

**ELECTRICAL SPEC.**

Detection System	Absolute
Output Code	Gray Code
Standard Number of Pulse Per Revolution	16
Electronics	NPN Voltage , NPN Open Collector
Power Supply	DC 5~12V or DC 10~26V for NPN Voltage, DC 5~26V for NPN Open Collector
Current Consumption	≤ 70 mA
Logic	Negative Logic (H=0, L=1)
Max. Response	10K Hz

**MECHANICAL SPEC.**

Shaft Diameter	6 mm
Shaft Loading	Axial : 1 Kg, Radial : 2 Kg
Max. Speed	3,000 rpm
Vibration Resistance	Endurance 55 Hz double amplitude 1.5 mm / 2 hours in X, Y and Z directions
Shock Resistance	Endurance 500 m / S <sup>2</sup> (50g) 3 times each in X, Y, Z direction
Cable	Ø4.5, 50 cm long, vinyl shielded
Weight	≤ 100g

**ENVIRONMENTAL SPEC.**

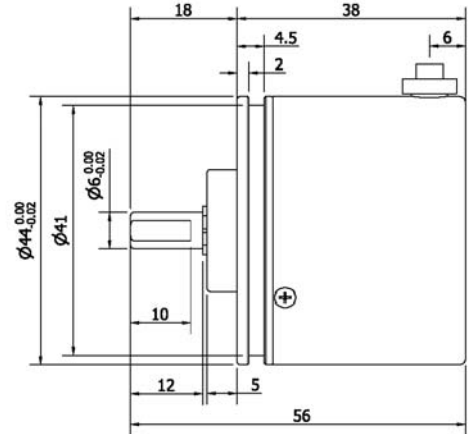
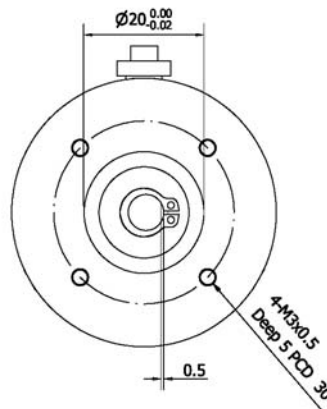
Operating Temp. / Humidity	0°C ~ 60°C, RH 35% ~ 90% (No Condensation)
Storage Temp.	-20°C ~ 80°C
Protection	IP50: Dust Proof

**ORDERING INFORMATION**

<b>A1</b>	Output Code	Pulse per Revolution	Electronics	Supply Voltage
	G: Gray Code	16 P/R	LV: NPN Voltage HV: NPN Voltage C: NPN Open-Collector	Blank: 5~12Vdc Blank: 10~26Vdc Blank: 5~26Vdc

**ELECTRICAL CONNECTION**

Wire Color (cable output)	16 PPR
Red	+V
Black	0V
Blue	bit 1 (2 <sup>0</sup> )
Green	bit 2 (2 <sup>1</sup> )
Yellow	bit 3 (2 <sup>2</sup> )
Violet	bit 4 (2 <sup>3</sup> )
Shield	—



**ELECTRICAL SPEC.**

Detection System	Absolute
Output Code	Gray Code
Standard Number of Pulse Per Revolution	256
Electronics	NPN Voltage , NPN Open Collector
Power Supply	DC 10~26V, DC 5V fixed
Current Consumption	≤ 70 mA
Logic	Negative Logic (H=0, L=1)
Max. Response	10K Hz

**MECHANICAL SPEC.**

Shaft Diameter	6 mm
Shaft Loading	Axial: 1 Kg, Radial: 2 Kg
Max. Speed	3,000 rpm
Vibration Resistance	Endurance 55 Hz double amplitude 1.5 mm / 2 hours in X, Y and Z directions
Shock Resistance	Endurance 500 m / S <sup>2</sup> (50g) 3 times each in X, Y, Z direction
Cable	Ø4.5, 50 cm long, vinyl shielded
Weight	≤ 200g

