

# Easydic Series Hollow Shaft Incremental Encoder EB58P



## Application

Easydic series incremental encoder EB58P,  $\Phi 58$ , are used in all industrial environments. The mechanical structure could afford higher axial and radial load. Flexible and variant mechanical structure & electrical design, various electrical output circuits enable it to match all controllers. The hollow shaft structure is more convenient for tight space installation. Preferably recommended type for wide applications in light industries.

## Characteristics

- Protection class IP64
- Stainless steel shaft  $\Phi 8/\Phi 10/\Phi 12/\Phi 14/\Phi 15$ , "C" lock ring
- Compact hollow shaft design saves installation space and cost
- Block-pin or double wing spring accessories provide more flexible connection and high degree of freedom
- Metal housing for shock resistance, compact size, saves space
- Cost effective
- Cable output or connector, more flexible, and easy for maintenance. The waterproof end rubber ensures safety.
- Reverse connection protection Short circuit protection

## Mechanical Characteristics

Hollow shaft diameter (mm)	$\Phi 8/\Phi 9.52/\Phi 10/\Phi 12/\Phi 14/\Phi 15H7$
Protection acc. to EN 60529	IP64
Speed	6000 rpm
Max load capacity of the shaft	40Naxial; 80Nradial
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000HZ
Bearing life	$10^9$ revolution
Moment of inertia	$1.8 \times 10^{-6}$ kgm <sup>2</sup>
Starting torque	<0.05Nm
Body material	AL-alloy
Housing material	AL-alloy + black paint
Operating temperature	-20~+80 °C
Storage temperature	-30~+85 °C
Weight	420g

Resolution: **10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1250, 2000, 2048**, 2500, 4000, **4096**, 5000

Attention: Bold part is in stock, others on request

## Electrical Characteristics

Output circuit	Push-pull	RS422	RS422	NPN	NPN OC
Resolution	Max. 5000ppr	Max. 5000ppr	Max. 5000ppr	Max. 5000ppr	Max. 5000ppr
Supply voltage(VDC)	10-30V/5-30V	5V	10-30V	5-30V	5-30V
Power consumption (no load)	$\leq 125$ mA	$\leq 80$ mA	$\leq 80$ mA	$\leq 80$ mA	$\leq 80$ mA
Permissible load (channel)	$\pm 80$ mA	$\pm 50$ mA	$\pm 50$ mA	$\pm 50$ mA	$\pm 50$ mA
Pulse frequency	Max. 300kHz	Max. 300kHz	Max. 300kHz	Max. 300kHz	Max. 300kHz
Signal level high	Min.Ub-1.5V	Min.3.4V	Min.3.4V	Min.Ub-2.5V	Min.Ub*70%
Signal level low	Max.0.8V	Max.0.4V	Max.0.4V	Max.0.4V	Max.0.4V
Rise timeTr	Max 1 $\mu$ s	Max 200ns	Max 200ns	Max 1 $\mu$ s	Max 1 $\mu$ s
Fall timeTf	Max 1 $\mu$ s	Max 200ns	Max 200ns	Max 1 $\mu$ s	Max 1 $\mu$ s

\*)NPN OC depends on pull-up resistor, 4.7k $\Omega$  for recommended resistance

\*\*):NPN OC depends on pull-up resistor and cable length

## Easydic Series Hollow Shaft Incremental Encoder EB58P

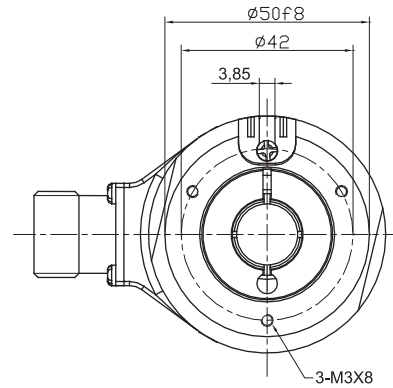
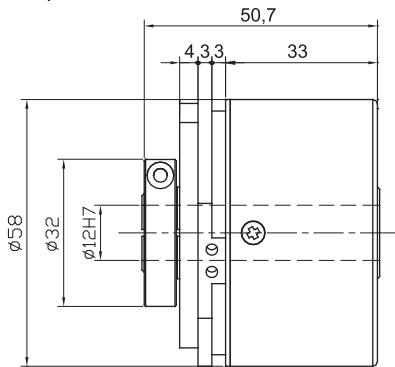
### Terminal Assignment

