Standard Absolute Multiturn Encoder EAM58

Description

Standard absolute multi-turn encoder EAM58 series has good performance against mechanical damage and can withstand higher axial and radial load. By using gear suite with unique algorithm to realize the compact structure and hollow shaft diameter up to Φ 15mm. The special processing chip with high accuracy and high stability is adopted, to ensure the single-turn resolution up to 19 bit and meet the high-precision control requirement of the field.

Features

• Various flanges available
• Mechanical multi-turn design
• Waterproof seal improves IP level
• Hollow shaft diameter up to Φ15 mm
• Metal housing for shock resistance
• Protection class IP65
• Output cable or connector available
• Various revolutions and resolutions available

Mechanical parameters

Shaft diameter	Φ6g6/Φ8g6/Φ10g6 mm
Hollow shaft diameter	Φ8H7/Φ10H7/Φ12H7/Φ15H7 mm
Protection class	IP65
Speed	6000 r/m
Max load capacity of the shaft	
Axial load capacity	80 N
Radial load capacity	160 N
Shock resistance	50G/11 ms
Vibration resistance	10G 10...2000 Hz
Bearing life	10^9 revolution
Rotor moment of inertia	1.8×10^{-6} kgm^2
Starting torque	<0.01 Nm
Body material	AL-alloy
Housing material	Zn AL-alloy
Operating temperature	-40...+80 ℃
Storage temperature	-45...+85 ℃
Relative humidity/condensation	90%, Condensation not permitted
Weight	360...750 g

Electrical parameters

Output circuit	SSI	SSI
Output driver	RS422	RS422
Resolution	Max.19 bits	Max.19 bits
Revolution	12bits	12 bits
Supply voltage	10-30 VDC	5 VDC
Power consumption (no load)	≤200 mA	≤200 mA
Permissible load (channel)	±20 mA	±20 mA
Pulse frequency	Max15 kHz	Max15 kHz
Signal level high	Typ.3.8 V	Typ.3.8 V
Signal level low	Max. 0.5 V	Max. 0.5 V
Rise timeTr	Max 100 ns	Max 100 ns
Fall timeTf	Max 100 ns	Max 100 ns

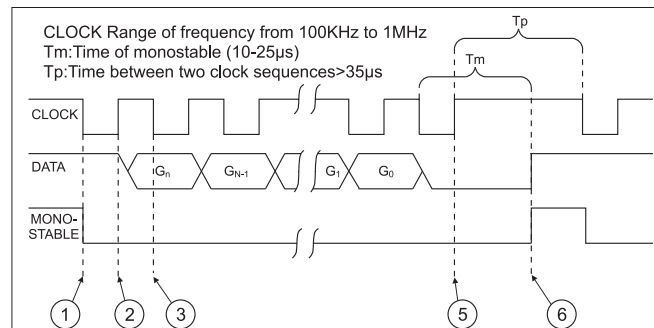# Standard Absolute Multiturn Encoder EAM58

Terminal Assignment
SSI

Signal	0V	+U_b	+C	-C	+D	-D	ST*	V/R*	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	⏚
12-pin	1	2	3	4	5	6	7	8	PH

ST: Reset input, the current position value is stored as new zero position

VR:Up/down input, as this input is active, decreasing code values are transmitted when shaft turning clockwise.

Operating principle

In rest conditions, the CLOCK and DATA lines are at a high logical level and the mono-stablecircuit is disabled (high level).

1. On the first CLOCK signal descent front, the mono-stable is activated and the parallel value present at the input to the P/S converter is memorized in the shift register.

2. On the CLOCK signal ascent front, the most significant bit (MSB) is placed in the output on the DATA line.

3. On the CLOCK descent front when the signal is stable the controller acquires the level from the DATA line, which is the value of the most significant bit (MSB), the mono-stable is re-activated.

4. On each further ascent front of the CLOCK impulse sequence, the successive bits up to the least significant one are place in the output on the DATA line and acquired by the control on the descent front.

5. At the end of the CLOCK impulse sequence when the external control has also acquired the value of the least significant (LSB) the CLOCK impulse sequence is interrupted and therefore the mono-stable is no longer re-activated.