**ENVIRONMENTAL SPEC.**

Operating Temp. / Humidity	0°C ~ 60°C, RH 35% ~ 90% (No Condensation)
Storage Temp.	-20°C ~ 80°C
Protection	IP50: Dust Proof

**ORDERING INFORMATION**

**A2** - 

Output Code
G: Gray Code

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Pulse per Revolution
256 P/R

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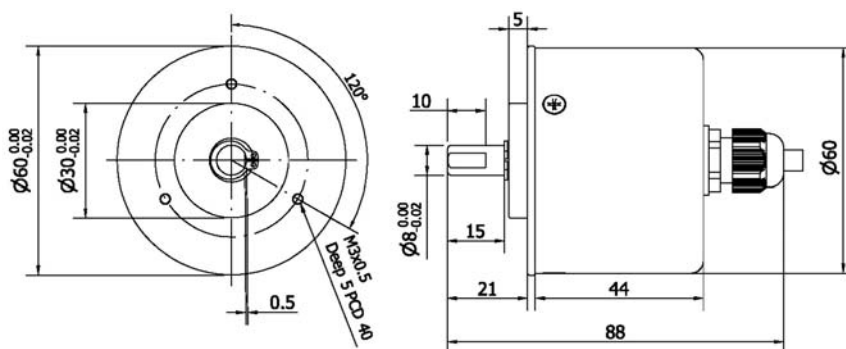
Electronics
BLANK: NPN Voltage
C: NPN Open-Collector

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Supply Voltage
Blank: 10~26 Vdc
5V: 5 Vdc fixed

**ELECTRICAL CONNECTION**

Wire Color (cable output)	256 PPR
Red	+V
Black	0V
Blue	bit 1 (2 <sup>0</sup> )
Green	bit 2 (2 <sup>1</sup> )
Yellow	bit 3 (2 <sup>2</sup> )
Violet	bit 4 (2 <sup>3</sup> )
Orange	bit 5 (2 <sup>4</sup> )
Brown	bit 6 (2 <sup>5</sup> )
White	bit 7 (2 <sup>6</sup> )
Gray	bit 8 (2 <sup>7</sup> )
Shield	-



**ELECTRICAL SPEC.**

Detection System	Absolute
Output Code	Gray Code
Standard Number of Pulse Per Revolution	256, 1024
Electronics	NPN Voltage , NPN Open Collector
Power Supply	DC 10~26V, DC 5V fixed
Current Consumption	≤ 70 mA
Logic	Negative Logic (H=0, L=1)
Max. Response	10K Hz

**MECHANICAL SPEC.**

Shaft Diameter	8 mm
Shaft Loading	Axial: 1 Kg, Radial: 2 Kg
Max. Speed	3,000 rpm
Vibration Resistance	Endurance 55 Hz double amplitude 1.5 mm / 2 hours in X, Y and Z directions
Shock Resistance	Endurance 500 m / S <sup>2</sup> (50g) 3 times each in X, Y, Z direction
Cable	Ø5.5, 100 cm long, vinyl shielded
Weight	≤ 350g

**ENVIRONMENTAL SPEC.**

Operating Temp. / Humidity	0°C ~ 60°C, RH 35% ~ 90% (No Condensation)
Storage Temp.	-20°C ~ 80°C
Protection	IP64: Dust and Dripping Proof

