Characteristics

- Flexible coupling connection avoids damage to encoder
- Shaft Ø6 ensures more stability and more protection
- Metal housing
- Protect level IP54
- Short-circuit protection. Reverse connection protection
- Direct cable output, water-proof end rubber

Naming Rules

BI	38	A	Y	6 - L5	P - 1024 . XXXX
1	2	3	4	5 6	7 8 9

1. Series
BI=Easydic Incremental

2. Housing Diameter
38

3. Flange Type
A=Ø6mm×15mm
B=Ø6mm×12.5mm

4. Output direction
Y=Radial
X=axis

5. Shaft Diameter
6=Ø6mm

6. Output & Supply voltage[1)]

L5=RS422	5Vdc power
L6=RS422	10~30Vdc power
H6=Push-Pull HTL(with reverse sign)	10~30Vdc power
H4=Push-Pull HTL(with reverse sign)	5~30Vdc power
P6=Push-Pull(without reverse sign)	10~30Vdc power
P4=Push-Pull(without reverse sign)	5~30Vdc power
N4=NPN output	5~30Vdc power
C4=NPN collecter open	5~30Vdc power

About output configure choice pls refer to electrical constructure & connect cable manual.

7. Type of connection
P=output cable length 0.5m
I=output cable length 1m
A=output cable length 2m

8. Resolution
Pulse/r ≤5000
Attention:for pulse scale pls contact our company

9. XXXX
XXXX=special code

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

Mechanical Characteristics

Shaft (mm)	Ø6g6
Protection acc.to EN 60 529	IP54
Resolution	10,20,30,40,50,60,70,80,90,100,200,300,360,400,500,512,600,800,1000,1024,1200,1250,2000,2500, 4000,5000
Speed (r/m)	6000rpm
Max load capacity of shaft	25N axial, 50N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000Hz
Bearing life	10^9 revolution
Rotor moment of inertia	1.8×10^{-6} kgm^2
Starting torque	<0.05Nm
Body material	AL-alloy
Housing material	AL-alloy+Black Paint
Operating temperature	-20~+80℃
Storage temperature	-30~+85℃
Weight	83g

Attention: Bold part is in stock. For other resolutions pls contact our company.

Electrical Characteristics

Output circuit	Push-pull	RS422	RS422	NPN	NPN collecter open
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)	≤125mA	≤80mA	≤80mA	≤80mA	≤80mA
Permissible load/channel	±80mA	±50mA	±50mA	±50mA	±50mA
Pulse frequency	Max.300 kHz	Max.300 kHz	Max.300 kHz	Max.300 kHz	Max.300 kHz
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 time Tr	Max 1μs	Max 200ns	Max 200ns	Max 1μs	Max 1μs **)
Fall time Tf	Max 1μs	Max 200ns	Max 200ns	Max 1μs	Max 1μs **)

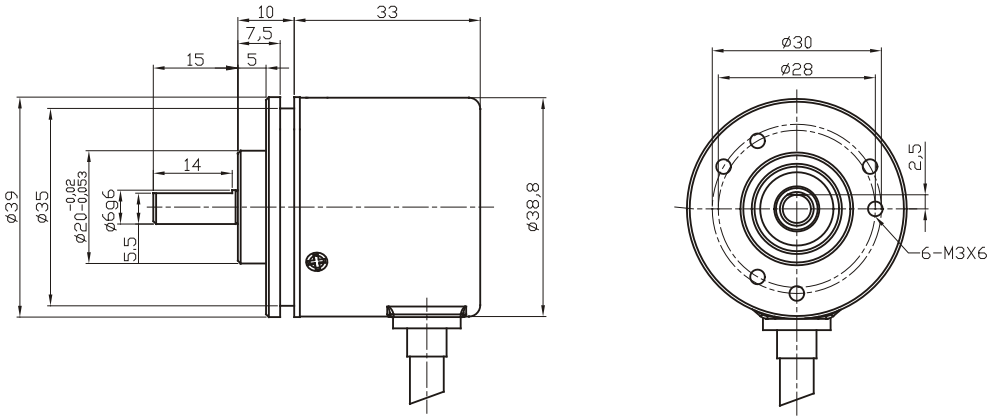
*): NPN open collector depends on draw resistance,advise resistance is 1K ohm
**): NPN open collector depends on draw resistance & cable length

Terminal Assignment

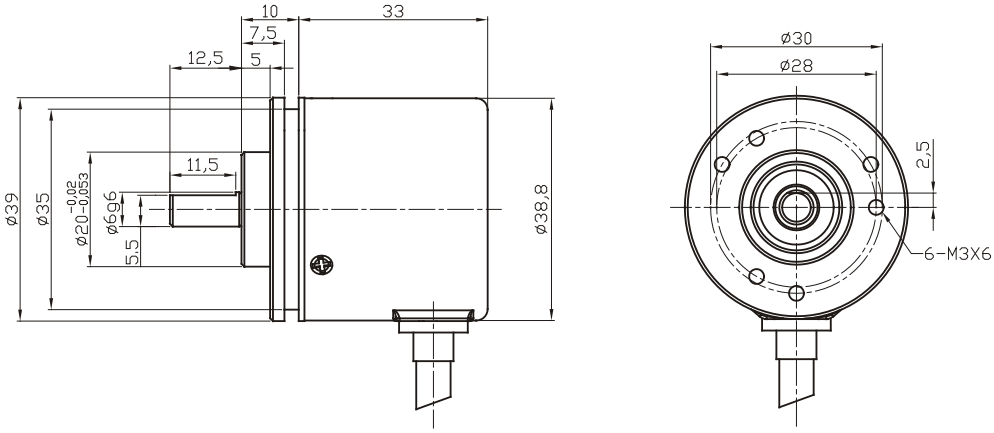
Signal	0V	+Ub	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	⏚

Dimensions

BI38A



BI38B



Characteristics

- More compacted Ø6 shaft encoder,B type flange gear shaft, 24 wheels 0.6mm ditch depth.
- s.s shaft ensures more safety and stability.
  Various shaft length can satisfy different applications.
- Metal crust is more shock resistant.
  Compact structure suitable for tight mouinting space.
- Direct cable output or connecter is much more flexible and easy for maintenance.
  The water-proof end rubber ensures high safety.
- Short-circuit protection. Reverse connection protection.

Naming Rules

CI 40 B Y 6 - L5 P - 1024 . XXXX
1 2 3 4 5 6 7 8 9

1. Series
CI = Topydic Incremental

2. Housing Diameter
40

3. Flange Type
A=Ø20 clamp flange with synchro flange ditch, axis length 15mm
B=Ø20 clamp flange with synchro flange ditch, axis length 12.5mm
C=Ø20 clamp flange with synchro flange ditch, axis length 10mm
D=□44 square flange, axis length 15mm
E=Ø20 clamp flange with synchro flange ditch, gear shaft depth 0.6mm, shaft length 15mm

4. Output direction
Y=Radial
X=axis

5. Shaft Diameter
6=Ø6mm

6. Output & Supply voltage[1)]

L5=RS422(with reverse sign)	5Vdc power
L6=RS422(with reverse sign)	10~30Vdc power
L4=RS422(with reverse sign)	5~30Vdc power
H6=Push-Pull HTL(with reverse sign)	10~30Vdc power
H4=Push-Pull HTL(with reverse sign)	5~30Vdc power
P6=Push-Pull(without reverse sign)	10~30Vdc power
P4=Push-Pull(without reverse sign)	5~30Vdc power
E4=Push-Pull7272 HTL(with reverse sign)	5~30Vdc power
N4=NPN output	5~30Vdc power
C4=NPN collecter open	5~30Vdc power

7. Type of connection
P=Metal fixer output cable length 0.5m(IP66)
R=Ruber fixer output cable length 0.5m(IP64)

8. Resolution
Pulse/r ≤5000
Attention:for pulse scale pls contact our company

9. XXXX
XXXX=special code

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

Mechanical Characteristics

Shaft (mm)		Ø6g6 E type gear shaft 24 wheels 0.6 dipth
Protection acc.to EN 60 529		IP64 standard, IP66(Max)
Resolution		**10,20,30,40,50,60,70,80,90,100,200,300,360,400,500,512,600,800,1000,1024,1200,**1250,1500,2000, 2500,**4000,5000**
Speed (r/m)		12000(IP64) ; 6000(IP66)
Max load capacity of shaft	Axial load capacity	60N
	Radial load capacity	100N
Shock resistance		50G/11ms
Vibration resistance		10G 10~2000Hz
Bearing life		10^9 revolution
Rotor moment of inertia		1.9×10^{-6} kgm^2
Starting torque		<0.03Nm(without oil seal);<0.08Nm(with oil seal)
Body material		AL-alloy
Housing material		AL-alloy + Black Paint
Operating temperature		-20~+90℃
Storage temperature		-25~+100℃
Weight		110g