Signal	0V	+U <sub>b</sub>	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	+U <sub>b</sub> Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	±
pin	10	12	5	6	8	1	3	4	11	2	PH

### Dimensions

#### EB58P(Q)

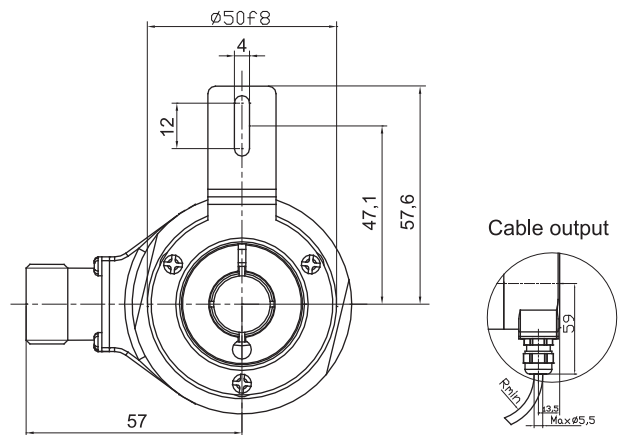
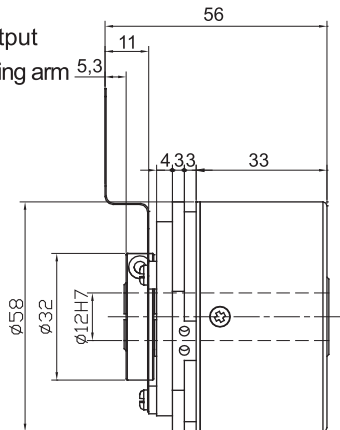
Connector output



#### EB58H

Connector output

(Flexible fastening arm  
E41350050)



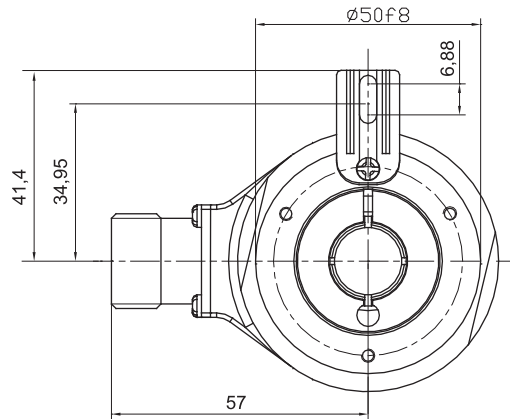
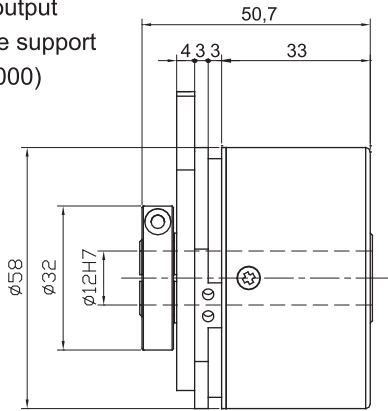
Rmin  
Fix installation: 55mm  
Draw installation: 70mm

# Easydic Series Hollow Shaft Incremental Encoder EB58P

## Dimensions

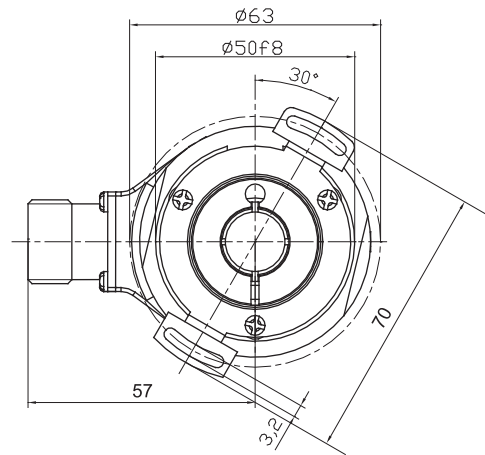
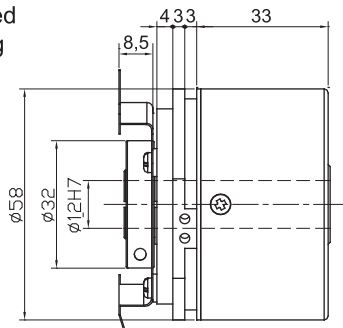
### EB58K

