

NEMICON



Φ18 FAMILY

- Miniature size OD18mm
- High performance, Up to 1600 resolution
- Shaft type / Modular type

Φ38 FAMILY

- Compact size OD38mm
- High performance, Up to 4096 resolution
- Shaft type / Modular type / Hollow shaft type

Advanced technologies and High performance

From the day of establishment in 1969, **NEMICON's ROTARY ENCODER** products are used not only in the electronics industry, but also in a wide range of fields such as Medical equipment, Elevator, Machine tool and Measuring instrument in the world. We will continue to develop and supply products which can satisfy customers.



Φ38 FAMILY

Incremental Encoders

Connector (Hirose Electric) 38S/38H

Output type	Parts Number
Open Collector	DF3-6S-2C
Complementary	DF3-6S-2C
Line Driver	DF3-9S-2C



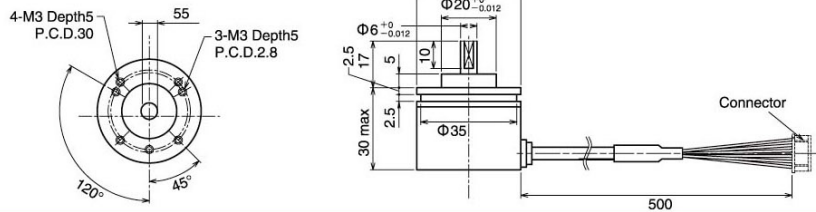
Electrical spec		38S Series		38H Series		38M Series	
Output Type		A, B, Z (index signal)					
Resolution		100, 200, 250, 300, 360, 500, 512, 600, 1000, 1024, 2000, 2048, 2500, 3600, 4000, 4096				200, 250, 300, 360, 500, 512, 1000, 1024, 2000, 2048, 2500, 3600, 4000, 4096	
Supply voltage	Line driver	DC4.5~13.2V					
	Open collector						
	Complementary	DC4.5~30V					
Current consumption		30mA, Complementary : 60mA (Max)					
Output current	Line driver	20mA (Max)					
	Open collector	40mA (Max)					
	Complementary	600mA (Max)					
Operating frequency		240kHz (Max)					
Mechanical spec							
Shaft diameter		Φ6		Φ6, Φ8		Φ5, Φ6	
Sealing		IP 50					
Starting torque		9.8×10 ⁻⁴ N·m or Less					
Allowable load to the shaft		Thrust : 19.6N / Radial : 29.4N		Thrust : 9.8N / Radial : 29.4N		—	
Moment of inertia		8×10 ⁻⁷ kg·m ² (Max)				9.3×10 ⁻⁷ kg·m ² (Max)	
Max Rotating speed		6000r/min. (Max)				10000r/min. (Max)	

38S Series

■ Type **38S** - [] - [] - **6** - **50** - **B00 E**

Resolution: Refer to above
 Cable length 50 : 50cm
 Shaft diameter 6 : Φ6
 2MD : A, B, Z Line driver
 2MC : A, B, Z Open collector
 2MT : A, B, Z Complementary

Dimensions (mm)

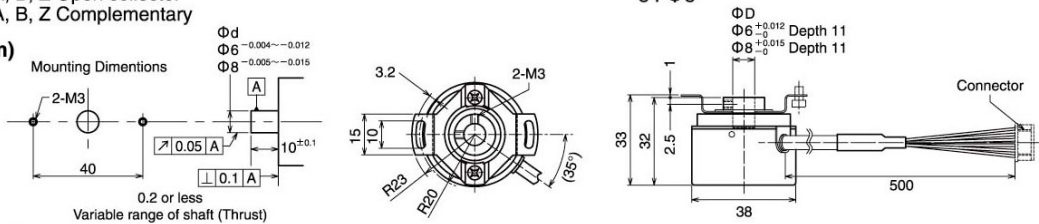


38H Series

■ Type **38H** - [] - [] - [] - **50** - **B00 E**

Resolution: Refer to above
 Cable length 50 : 50cm
 Inner diameter 6 : Φ6
 8 : Φ8
 2MD : A, B, Z Line driver
 2MC : A, B, Z Open collector
 2MT : A, B, Z Complementary