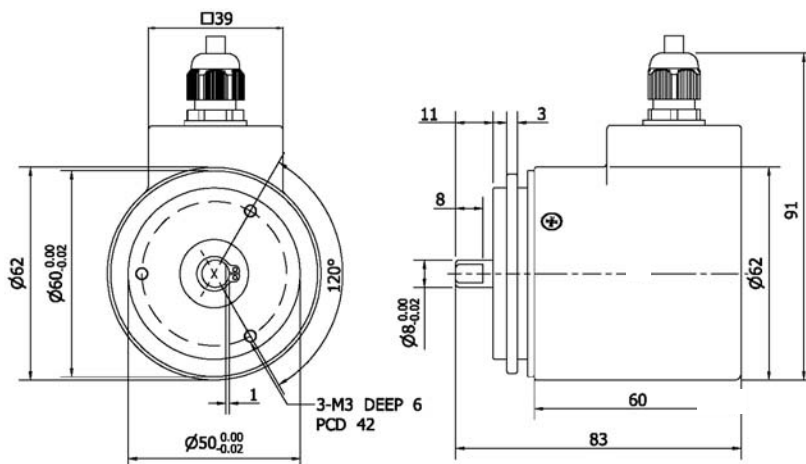
**ORDERING INFORMATION**

<b>A3</b>	Output Code	Pulse per Revolution	Electronics	Supply Voltage
	G: Gray Code	256, 1024 P/R	BLANK: NPN Voltage C: NPN Open-Collector	Blank: 10~26 Vdc 5V: 5 Vdc fixed

**ELECTRICAL CONNECTION**

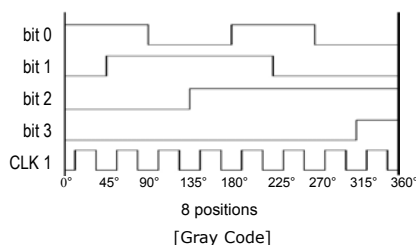
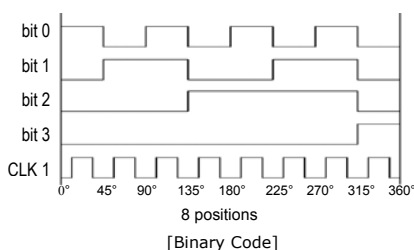
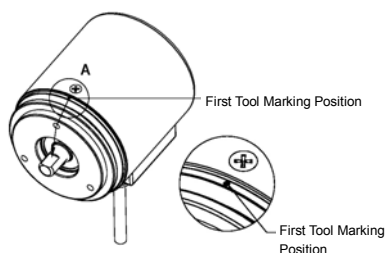
Wire Color (cable output)	1024 PPR	256 PPR
Red	+V	+V
Black	0V	0V
Blue	bit 1 (2 <sup>0</sup> )	—
Green	bit 2 (2 <sup>1</sup> )	—
Yellow	bit 3 (2 <sup>2</sup> )	bit 1 (2 <sup>0</sup> )
Violet	bit 4 (2 <sup>3</sup> )	bit 2 (2 <sup>1</sup> )
Orange	bit 5 (2 <sup>4</sup> )	bit 3 (2 <sup>2</sup> )
Brown	bit 6 (2 <sup>5</sup> )	bit 4 (2 <sup>3</sup> )
White	bit 7 (2 <sup>6</sup> )	bit 5 (2 <sup>4</sup> )
Gray	bit 8 (2 <sup>7</sup> )	bit 6 (2 <sup>5</sup> )
Pink	bit 9 (2 <sup>8</sup> )	bit 7 (2 <sup>6</sup> )
Light Green	bit 10 (2 <sup>9</sup> )	bit 8 (2 <sup>7</sup> )
Shield	—	—

**CNC**



**Features**

- With CLK/STB Positioning System
- With Z position Mark and LED Indicator



**ELECTRICAL SPEC.**

Output Code	Gray Code and Binary code
Position	4, 6, 8, 10, 12, 16, 20, 24, 30
Electronics	PNP Voltage, PNP Open Collector
Power Supply	DC 8-26V
Current Consumption	< 100 mA
Logic	Positive logic (H=1, L=0)
Max. Response	10K Hz
Polarity	Against Reverse Protection

\* OPTION: parity; odd parity check  
(Please consult our sales department)