Attention: Bold part is in stock. For other resolution pls contact our company

Electrical Characteristics

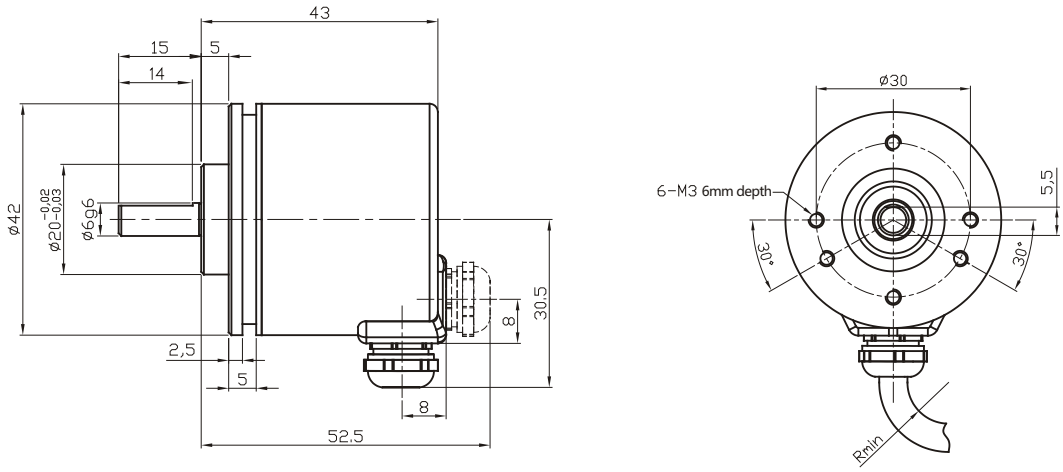
Output circuit	RS422	Push-pull	Push-pull	Push-pull7272
Resolution	Max.5000ppr	Max.5000ppr	Max.5000ppr	Max.5000ppr
Supply voltage (Vdc)	5±0.25or5 (1) -30	10-30V	5-30V	5-30V
Power consumption (no load)	≤80mA	≤125mA	≤125mA	≤125mA
Permissible load/channel	±50mA	±80mA	±80mA	±80mA
Pulse frequency	Max.800kHz	Max.800kHz	Max.800kHz	Max.800kHz
Signal level high	Min.3.4V	Min.Ub-1.8	Min.Ub-1.8	Min.Ub-2.5
Signal level low	Max.0.4V	Max.2.0V	Max.0.4V	Max.0.4V
Rise time Tr	Max 200ns	Max 1μs	Max 1μs	Max 1μs
Fall time Tf	Max 200ns	Max 1μs	Max 1μs	Max 1μs

Terminal Assignment

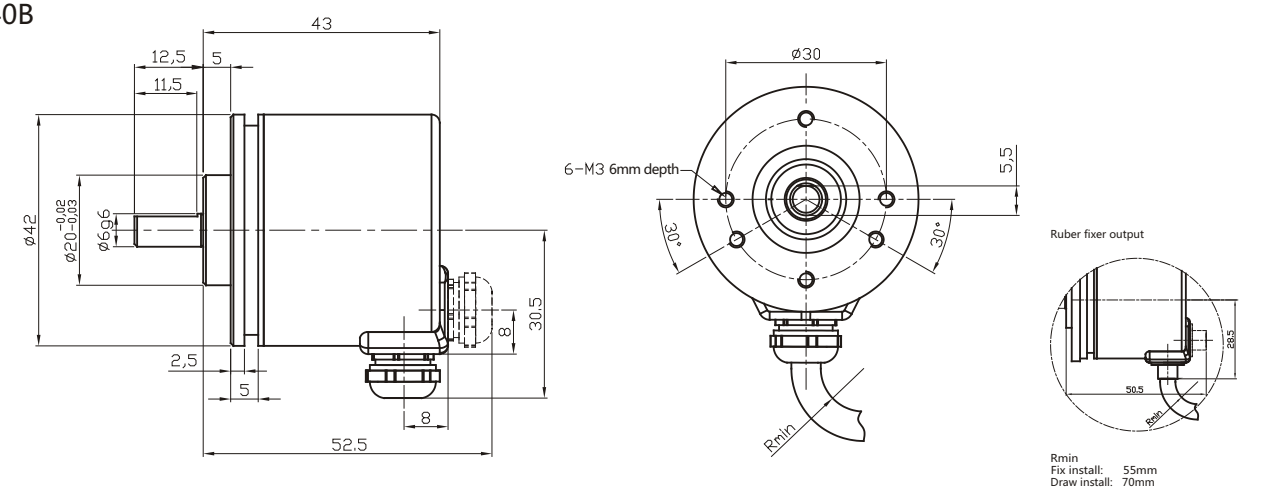
Signal	0V	+Ub	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	0V Sen	+Ub Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚

Dimensions

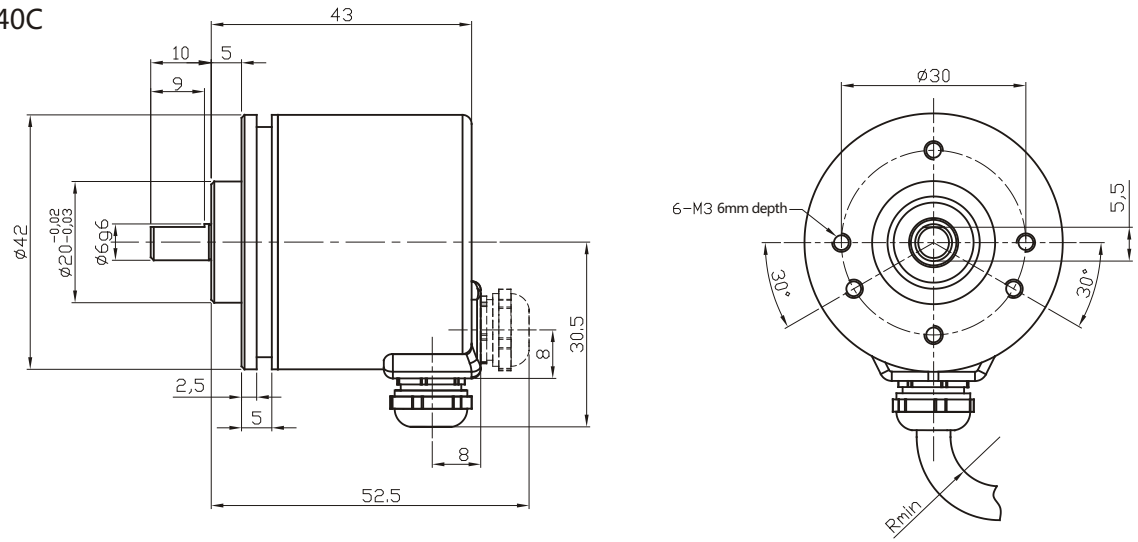
CI40A



CI40B

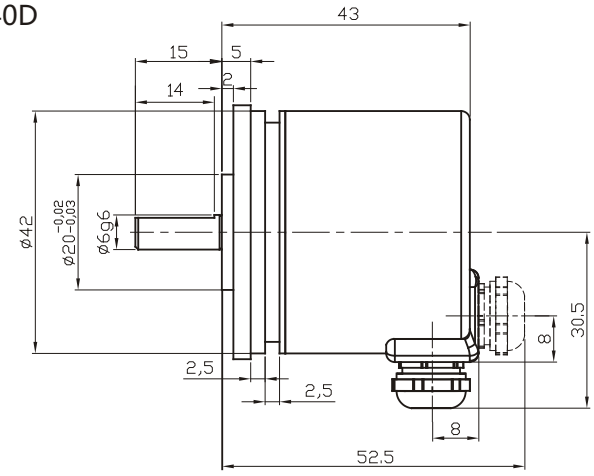


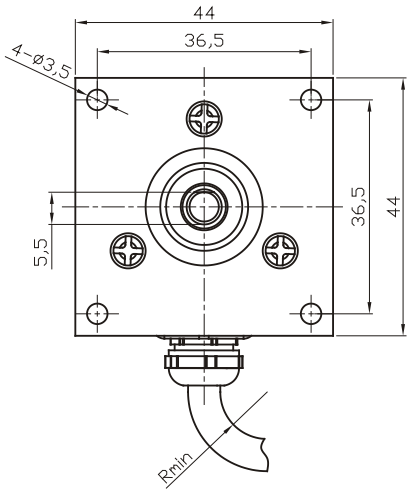
CI40C

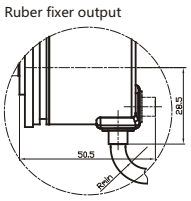


Dimensions

CI40D

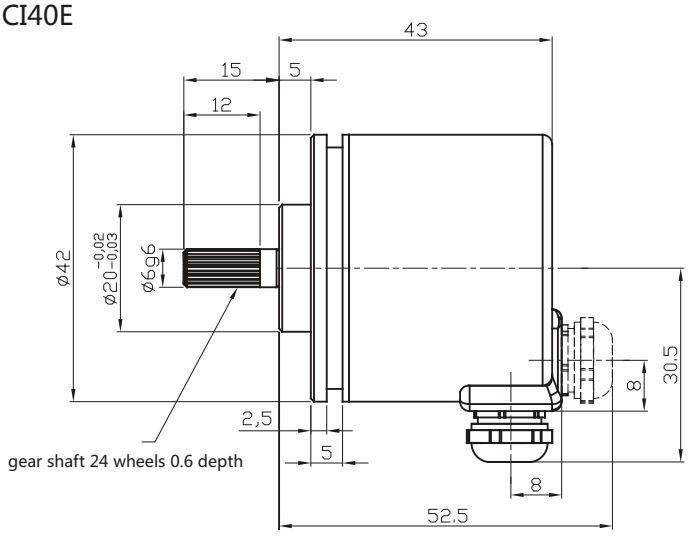


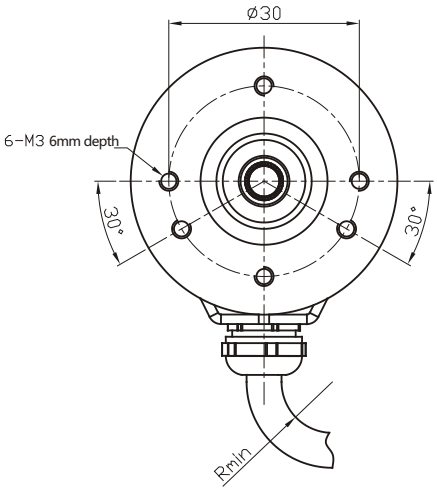




Rmin
Fix install: 55mm
Draw install: 70mm

CI40E





Characteristics

- More conpacted Ø6/Ø8 hollow shaft encoder saves the installation space & cost.
- Block-pin or double wing spring install accessory creates more flexible connections and more free angle.
- Metal crust is more shock resistant.
  Compact structure suitable for tight mounting space.
- Direct cable output or connecter is much more flexible and easy for maintenance.
  The water-proof end rubber ensures high safety.
- Short-circuit protection. Reverse connection protection.

Naming Rules

CI 40 G Y 6 - L5 P - 1024 . XXXX
1 2 3 4 5 6 7 8 9

1. Series
CI = Topydic Incremental

2. Housing Diameter
40

3. Flange Type
H=flexible fastening arm
G=short torque support slot
K=long torque support slot
F=double-winged stator coupling

4. Output direction
Y=Radial
X=axis

5. Shaft Diameter
6=Ø6mm,with oil-seal
8=Ø8mm,with oil-seal

Diameter	Lock ring	Install screw
Ø6	BE41230008	BE23231001
Ø8	BE41230052	BE23231001

6. Output & Supply voltage[1)]

L5=RS422(with reverse sign)	5Vdc power
L6=RS422(with reverse sign)	10~30Vdc power
L4=RS422(with reverse sign)	5~30Vdc power
H6=Push-Pull HTL(with reverse sign)	10~30Vdc power
H4=Push-Pull HTL(with reverse sign)	5~30Vdc power
P6=Push-Pull(without reverse sign)	10~30Vdc power
P4=Push-Pull(without reverse sign)	5~30Vdc power
E4=Push-Pull7272 HTL(with reverse sign)	5~30Vdc power
C4=NPN collecter open	5~30Vdc power

7. Type of connection
P=Metal fixer output cable length 0.5m(IP66)
R=Ruber fixer output cable length 0.5m(IP64)

8. Resolution
Pulse/r ≤5000
Attention:for pulse scale pls contact our company

8. XXXX
XXXX=special code

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

Mechanical Characteristics

Hollow Shaft (mm)		Ø6H7/Ø8H7
Protection acc.to EN 60 529		IP64 standard, IP66(Max)
Resolution		**10,20,30,40,50,60,70,80,90,100,200,300,360,400,500,512,600,800,1000,1024,1200,1250,**2000,**2500,** 4000,5000
Speed (r/m)		12000 (IP64) ; 6000(IP66)
Max load capacity of shaft	Axial load capacity	60N
	Radial load capacity	100N
Shock resistance		50G/11ms
Vibration resistance		10G 10～2000Hz
Bearing life		10^9revolution
Rotor moment of inertia		$1.9\times10^{-6}kgm^2$
Starting torque		<0.03Nm(without oil seal);<0.08Nm(with oil seal)
Body material		AL-alloy
Housing material		AL-alloy + Black Paint
Operating temperature		-20～+90℃
Storage temperature		-25～+100℃
Weight		110g

Attention: Bold part is merchant in hand other resolution pls connect our company.

Electrical Characteristics

Output circuit	RS422	Push-pull	Push-pull	Push-pull7272
Resolution	Max.5000ppr	Max.5000ppr	Max.5000ppr	Max.5000ppr
Supply voltage (Vdc)	5±0.25or5(10)-30	10-30	5-30	5-30
Power consumption (no load)	≤80mA	≤125mA	≤125mA	≤125mA
Permissible load/channel	±50mA	±80mA	±80mA	±80mA
Pulse frequency	Max.800kHz	Max.800kHz	Max.800kHz	Max.800kHz
Signal level high	Min.3.4V	Min.Ub-1.8	Min.Ub-1.8	Min.Ub-2.5
Signal level low	Max.0.4V	Max.2.0V	Max.0.4V	Max.0.4V
Rise time Tr	Max 200ns	Max 1μS	Max 1μS	Max 1μS
Fall time Tf	Max 200ns	Max 1μS	Max 1μS	Max 1μS

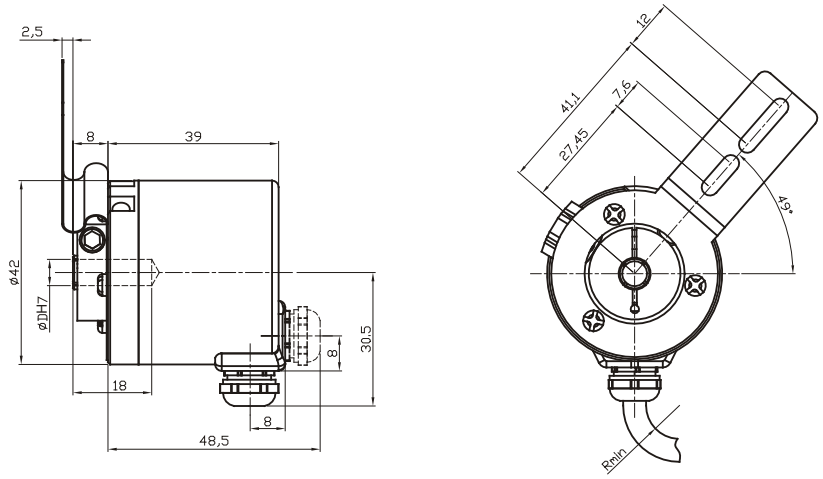
Terminal Assignment

Signal	0V	+Ub	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	0V Sen	+Ub Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚

Dimensions

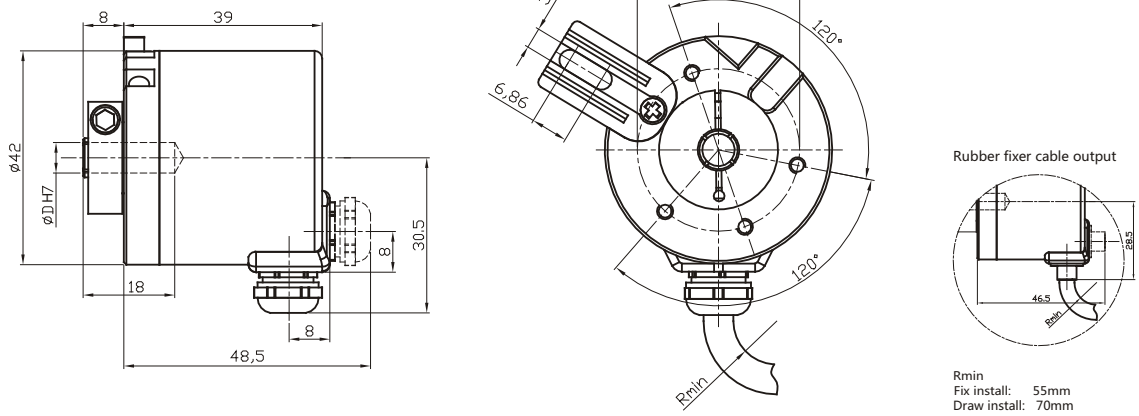
CI40H

Flexible fastening arm :
BE41350057



CI40K

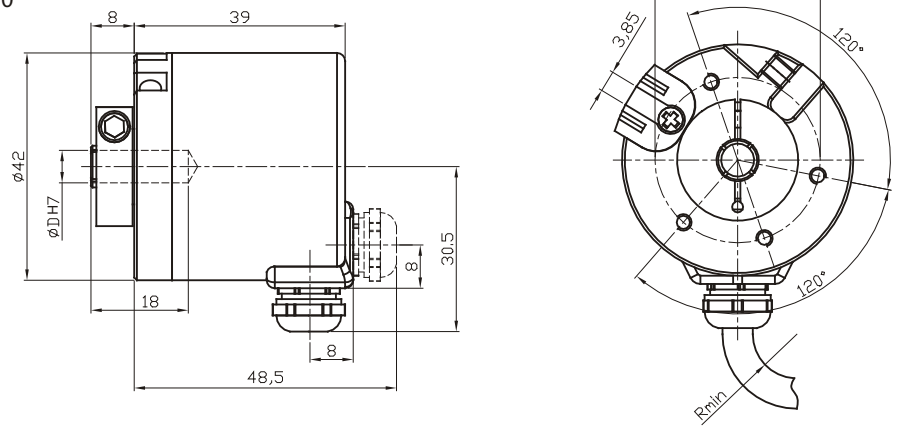
Long torque support slot :
BE23250006



Rmin
Fix install: 55mm
Draw install: 70mm

CI40G

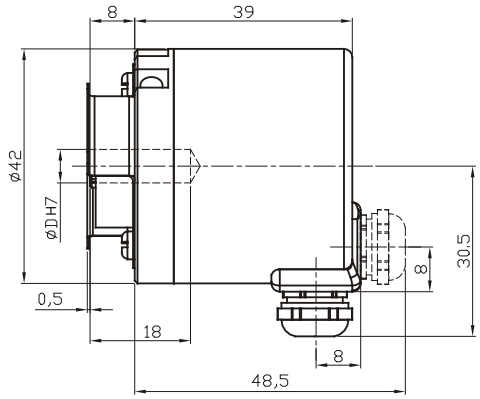
Short torque support slot :
BE23250010

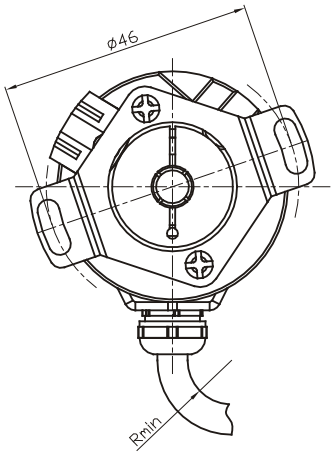


Dimensions

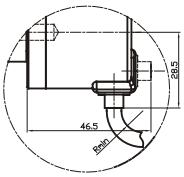
CI40F

Double-winged stator coupling :
BE41350004





Rubber fixer cable output



Rmin
Fix install: 55mm
Draw install: 70mm

Characteristics

- The resolution is 5000 pulse/r max. output frequency is up to 800kHz.
- s.s shaft Ø6/Ø8/Ø10 Flexible coupling connection ensures encoder safety.
- Many kinds of flanges, incl. British system size, fit siteinstallation requirements.
- Metal crust is shock resistant.
  Compact structure suitable for tight space mounting.
- Protect level IP66.
- Direct cable output or connecter is much more flexible and easy for maintenance.
  The water-proof end rubber ensures high safety.
- Short-circuit protection. Reverse connection protection

Naming Rules

CI 58 B Y 6 - L5 T - 1024 . XXXX
1 2 3 4 5 6 7 8 9

1. Series
CI = Topydic Incremental

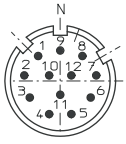
2. Housing Diameter
58

3. Flange Type
A=Ø31.75clamping flange,shaft length 20mm
B=synchronous flange,shaft 6,length 10mm
C=Ø36clamping flange,shaft length 20mm
D=□63.5 square flange,shaft 31.75h7,length20mm

4. Output direction
Y=Radial
X=axis

5. Shaft Diameter
6=Ø6mm(CI58B)
8=Ø8mm
9=Ø9.52mm×22.2mm (3/8"×7/8")
10=Ø10mm

12 pins



Accessory:
Connecter with "T" code: BTMSP1612F

6. Output & Supply voltage[1)]

L5=RS422(with reverse sign)	5Vdc power
L6=RS422(with reverse sign)	10~30Vdc power
L4=RS422(with reverse sign)	5~30Vdc power
H6=Push-Pull HTL(with reverse sign)	10~30Vdc power
H4=Push-Pull HTL(with reverse sign)	5~30Vdc power
P6=Push-Pull(without reverse sign)	10~30Vdc power
P4=Push-Pull(without reverse sign)	5~30Vdc power
E4=Push-Pull7272 HTL(with reverse sign)	5~30Vdc power
N4=NPN output	5~30Vdc power
C4=NPN collecter open	5~30Vdc power

7. Type of connection
P=Output cable length 1.5m
T=M23,12pins plug without connecter
(If customer have special need,pls connect our company)

8. Resolution
Pulse/r ≤5000
Attention:for pulse scale pls contact our company

9. XXXX
XXXX=special code

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

Mechanical Characteristics

Shaft (mm)		Ø6g6/Ø8g6/Ø10g6
Protection acc.to EN 60 529		IP64 standard, IP66(Max)
Resolution		10,20,30,40,50,60,70,80,90,100,200,300,360,400,500,512,600,800,1000,1024,1200,1250,1440,2000,4000, 2048,4096,2500,5000
Speed (r/m)		12000(IP64);6000(IP66)
Max load capacity of shaft	Axial load capacity	60N
	Radial load capacity	120N
Shock resistance		50G/11ms
Vibration resistance		10G 10～2000Hz
Bearing life		10^9 revolution
Rotor moment of inertia		$1.9\times10^{-6}kgm^2$
Starting torque		<0.01Nm(IP64);<0.05Nm (IP66)
Body material		AL-alloy
Housing material		AL-alloy + Black Paint
Operating temperature		-20～+90℃
Storage temperature		-40～+100℃
Weight		300g

Attention: Bold part is in stock. For other resolution pls contact our company

Electrical Characteristics

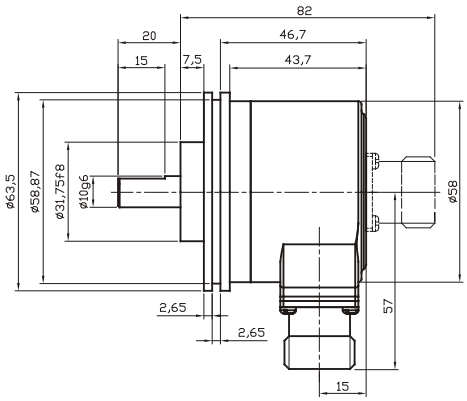
Output circuit	RS422	Push-pull	Push-pull	Push-pull7272
Resolution	Max.5000ppr	Max.5000ppr	Max.5000ppr	Max.5000ppr
Supply voltage (Vdc)	5±0.25or5(10)-30	10-30	5-30	5-30
Power consumption (no load)	≤80mA	≤125mA	≤125mA	≤125mA
Permissible load/channel	±50mA	±80mA	±80mA	±80mA
Pulse frequenment	Max.800kHz	Max.800kHz	Max.800kHz	Max.800kHz
Signal level high	Min.3.4V	Min.Ub-1.8	Min.Ub-1.8	Min.Ub-2.5
Signal level low	Max.0.4V	Max.2.0V	Max.0.4V	Max.0.4V
Rise time Tr	Max 200ns	Max 1μS	Max 1μS	Max 1μS
Fall time Tf	Max 200ns	Max 1μS	Max 1μS	Max 1μS

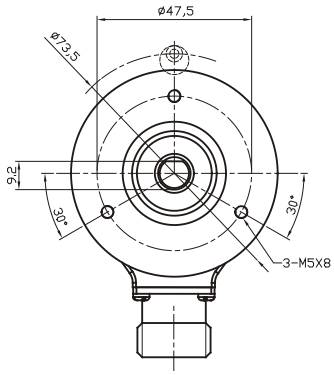
Terminal Assignment

Signal	0V	+Ub	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	0V Sen	+Ub 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

