTION TYPE axial A radial R														
VARIANT custom version XXX														

63 A



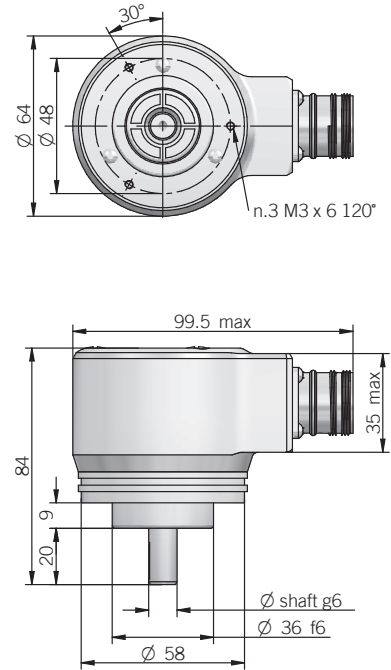
fixing clamps not included, please refer to Accessories section

58 B

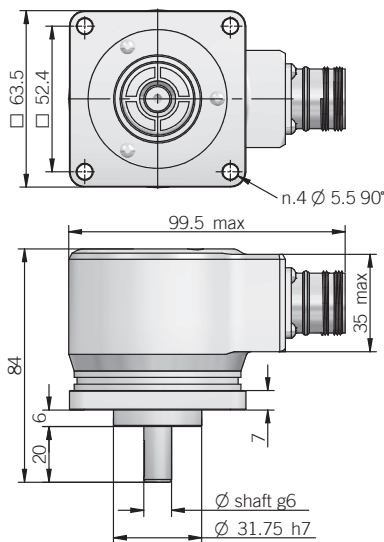


fixing clamps not included, please refer to Accessories section

58 C

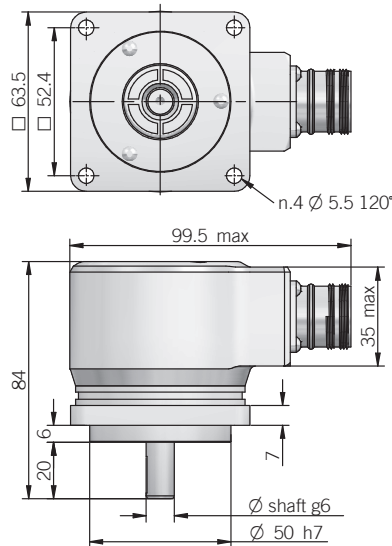


63 D

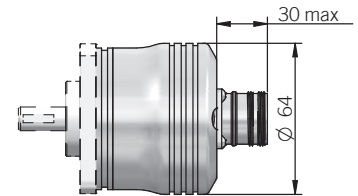


dimensions in mm

63 E



Dimensions with axial output



ELECTRICAL SPECIFICATIONS

Resolution	from 2 to 8192 ppr
Power supply	7,6 ... 29,4 V DC
Current consumption without load	100 mA
Max load current	20 mA / channel
Output type*	P = push-pull (iC-HD2) S = RS-422 (LTC1690 or equivalent)
Auxiliary inputs (U/D - Latch - Reset)	active high (+V DC) connect to 0 V if not used / Reset - Latch tmin 150 ms
Max frequency	output: 25 kHz LSB (Bit Parallel) clock input: 100 kHz ... 1 MHz (SSI)
SSI monostable time (Tm)	18 µs
SSI pause time (Tp)	> 35 µs
SSI frame	(MSB ... LSB) 13 bit data length
Accuracy	± 1/2 LSB
Counting direction	decreasing clockwise (shaft view)
Start-up time	150 ms
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive
UL / CSA	certificate n. E212495

* for further details please see OUTPUT LEVELS under TECHNICAL BASICS section

BIT PARALLEL CONNECTIONS

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

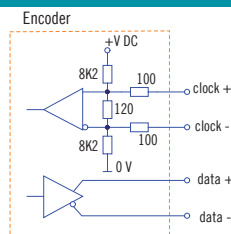
MECHANICAL SPECIFICATIONS

Shaft diameter	ø 6 / 9,52 (3/8") / 10 mm
Enclosure rating	X = IP 54 (IEC 60529) S = IP 66 (IEC 60529)
Max rotation speed	IP 54 - 6000 rpm IP 66 - 3000 rpm
Max shaft load	10 N axial / 20 N radial with ø6 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 (36 x 10 ⁻⁶ lbf ²)
Starting torque (at +20°C / +68°F)	< 0,02 Nm (2,83 Ozin) IP 54 < 0,06 Nm (8,50 Ozin) IP 66
Bearing stage material	EN-AW 2011 aluminum
Shaft material	1.4305 / AISI 303 stainless steel
Housing material	painted aluminum
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)

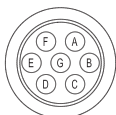
SSI CONNECTIONS

Function	Cable PC	7 pin MC	10 pin MD	12 pin HA	8 pin M12
+ V DC	red	G	G	8	8
0 V	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
RESET	white	/	H	4	1
U / D	red / blue	E	E	5	7
≡	shield	housing	J	9	housing

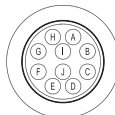
SSI SCHEMATICS



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



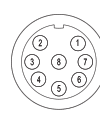
MD connector (10 pin)
Amphenol MS3102-E-18-1
solder side view FV



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



MA connector (19 pin)
Amphenol 621N 12E 14-19 P
solder side view FV