**MECHANICAL SPEC.**

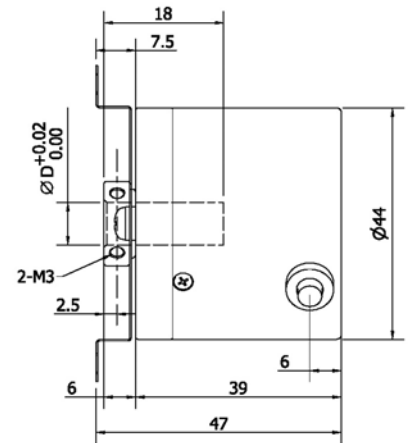
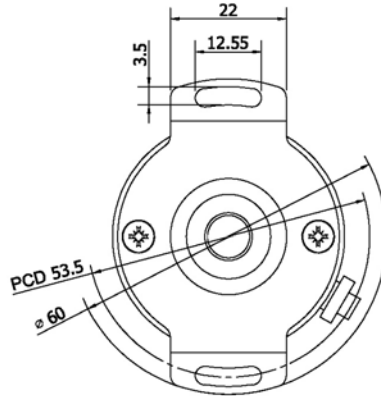
Shaft Diameter	8 mm
Shaft Loading	Axial: 2 Kg, Radial: 4 Kg
Max. Speed	3,000 rpm
Vibration resistance	Endurance 55 Hz double amplitude 1.5 mm / 2 hours in X, Y and Z directions
Shock resistance	Endurance 500 m / S2(50g) 3 times each in X, Y and Z directions
Cable	Ø6, 1000 mm long
Weight	< 400g

**ENVIRONMENTAL SPEC.**

Operating Temp. / Humidity	-10°C ~ 60°C, RH 35% ~ 90% (No Condensation)
Storage Temp.	-20°C ~ 80°C
Protection	IP 64: dust & dripping proof

**ORDERING INFORMATION**

<b>A4</b>	-	Output Code	-	Position	-	Electronics	-	Supply Voltage	-	Connection	-	LED Indicator
		B: Binary Code G: Gray Code		4, 6, 8, 10, 12, 16, 20, 24, 30 P/R		PV: PNP Voltage PC: PNP Open Collector		Blank: 8~26Vdc		Blank: Radial Cable *R10: Radial 10 pin		Blank: without LED *D: with LED



**ELECTRICAL SPEC.**

Detection System	Absolute
Output Code	Gray Code
Standard Number of Pulse Per Revolution	256
Electronics	NPN Voltage , NPN Open Collector
Power Supply	DC 10~26V, DC 5V fixed
Current Consumption	≤ 70 mA
Logic	Negative Logic (H=0, L=1)
Max. Response	10K Hz

**MECHANICAL SPEC.**

Hollow Shaft Diameter	8 mm
Shaft Loading	Axial: 1 Kg, Radial: 2 Kg
Max. Speed	3,000 rpm
Vibration Resistance	Endurance 55 Hz double amplitude 1.5 mm / 2 hours in X, Y and Z directions
Shock Resistance	Endurance 500 m / S <sup>2</sup> (50g) 3 times each in X, Y, Z direction
Cable	Ø4.5, 50 cm long, vinyl shielded
Weight	≤ 200g

**ENVIRONMENTAL SPEC.**

Operating Temp. / Humidity	0°C ~ 60°C, RH 35% ~ 90% (No Condensation)
Storage Temp.	-20°C ~ 80°C
Protection	IP50: Dust Proof

**ORDERING INFORMATION**

**AHB-8** - 

Output Code
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Pulse per Revolution
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Electronics
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Supply Voltage
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G: Gray Code      256 P/R      **BLANK:** NPN Voltage  
 C: NPN Open-Collector      **5V:** 5 Vdc fixed

**ELECTRICAL CONNECTION**

Wire Color (cable output)	256 PPR
Red	+V
Black	0V
Blue	bit 1 (2 <sup>0</sup> )
Green	bit 2 (2 <sup>1</sup> )
Yellow	bit 3 (2 <sup>2</sup> )
Violet	bit 4 (2 <sup>3</sup> )
Orange	bit 5 (2 <sup>4</sup> )
Brown	bit 6 (2 <sup>5</sup> )
White	bit 7 (2 <sup>6</sup> )
Gray	bit 8 (2 <sup>7</sup> )
Shield	-