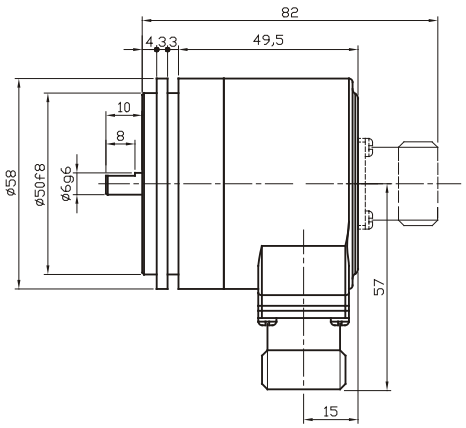
Dimensions

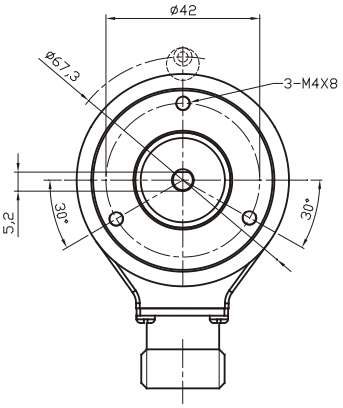
CI58A



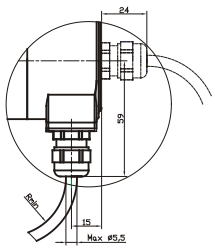


CI58B



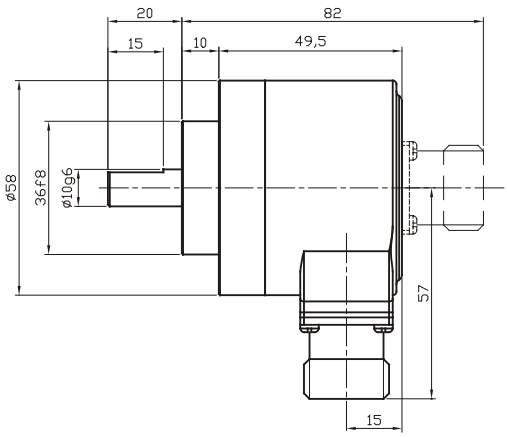


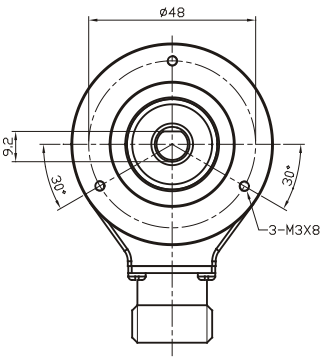
Cable output



Rmin
Fix install: 55mm
Draw install: 70mm

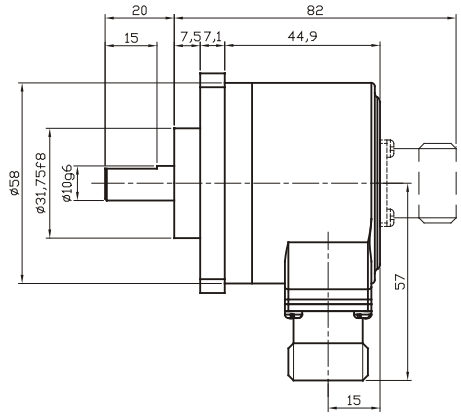
CI58C

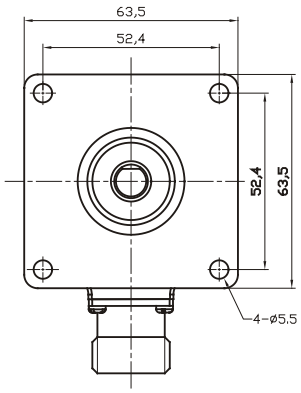




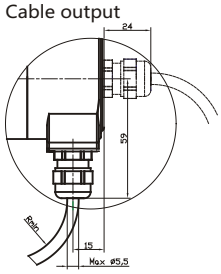
Dimensions

CI40F





Cable output



Rmin
Fix install: 55mm
Draw install: 70mm

Encoder Incremental

CI58P

Characteristics

- Protect level IP66
- s.s hollow shaft Ø8/Ø10/Ø12/Ø14/Ø15 "C" lock ring fix install.
- Compact hollow shaft design saves installation space and cost.
- Block-pin or double wing spring install accessory creates more flexible connections and more free angle.
- Metal crust is more shock resistant.
  Compact structure suitable for tight mounting space.
- Reserve screws for optional installation methods.
- Direct cable output or connecter is much more flexible and easy for maintenance.
  The water-proof end rubber ensures high safety.
- Short-circuit protection. Reverse connection protection

Naming Rules

CI 58 P Y 8 - L5 T - 1024 . XXXX

1 2 3 4 5 6 7 8 9

1. Series

CI = Topydic Incremental

2. Housing Diameter

58

3. Flange Type

P=without accessories
H=flexible fastening arm
Q=short torque support slot
K=long torque support slot
W=double-wing stator coupling

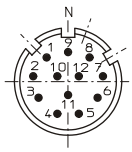
4. Output direction

Y=Radial
X=axis

5. Shaft Diameter

8R=Ø8mm with oil seal
9R=Ø9.52mm with oil seal
10R=Ø10mm with oil seal
12R=Ø12mm with oil seal
14R=Ø14mm with oil seal
15R=Ø15mm with oil seal
8=Ø8mm without oil seal
9=Ø9.52mm without oil seal
10=Ø10mm without oil seal
12=Ø12mm without oil seal
14=Ø14mm without oil seal
15=Ø15mm without oil seal

12 pin



Diameter	Lock ring	Install screw
Ø8	BE41230034	M3×8
Ø9.52	BE41230033	M3×8
Ø10	BE41230032	M3×8
Ø12	BE41230031	M3×8
Ø14	BE41230030	M3×8
Ø15	BE41230029	M3×8

Accessory:
Connecter with "T" code: BTMSP1612F

6. Output & Supply voltage[1)]

L5=RS422(with reverse sign)	5Vdc power
L6=RS422(with reverse sign)	10~30Vdc power
L4=RS422(with reverse sign)	5~30Vdc power
H6=Push-Pull HTL(with reverse sign)	10~30Vdc power
H4=Push-Pull HTL(with reverse sign)	5~30Vdc power
P6=Push-Pull(without reverse sign)	10~30Vdc power
P4=Push-Pull(without reverse sign)	5~30Vdc power
E4=Push-Pull7272 HTL(with reverse sign)	5~30Vdc power
N4=NPN output	5~30Vdc power
C4=NPN collecter open	5~30Vdc power

7. Type of connection

P=Output cable length 1.5m
T=M23,12pins plug without connecter
If customer have special requirement,pls contact our company

8. Resolution

Pulse/r ≤5000
Attention:for pulse scale pls contact our company

9. XXXX

XXXX=special code

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

Mechanical Characteristics

Hollow Shaft (mm)		Ø8H7/Ø10H7/Ø12H7/Ø14H7/Ø15H7
Protection acc.to EN 60 529		IP64 standard, IP66(Max)
Resolution		10,20,30,40,50,60,70,80,90,100,200,300,360,400,500,512,600,800,1000,1024,1200,1250,1500,2000, 2500,4000,5000
Speed (r/m)		12000(IP64); 6000(IP66)
Max load capacity of shaft	Axial load capacity	70N
	Radial load capacity	130N
Shock resistance		50G/11ms
Vibration resistance		10G 10～2000Hz
Bearing life		10^9 revolution
Rotor moment of inertia		$1.9\times10^{-6}kgm^2$
Starting torque		<0.03Nm(without oil seal);<0.08Nm(with oil seal)
Body material		AL-alloy
Housing material		AL-alloy + Black Paint
Operating temperature		-20～+90℃
Storage temperature		-25～+100℃
Weight		500g

Attention: Bold part is in stock. For other resolution pls contact our company

Electrical Characteristics

Output circuit	RS422	Push-pull	Push-pull	PPush-pull7272
Resolution	Max.5000ppr	Max.5000ppr	Max.5000ppr	Max.5000ppr
Supply voltage (Vdc)	5±0.25or5(10)-30	10-30	5-30	5-30
Power consumption (no load)	≤80mA	≤125mA	≤125mA	≤125mA
Permissible load/channel	±50mA	±80mA	±80mA	±80mA
Pulse frequency	Max.800kHz	Max.800kHz	Max.800kHz	Max.800kHz
Signal level high	Min.3.4V	Min.Ub-1.8	Min.Ub-1.8	Min.Ub-2.5
Signal level low	Max.0.4V	Max.2.0V	Max.0.4V	Max.0.4V
Rise time Tr	Max 200ns	Max 1μS	Max 1μS	Max 1μS
Fall time Tf	Max 200ns	Max 1μS	Max 1μS	Max 1μS

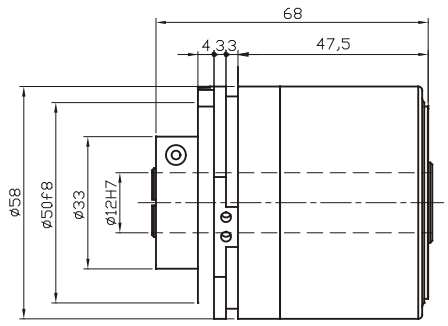
Terminal Assignment

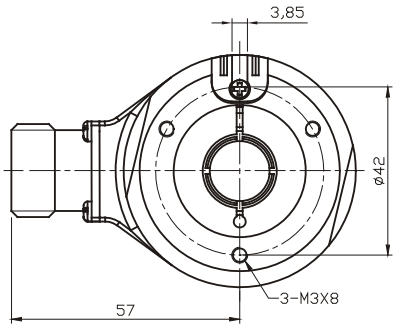
Signal	0V	+Ub	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	0V Sen	+Ub Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
Pin	10	12	5	6	8	1	3	4	11	2	PH

