



Solid mechanical construction
 Protection to IP 65
 SMD technology
 Parallel outputs



Absolut Encoder EA 59Z Parallel

Optical absolute shaft encoder of high resolution

Resolution

Resolution (Steps/360°):

1024 = 10 bit	4096 = 12 bit	8192 = 13 bit
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Type explanation

EA 59Z-8192G-30-P-SC16

Encoder type	Absolute
Flange diameter	ø 58 mm
Case diameter	ø 58 mm
Special flange	Yes
Number of bits	8192 = 13 Bits 4096 = 12 Bits 1024 = 10 Bits
Single-turn	Yes
Supply voltage	30 = 10..30 VDC
Output driver	P
Position of connection	R S
Connector	C16 = 16 pins M23
Shaft diameter	ø 10 mm

Technical data

Mechanical data

Rotational speed	$\leq 6000 \text{ min}^{-1}$
Torque	$\leq 5 \text{ Ncm}$
Moment of inertia	50 g cm^2
Loading of bearings	110 N radial 20 N axial
Operational life of ball bearings	$> 10^5 \text{ h (1000 min}^{-1}\text{)}$
Weight	$\leq 0,3 \text{ kg}$

Environmental conditions

Vibration	$100 \text{ m/s}^2 (10 \dots 1000 \text{ Hz})$
Shock	$200 \text{ m/s}^2 (11 \text{ ms})$
Operating temperature	$-30 \dots +70^\circ\text{C}$
Storage temperature	$-40 \dots +85^\circ\text{C}$
Atmospheric humidity	$\leq 98\% \text{ r.h.}$
Protection class	IP 65 (DIN 40050/IEC 144)

Electrical data

Scanning type	Optical, without contact
Transmitter, infrared	LED
Receiver	Photo-Array
Supply voltage	$V_{cc} = 10 \dots 30 \text{ VDC}$
Power consumption	$\leq 180 \text{ mA (} V_{cc} = 24 \text{ V)}$
Output frequency	$\leq 100 \text{ kHz}$
Load capacity of the outputs	20 mA

Connector 12 pins M23

Connection	Signal
Pin 1	G 0
Pin 2	G 1
Pin 3	G 2
Pin 4	G 3
Pin 5	G 4
Pin 6	G 5
Pin 7	G 6
Pin 8	G 7
Pin 9	G 8
Pin 10	G 9
Pin 11	G 10 ¹⁾
Pin 12	G 11 ¹⁾
Pin 13	G 12 ²⁾
Pin 14	CW/CCW
Pin 15	0 V GND
Pin 16	+Vcc

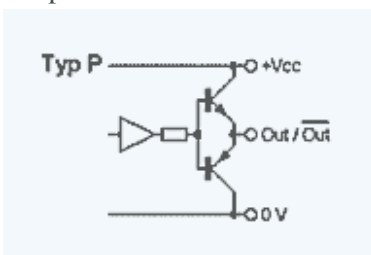
1) N.C. bei EA59Z-1024

2) N.C. bei EA59Z-1024 und EA59Z-4096

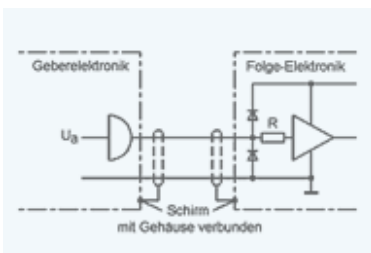
Cable

Wire colour	Signal
White	G 0
Brown	G 1
Green	G 2
Yellow	G 3
Grey	G 4
Pink	G 5
Blue	G 6
Red	G 7
Black	G 8
Violet	G 9
Grey/Pink	G 10
Red/Blue	G 11
White/Green	0 V GND
Brown/Green	+Vcc
White/Yellow	G 12
Yellow/Brown	CW/CCW

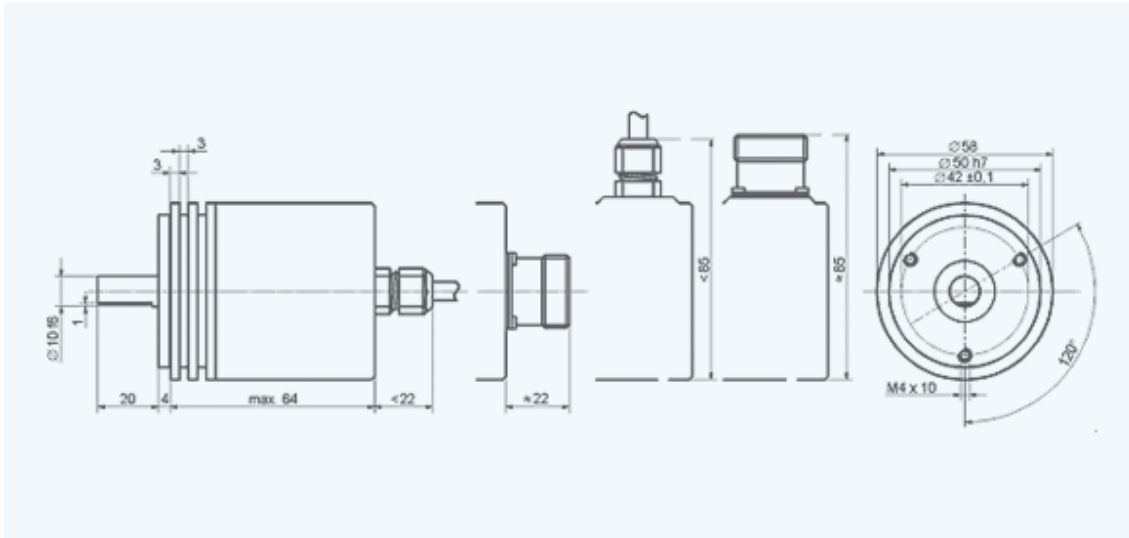
Output driver



Channel schematic



Outline drawing



Version AE 559-001 · Subject to change

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