



Solid mechanical construction
 Protection to IP 65, IP 66
 SMD technology
 Electronic preset
 Connection to fieldbus over suitable gateway



Absolut Encoder EA 57

Optical absolute shaft encoders of high resolution

Resolution

Resolution (Steps/360°):

4096 = 12 bits

8192 = 13 bits

65536 = 16 bits

Type explanation

EA 57-8192G-30-D-SC12

Encoder type	Absolute
Flange type	Servo- / Klemmflansch
Flange diameter	ø 58 mm
Case diameter	ø 58 mm
Number of bits	65536 = 16 Bits 8192 = 13 Bits 4096 = 12 Bits
Single-turn	Yes
Electronic adjustment	Yes
Supply voltage	30 = 10 .. 30 VDC
Output driver	D-SSI DI
Position of connection	R S
Connector	C12 = 12 pins M23
Shaft diameter	ø 10 mm

Technical data

Mechanical data

Rotational speed	$\leq 12.000 \text{ min}^{-1}$
Torque	$\leq 3 \text{ Ncm}$
Moment of inertia	30 g cm^2
Loading of bearings	110 N radial 40 N axial
Operational life of ball bearings	$> 2 \times 10^5 \text{ h}$ (1000 min^{-1} , EAS 57) $> 1 \times 10^5 \text{ h}$ (1000 min^{-1} , EA 57)
Weight	$\leq 0,25 \text{ kg}$

Environmental conditions

Vibration	100 m/s^2 (10 ... 1000 Hz)
Shock	300 m/s^2 (11 ms)
Operating temperature	-40 ... +85°C
Storage temperature	-40 ... +85°C
Atmospheric humidity	$\leq 98\% \text{ r.h.}$
Protection class	IP 65 (DIN 40050/IEC 144) IP 66 (optional)

Electrical data

Scanning type	Optical, without contact
Transmitter, infrared	LED
Receiver	Photo-Array
Scanning frequency LSB	800 kHz
Measurement accuracy	$\pm 1/2 \text{ LSB}$ (12 bit) $\pm 1 \text{ LSB}$ (13 bit) $\pm 2 \text{ LSB}$ (16 bit)
Supply voltage	$V_{cc} = 10 \dots 30 \text{ VDC}$
Power consumption	$\leq 90 \text{ mA}$ ($V_{cc} = 24 \text{ V}$)

Electrical connections

SSI

Interface	RS485
Clock	Optocoupler

Incremental outputs

1024 pulses per revolution	AA+BB/90° RS422 (optional)
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Inputs

Rotational direction	CW/CCW
Electronic adjustment	RESET (optional)

Connector 12 pins M23

Connection	Signal
Pin 1	+Vcc
Pin 2	0 V GND
Pin 3	Clock+
Pin 4	Data+
Pin 5	RESET ¹⁾
Pin 6	Data-
Pin 7	Clock-
Pin 8	A+ ²⁾
Pin 9	CW/CCW
Pin 10	B+ ²⁾
Pin 11	B- ²⁾
Pin 12	A- ²⁾

1) optional

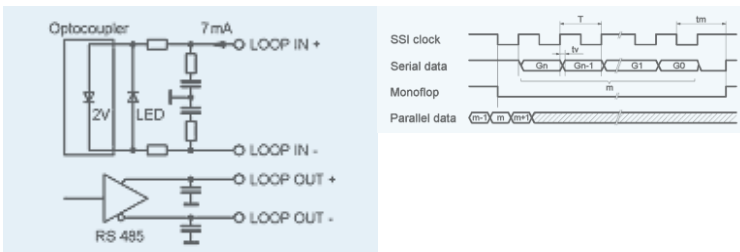
2) nur bei Ausgangstreiber "DI"

Cable

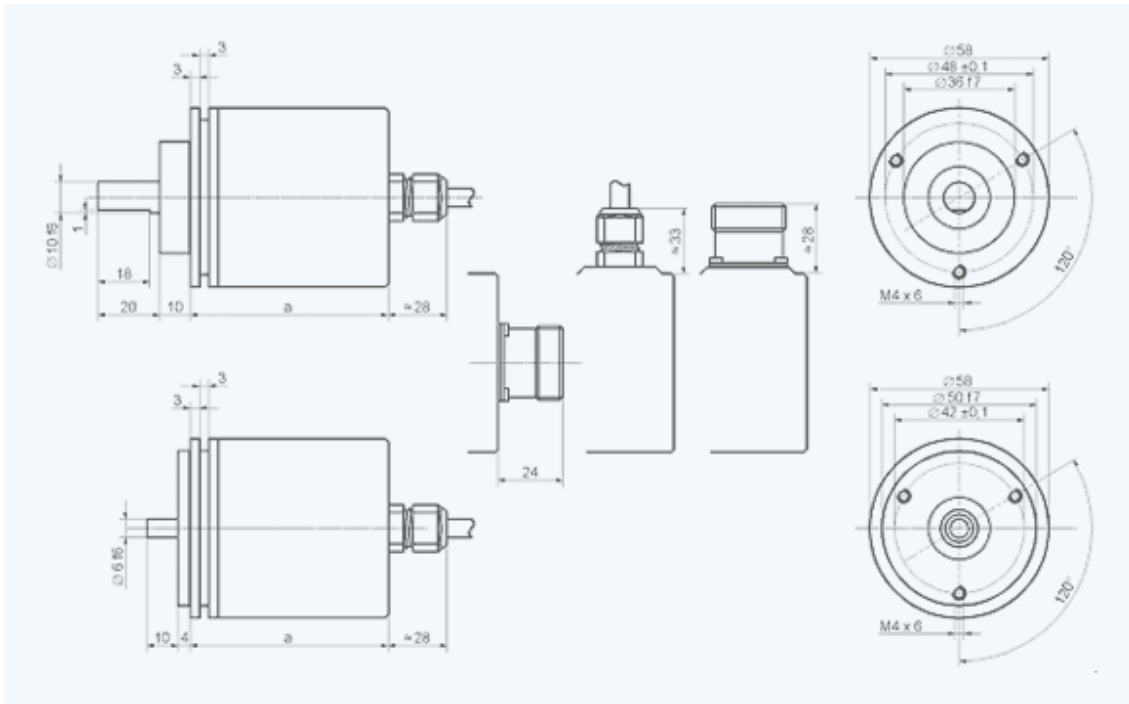
Wire colour	Signal
White	0 V GND
Brown	+Vcc
Green	Clock+
Yellow	Clock-
Grey	Data+
Pink	Data-
Red	CW/CCW
Black	RESET ¹⁾

1) optional

Channel schematic



Outline drawing



Version AE 557-3111 · Subject to change

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