Dimensions

CI58P(Q)

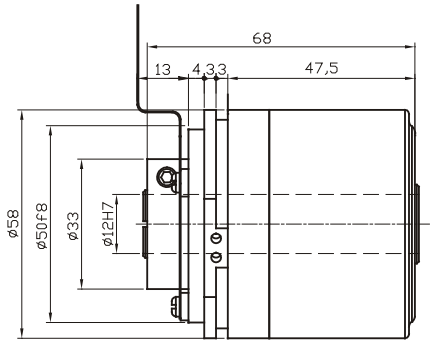
P without accessories
Q short torque support slot

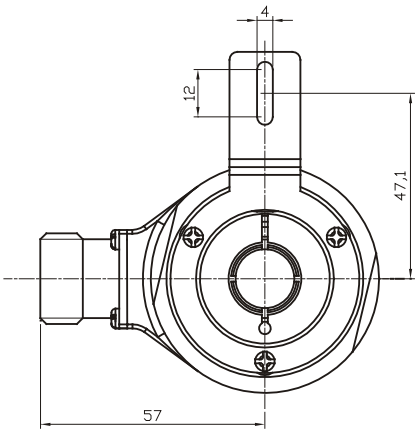


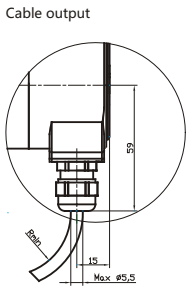


CI58H

Flexible fastening arm :
BE41350050



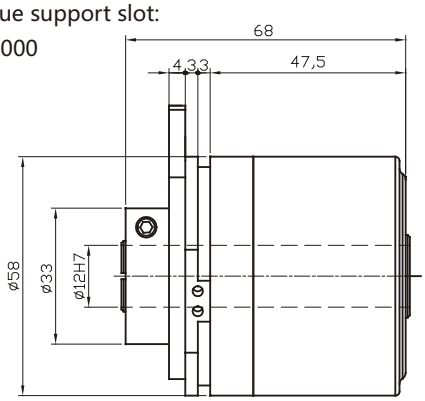


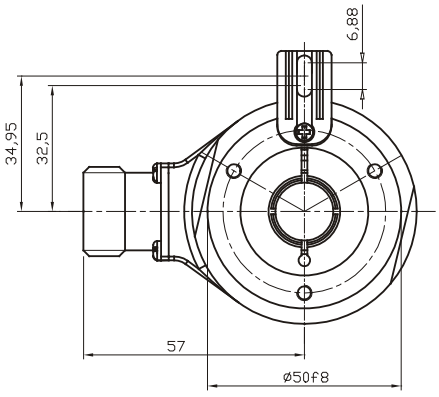


Rmin
Fix install: 55mm
Draw install: 70mm

CI58K

Long torque support slot:
BE-4700.0000

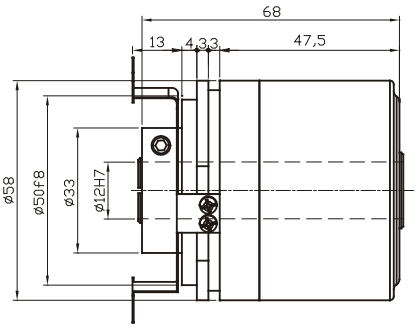


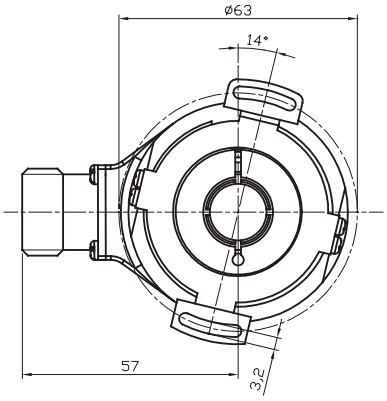


Dimensions

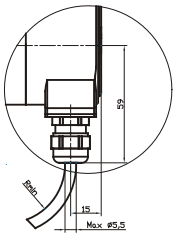
CI58W

Double-winged stator coupling :
BE41350043





Cable output



Rmin
Fix install: 55mm
Draw install: 70mm

Encoder Incremental

CI100P

Characteristics

- Crutch arm or block-pin etc. accessories provide flexible connections and more free angle.
- Resolution is 8192ppr,IP66 ensure precision & safety
- More compacted hollow shaft saves installation space & cost
- Metal crust is more shock resistant.
  Compact structure suitable for tight mounting space.
- Stainlesssteel hollow shaft
  Ø20/Ø25/Ø30/Ø35/Ø38/Ø40/Ø45 "C" lock ring fix.
- Direct cable output or connecter is much more flexible and easy for maintenance.
  The water-proof end rubber ensures high safety.
- Short-circuit protection. Reverse connection protection

Naming Rules

CI	100	P	Y	30	-	L5	P	-	1024	.	XXXX
1	2	3	4	5		6	7		8		9

1. Series

CI = Topydic Incremental

2. Housing Diameter

100

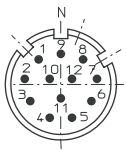
3. Flange Type

P=Short spring
K=Long torque support slot
R=Torque arm
H=Tether arm large
RP=Short spring
RK=Long torque support slot
RR=Torque arm
RH=Tether arm large

4. Output direction

Y=Radial
X=axis

12 pins



5. Shaft Diameter

20=Ø20H7
25=Ø25H7
30=Ø30H7
38=Ø38H7
40=Ø40H7
45=Ø45H7

Diameter	Lock ring	M3×8locksrew
Ø20	BE412300050	M3×12
Ø25	BE412300036	M3×12
Ø30	BE412300037	M3×12
Ø38	BE412300042	M3×12
Ø40	BE412300038	M3×12
Ø42	BE412300049	M3×12
Ø45	BE412300039	M3×12

shaft add "K" mean hollow shaft with keyway(<=Ø40)
Eg:30K=Ø30K7 with keyway

6. Output & Supply voltage[1)]

L5=RS422(with reverse sign)	5Vdc power
L6=RS422(with reverse sign)	10~30Vdc power
L4=RS422(with reverse sign)	5~30Vdc power
H6=Push-Pull HTL(with reverse sign)	10~30Vdc power
H4=Push-Pull HTL(with reverse sign)	5~30Vdc power
P6=Push-Pull(without reverse sign)	10~30Vdc power
P4=Push-Pull(without reverse sign)	5~30Vdc power
E4=Push-Pull7272 HTL(with reverse sign)	5~30Vdc power

7. Type of connection

P=Output cable length 1.5m
T=M23,12pins plug without connecter
If customer have special need,pls contact our company

8. Resolution

Pulse/r ≤8192
Attention:for pulse scale pls contact our company

9. XXXX

XXXX=special code

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

Order code of the M23 connector : BTMSP1612F

Mechanical Characteristics

Hollow Shaft (mm)		Ø20H7/Ø25H7/Ø30H7/Ø35H7/Ø38H7/Ø40H7/Ø45H7
Protection acc.to EN 60 529		IP64 standard, IP66(Max)
Resolution		500,512,600,1000,1024,2000,4000,2048,4096,2500 5000,8192
Speed (r/m)		Max.6000
Max load capacity of shaft	Axial load capacity	80N
	Radial load capacity	160N
Shock resistance		50G/11ms
Vibration resistance		10G / 2000Hz
Bearing life		10^9 revolution
Rotor moment of inertia		$<15\times10^{-6}kgm^2$
Starting torque		<0.25Nm max.
Body material		AL-alloy
Housing material		AL-alloy + Black Paint
Operating temperature		-20~+90℃
Storage temperature		-40~+100℃
Weight		850g

Attention: Bold part is in stock. For other resolution pls contact our company.