Dimensions (mm)



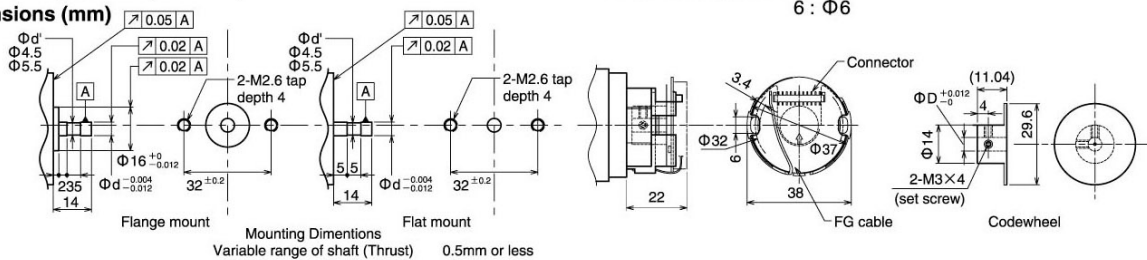
38M Series

■ Type **38M** - [] - [] - [] - **00** - **A00 E**

Resolution: Refer to above
 Motor Inner diameter 5 : Φ5
 6 : Φ6
 2MD : A, B, Z Line driver
 2MC : A, B, Z Open collector
 2MT : A, B, Z Complementary

■ Connector 9-917570-1 (AMP)

Dimensions (mm)



Φ18 / Φ38 Other Spec

Φ18 Cable assign

Open collector

Pin No.	Color	Connection
1	Brown	Vcc
2	Red	0V
3	Orange	Sig A
4	Yellow	Sig B
5	Green	Sig Z

Line driver

Pin No.	Color	Connection
1	Brown	Vcc
2	Red	0V
3	Orange	Sig A
4	Yellow	Sig \bar{A}
5	Green	Sig B
6	Blue	Sig \bar{B}
7	Purple	Sig Z
8	Gray	Sig \bar{Z}
9	Black	—

38S / 38H Cable assign

Open collector / Complementary

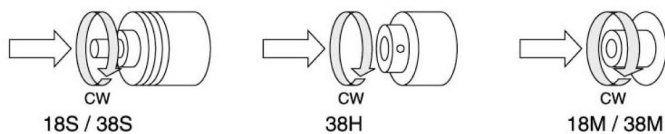
Pin No.	Color	Connection
1	Red	Vcc
2	Black	0V
3	Blue	Sig A
4	White	Sig B
5	Yellow	Sig Z
6	Black	Shield

Line driver

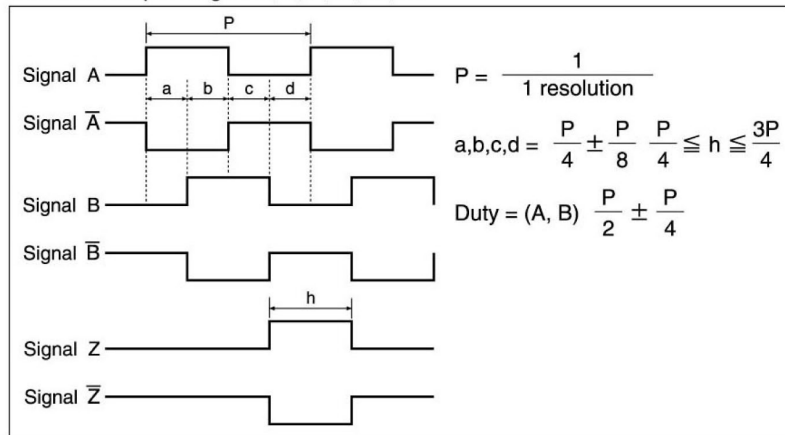
Pin No.	Color	Connection
1	Red	Vcc
2	Black	0V
3	Green	Sig A
4	Blue	Sig \bar{A}
5	White	Sig B
6	Gray	Sig \bar{B}
7	Yellow	Sig Z
8	Orange	Sig \bar{Z}
9	Black	Shield