6.Once the mono-stable time (Tm) has elapsed, the DATA line returns to a high logical level and the mono-stable disables itself.
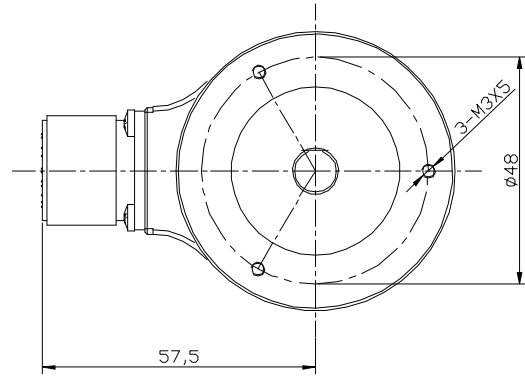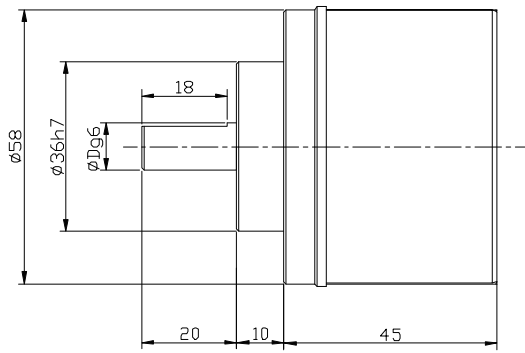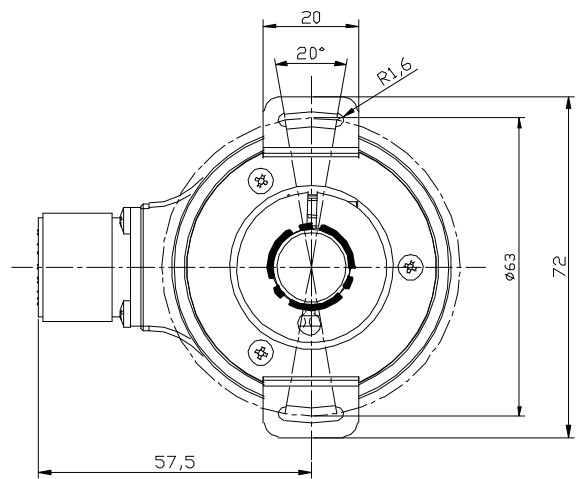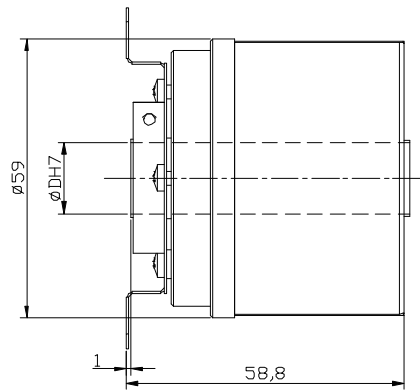
Dimensions (mm)

EAM58B
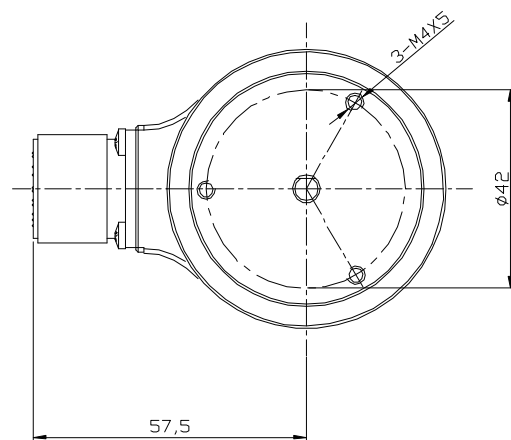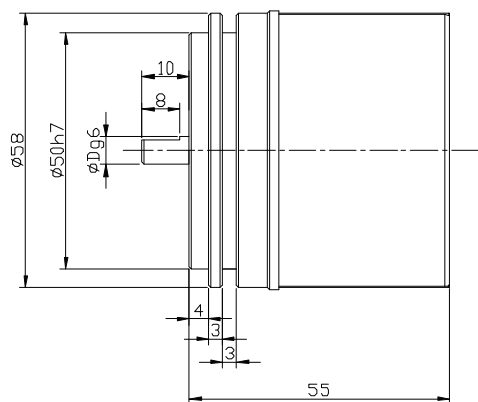
Dimensions (mm)

EAM58C

EAM58W

Standard Absolute Multiturn Encoder EAM58

Order Code

EAM 58 C 10 — G S6 X PC R 4096/8192 EU

Standard absolute multiturn

Outlets direction

R=radial

Resolution

revolution/singleturn resolution
revolution:12bits
resolution: max. 19bits

Type of connection

PC=12-core cable(SSI), standard length 1.5m
T=M23,12-pin connector(SSI)

Output logic

X= No definition(SSI)

Shaft/Hollow Shaft diamter

Only for flange type 58B、58C
6=Φ6g6mm
8=Φ8g6mm
10=Φ10g6mm

Only for flange type 58W
8=Φ8H7mm
10=Φ10H7mm
12=Φ12H7mm
15=Φ15H7mm

Output & Supply voltage

S6=SSI(synchro serial interface)   10...30 VDC
S5=SSI(synchro serial interface)   5 VDC

Code type

G=Gray
B=Binary

Flange type

B = synchro flange, shaft length 10mm

C = Φ36 clamping flange, shaft length 20mm

W = blind hollow shaft flange,double-winged spring leaf installation

Housing diameter

58 = Φ58

12-pin plug

Series

EAM = standard absolute multiturn

Connection accessories

Connection matching with"T"wiring

Ordering code: TMSP1612F

This sample is for reference only,take products as the standard