Electrical Characteristics

Output circuit	RS422	Push-pull	Push-pull	Push-pull7272
Resolution	Max.8192ppr	Max.8192ppr	Max. 8192ppr	Max. 8192ppr
Supply voltage (Vdc)	5±0.25or5(10)-30	10-30	5-30	5-30
Power consumption (no load)	≤80mA	≤125mA	≤125mA	≤125mA
Permissible load/channel	±50mA	±80mA	±80mA	±80mA
Pulse frequency	Max. 800 kHz	Max. 800 kHz	Max. 800 kHz	Max. 800 kHz
Signal level high	Min.3.4V	Min.Ub-1.8	Min.Ub-1.8	Min.Ub-2.5
Signal level low	Max.0.4V	Max.2.0V	Max.0.4V	Max.0.4V
Rise time Tr	Max 200ns	Max 1μs	Max 1μs	Max 1μs
Fall time Tf	Max 200ns	Max 1μs	Max 1μs	Max 1μs

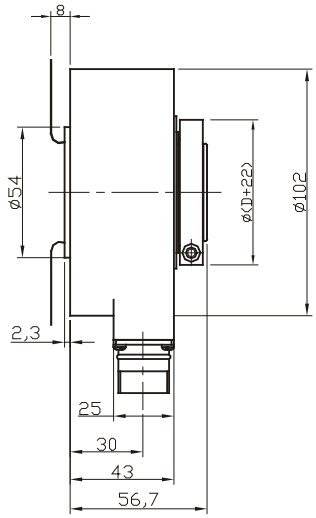
Terminal Assignment

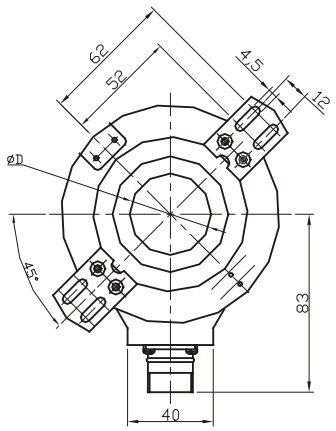
Signal	0V	+Ub	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	0V Sen	+Ub Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
Pin	10	12	5	6	8	1	3	4	11	2	PH

Dimensions

CI100P

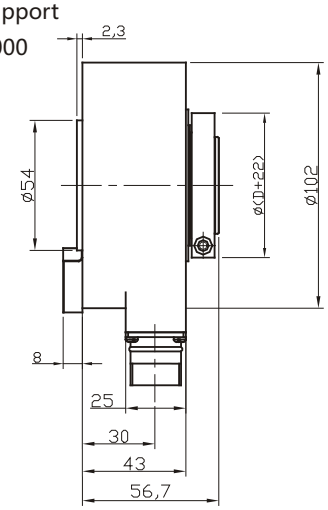
Short spring :
BE41350013

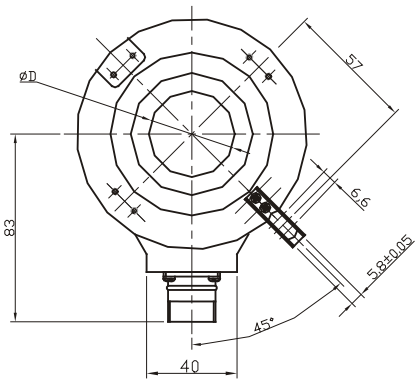




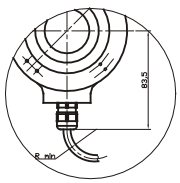
CI100K

Long torque support
slot: BE4A00.0000





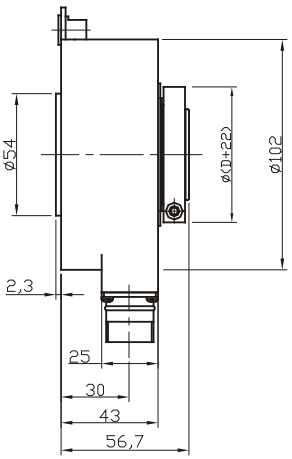
Cable output

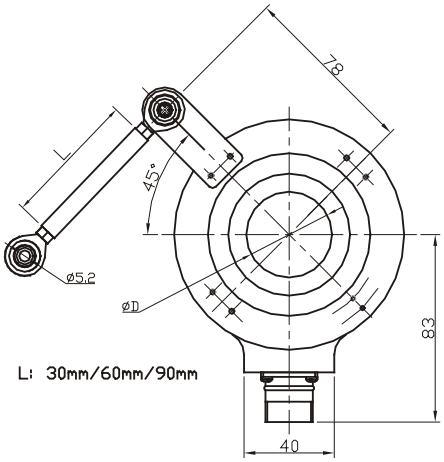


Rmin
Fix install: 55mm
Draw install: 70mm

CI100R

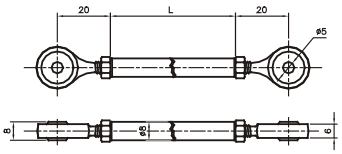
Torque arm code:
BSN5A30
BSN5A60
BSN5A90





L: 30mm/60mm/90mm

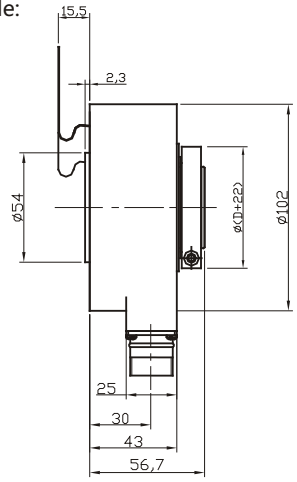
Crutch arm order:
SN5AXX (30,60,90 mean length)

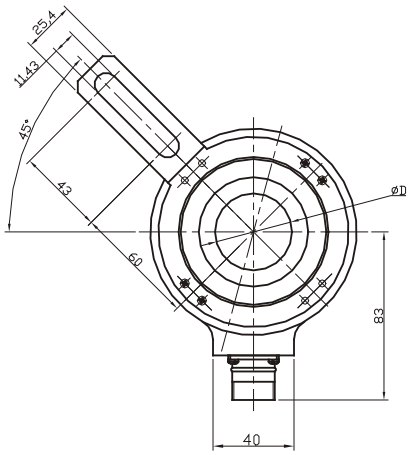


Dimensions

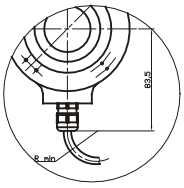
CI100H

Tether arm large code:
BE41350051





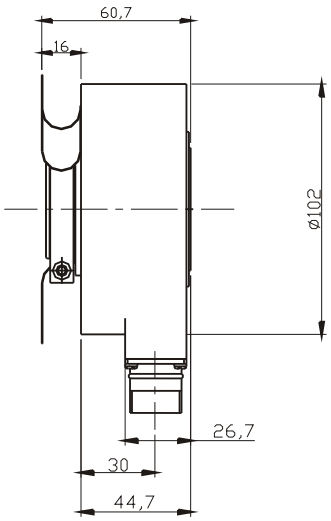
Cable output

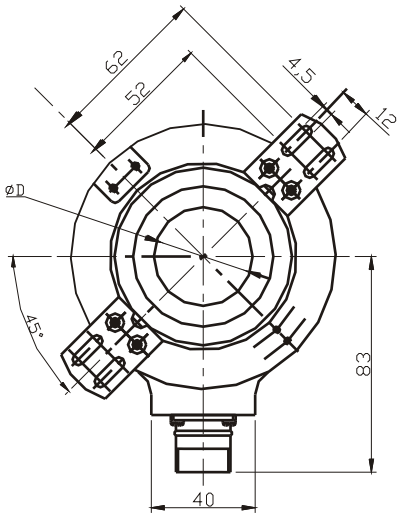


Rmin
Fix install: 55mm
Draw install: 70mm

CI100RP

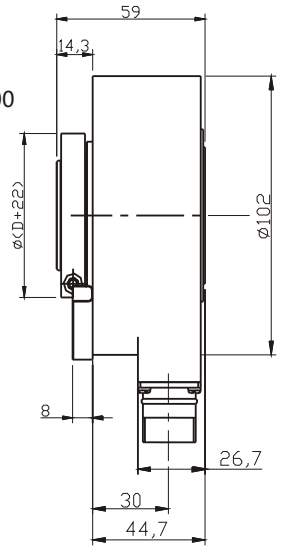
Short spring code:
BE41350013

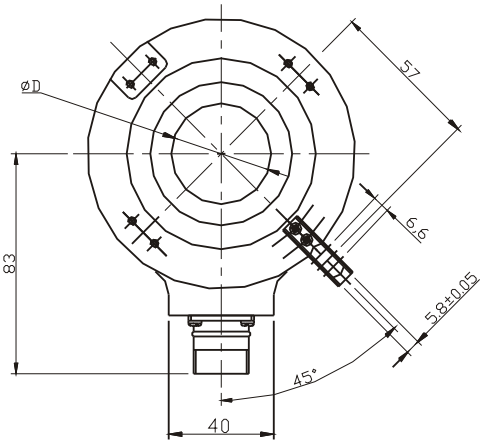




CI100RK

Long torque support
slot code: BE4A00.0000





ØD Ø25/Ø30/Ø38/Ø40/Ø45

Encoder Incremental

VI100P

Characteristics

- Metal crust is more shock. Compact structure suitable for installation in limited space.
- Resolution is 2048ppr,IP66 ensure precision & safety
- More compacted hollow shaft saves installation space & cost
- Optional crutch arm or block-pin accessories provide flexible connection and more free angle.
- S.S hollow shaft Ø30/Ø35/Ø38/Ø40/Ø45 "C" lock ring fix.
- Direct cable output or connecter provides much more flexibility and convenience for maintenance.
  The water-proof end rubber ensures more safety.
- Short-circuit protection. Reverse connection protection