Connector output  
(Long torque support  
slotE47000000)



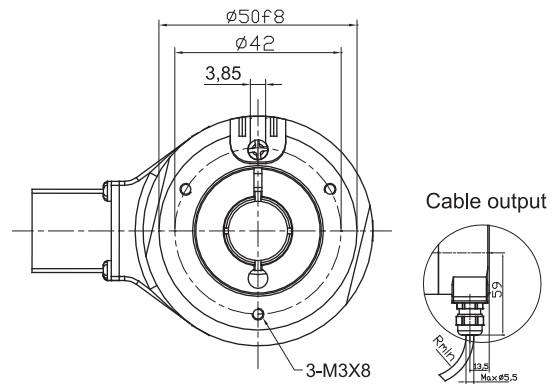
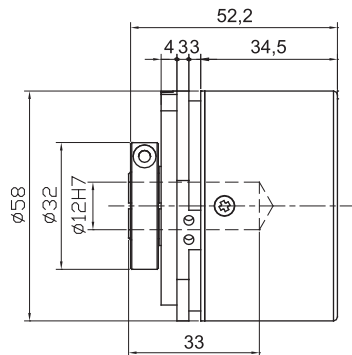
### EB58W

Connector output  
(Double-winged  
stator coupling  
E41350042)



### EB58FP(Q)

Connector output



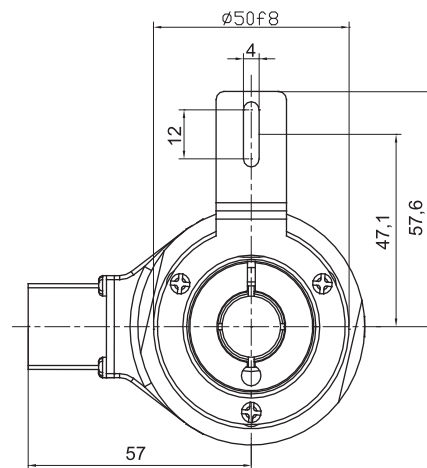
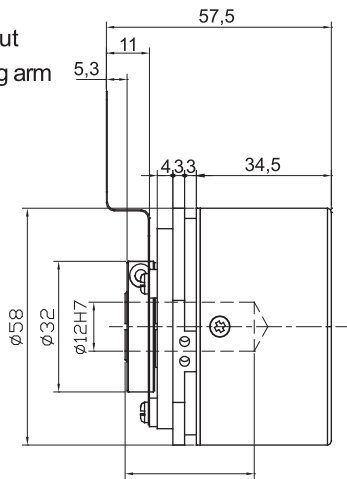
Rmin  
Fix installation: 55mm  
Draw installation: 70mm

# Easydic Series Hollow Shaft Incremental Encoder EB58P

## Dimensions

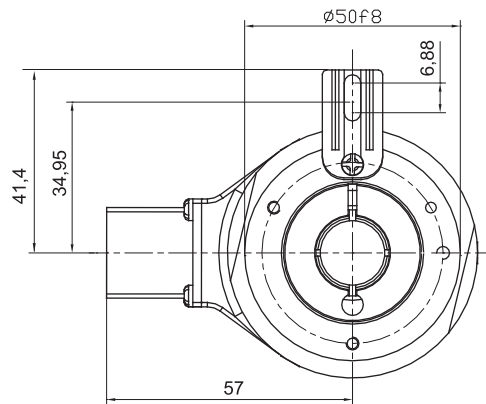
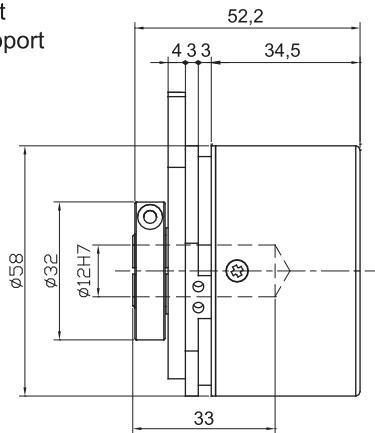
### EB58FH