Output style

Rotation direction



Open collector output / Complementary output : Signal A, B, Z
Line driver output : Signal A, B, Z, /A, /B, /Z



38M Connector assign

Open collector / Complementary

Pin No.	Connection
1	Vcc
2	0V
3	Sig A
4	—
5	Sig B
6	—
7	Sig Z
8	—
9	—
10	Shield
11	—

Line driver

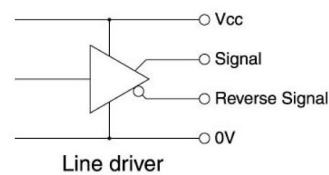
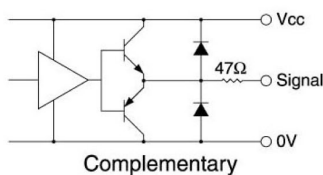
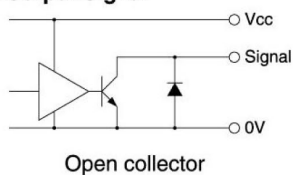
Pin No.	Connection
1	Vcc
2	0V
3	Sig A
4	Sig \bar{A}
5	Sig B
6	Sig \bar{B}
7	Sig Z
8	Sig \bar{Z}
9	—
10	Shield
10	—

Environmental spec

Operating temperature	-10°C ~ +85°C
Humidity	RH 85% Max*
Vibration	10~55Hz/1.5mm X, Y, Z direction each 2h
Shock	490m/s ² , 11ms X, Y, Z direction each for 3 times

*No Condensation

Circuit of Output Signal



We are here for you. Addresses and Contacts

Sales Switzerland

Matthias Rüegg
Ruhbergstrasse 32
CH-9230 Flawil

Phone +41 44 877 35 18
Mobile+41 76 491 66 66
Fax +41 44 877 35 19

matthias.rueegg@pewatron.com

Sales Germany

Baden-Württemberg Region
(Postcode 60000–79999)

Dieter Hirthe
Mühlweg 23
D-71554 Weissach i.T.

Phone +49 71 91 49 60 58
Mobile+49 163 76 27 430
Fax +49 71 91 93 31 88

dieter.hirthe@pewatron.com

Rest of Germany

Kurt Stritzelberger
Neumarkter Str. 86a
D-81673 Munich

Phone +49 89 260 38 47
Mobile+49 17 18 03 41 35
Fax +49 89 43 10 91 91

kurt.stritzelberger@pewatron.com

Sales Austria

Kurt Stritzelberger
Neumarkter Str. 86a
D-81673 Munich

Phone +49 89 260 38 47
Mobile+49 17 18 03 41 35
Fax +49 89 43 10 91 91

kurt.stritzelberger@pewatron.com

Sales Other Countries

PEWATRON AG
Thurgauerstrasse 66
CH-8052 Zurich

Phone +41 44 877 35 00
Fax +41 44 877 35 25

info@pewatron.com
www.pewatron.com

Sensors

Physical Sensors
Data Acquisition
Peter Felder
Phone +41 44 877 35 05
peter.felder@pewatron.com

Geometrical Sensors
Eric Letsch
Phone +41 44 877 35 14
eric.letsch@pewatron.com

Power Supplies

DC-DC Converters
Switching Power Supplies
DC-AC Inverters
Sebastiano Leggio
Phone +41 44 877 35 06
sebastiano.leggio@pewatron.com

E-Components

Current Converters
Man Machine Interface
Measurement Probes
Sebastiano Leggio
Phone +41 44 877 35 06
sebastiano.leggio@pewatron.com