Naming Rules

VI	100	P	Y	30	-	L5	P	-	1024	.	XXXX
1	2	3	4	5		6	7		8		9

1. Series

VI = Heavydic Incremental

2. Housing Diameter

100

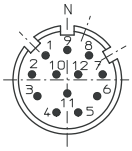
3. Flange Type

P=short spring
K=long torque support slot
R=torque arm
H=tether arm large

4. Output direction

Y=Radial
X=axis

12 pins



5. Shaft Diameter

25=Ø25H7
30=Ø30H7
38=Ø38H7
40=Ø40H7
42=Ø42H7
45=Ø45H7

Diameter	Lock ring	M3×8locksrew
Ø25	BE41230036	M3×8
Ø30	BE41230040	M3×8
Ø38	BE41230042	M3×8
Ø40	BE41230038	M3×8
Ø42	BE41230049	M3×8
Ø45	BE41230039	M3×8

shaft add "K" mean hollow shaft with keyway(<=Ø40)
Eg:30K=Ø30K7 with keyway

6. Output & Supply voltage[1)]

L5=RS422(with reverse sign)	5Vdc power
L6=RS422(with reverse sign)	10~30Vdc power
L4=RS422(with reverse sign)	5~30Vdc power
H6=Push-Pull HTL(with reverse sign)	10~30Vdc power
H4=Push-Pull HTL(with reverse sign)	5~30Vdc power
P6=Push-Pull(without reverse sign)	10~30Vdc power
P4=Push-Pull(without reverse sign)	5~30Vdc power
E4=Push-Pull7272 HTL(with reverse sign)	5~30Vdc power

7. Type of connection

P=output cable length 1.5m

8. Resolution

Pulse/r ≤2048
Attention:for pulse scale pls contact our company

9. XXXX

XXXX=special code

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

Mechanical Characteristics

Hollow Shaft (mm)		Ø25H7/Ø30H7/Ø38H7/Ø40H7/Ø45H7
Protection acc.to EN 60 529		IP66(Max)
Resolution		1024,2048
Speed (r/m)		12000(IP64);6000(IP66)
Max load capacity of shaft	Axial load capacity	100N
	Radial load capacity	200N
Shock resistance		50G/11ms
Vibration resistance		10G 10～2000Hz
Bearing life		10^9 revolution
Rotor moment of inertia		$15\times10^{-6}kgm^2$
Starting torque		<0.05Nm (no oil seal);<0.1Nm (oil seal)
Body material		AL-alloy
Housing material		AL-alloy
Operating temperature		-20～+90℃
Storage temperature		-40～+100℃
Weight		1200g

Attention: for other resolution pls contact our company.

Electrical Characteristics

Output circuit	RS422	Push-pull	Push-pull	Push-pull7272
Resolution	Max.2048ppr	Max.2048ppr	Max.2048ppr	Max.2048ppr
Supply voltage (Vdc)	5±0.25or5(10)-30	10-30	5-30	5-30
Power consumption (no load)	≤80mA	≤125mA	≤125mA	≤125mA
Permissible load/channel	±50mA	±80mA	±80mA	±80mA
Pulse frequency	Max.800kHz	Max.800kHz	Max.800kHz	Max.800kHz
Signal level high	Min.3.4V	Min.Ub-1.8	Min.Ub-1.8	Min.Ub-2.5
Signal level low	Max.0.4V	Max.2.0V	Max.0.4V	Max.0.4V
Rise time Tr	Max 200ns	Max 1μS	Max 1μS	Max 1μS
Fall time Tf	Max 200ns	Max 1μS	Max 1μS	Max 1μS

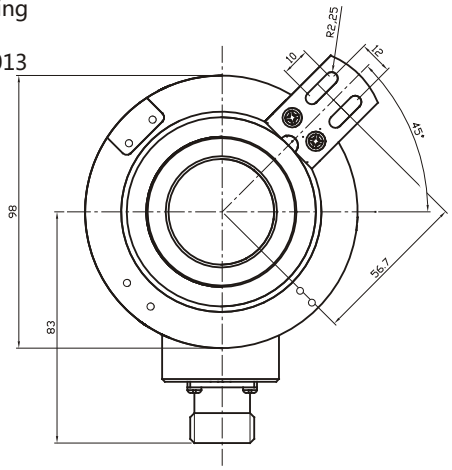
Terminal Assignment

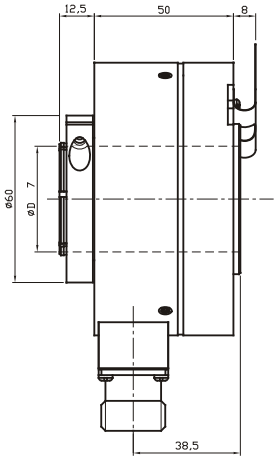
Signal	0V	+Ub	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$	0V Sen	+Ub Sen	Shield
Color	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	⏚
Pin	10	12	5	6	8	1	3	4	11	2	PH

Dimensions

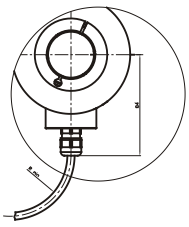
VI100P

Short spring
code:
BE41350013





Cable output

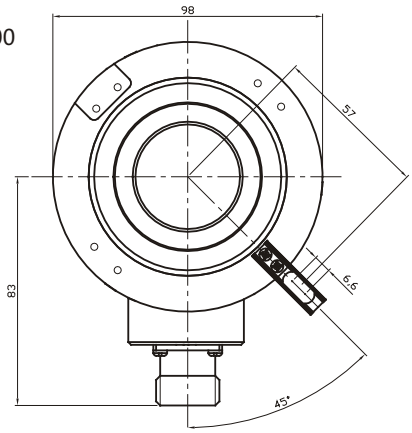


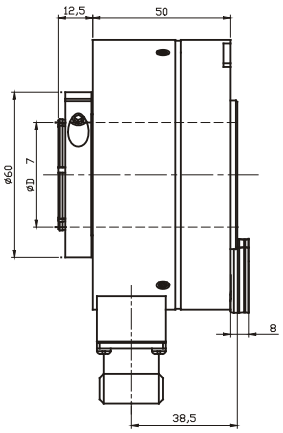
Rmin
Fix install: 55mm
Draw install: 70mm

VI100K

Long torque support

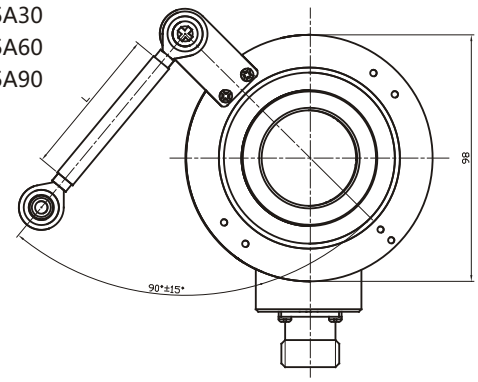
slot code:
BE4A00.0000

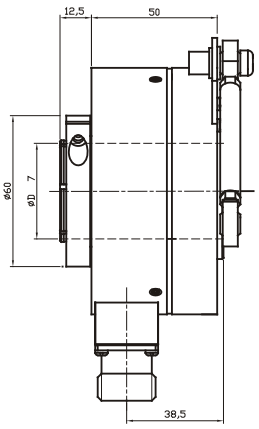




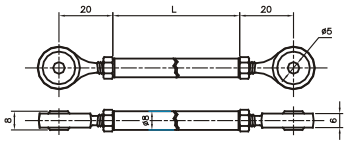
VI100R

Torque arm code:
BSN5A30
BSN5A60
BSN5A90





Crutch arm order:
SN5AXX (30,60,90 mean length)

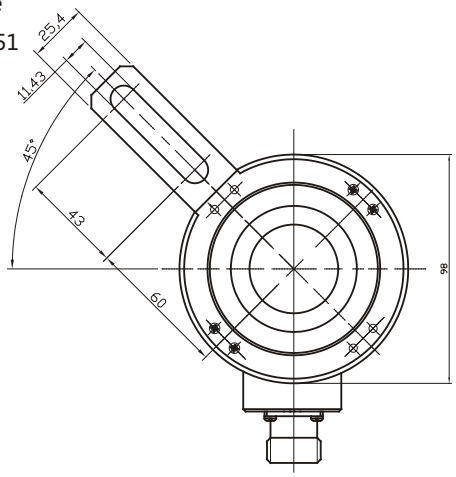


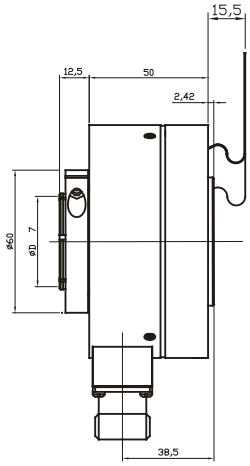
Dimensions

VI100H

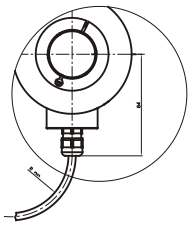
Tether arm large

code: BE41350051





Cable output



Rmin
Fix install: 55mm
Draw install: 70mm