Connector output  
(Flexible fastening arm  
E41350050)



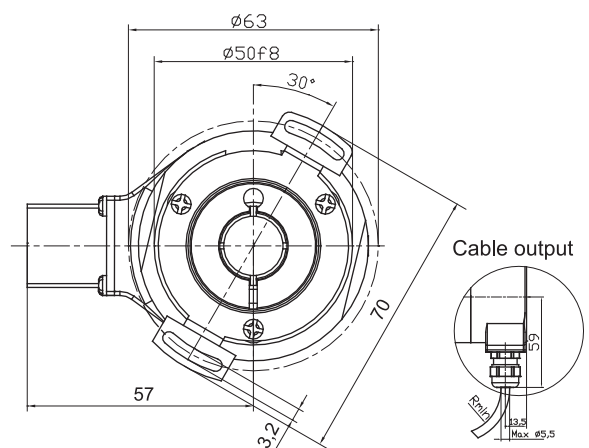
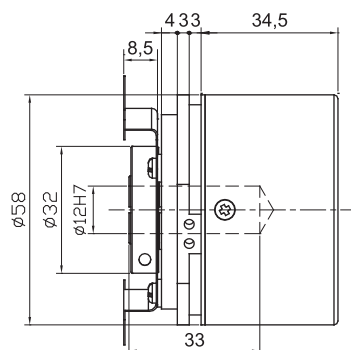
### EB58FK

Connector output  
(Long torque support  
slot E47000000)



### EB58FW

Connector output  
(Double-winged  
stator coupling  
E41350042)



Rmin  
Fix installation: 55mm  
Draw installation: 70mm

# Easydic Series Hollow Shaft Incremental Encoder EB58P

## Order Code

EB 58 P 8 - L5 T R - 1024 . XXXX

XXXX=Special code

Resolution  
pulse/r 1-5000  
Attention: for pulse scale pls contact our company

Type of connection  
P=cable length 1.5m  
T=M23 12-pin plug without connector  
(other connection on request)

Output & Supply voltage <sup>1)</sup>

L5=RS422	5Vdc
L6=RS422	10~30Vdc
H6=Push-pull HTL (with reverse sign)	10~30Vdc
H4=Push-pull HTL (with reverse sign)	5~30Vdc
P6=Push-pull HTL (without reverse sign)	10~30Vdc
P4=Push-pull HTL (without reverse sign)	5~30Vdc
N4=NPN	5~30Vdc
C4=NPN OC	5~30Vdc

Pls refer to electrical structure and wiring manual for output configuration.

Shaft diameter

8R= φ8mm,	with oil seal
9R= φ9.52mm,	with oil seal
10R= φ10mm,	with oil seal
12R= φ12mm,	with oil seal
14R= φ14mm,	with oil seal
15R= φ15mm,	with oil seal
8= φ8mm,	without oil seal
9= φ9.52mm,	without oil seal
10= φ10mm,	without oil seal
12= φ12mm,	without oil seal
14= φ14mm,	without oil seal
15= φ15mm,	without oil seal

Outlets direction  
R=radial

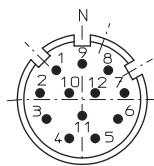
Flange type

P=hollow shaft without accessories  
H=flexible fastening arm  
Q=short torque support slot  
K=long torque support slot  
W=double-winged stator coupling  
FP=hollow shaft without accessories (blind hollow shaft)  
FH=flexible fastening arm (blind hollow shaft)  
FQ=short torque support slot (blind hollow shaft)  
FK=long torque support slot (blind hollow shaft)  
FW=double-winged stator coupling (blind hollow shaft)

Housing diameter  
58=housing diameter

Series  
EB=Easydic

12-pin plug



<sup>1)</sup> Only one channel allowed to be shorted-out if UB=5V, short-circuit to channel, 0V, or +UB is permitted if UB=10...30V, short-circuit to channel or 0V is permitted

Connector order:

match "T" connector: TMSP1612F

Diameter	Lock ring	M3×8 lock screw
φ 8	E41230043	E23231001
φ 9.52	E41230044	E23231001
φ 10	E41230045	E23231001
φ 12	E41230046	E23231001
φ 14	E41230047	E23231001
φ 15	E41230048	E23231001