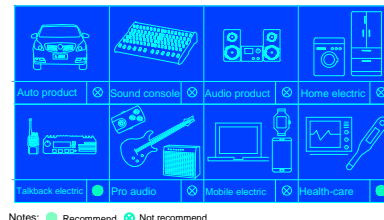




**Features**

- Compact 7mm design
- Long rotational life
- Waterproof option meets IP67
- Silky and smooth
- Wide use temperature range
- Crispy switching
- Strong response



Notes: ● Recommend ● Not recommend

**RE81/87 Series-7mm Sealed Metal Shaft Rotary Encoder**

**How To Order**

**RE814F0-FE18G9.0-A16-100G**

A B C D E F G H I J

A ..... Rotary Encoder Model:81  
 C ..... PC Pin Vertical/Terminal Size  
 D ..... Switch Configuration  
 0=No Switch  
 F ..... Standard Shaft Length"L"  
 H ..... Installation Dimension"A"  
 I ..... Encoder Resolution  
 J ..... Serial number

B ..... Bushing Specification"W"  
 4=M6x0.75 W=5.0mm  
 5=M6x0.75 W=7.0mm  
 6=M6x0.75 W=10.0mm  
 E ..... Shaft Style  
 G ..... Shaft Materials  
 A=Aluminum alloy  
 C=Copper alloy  
 D=Zinc alloy die casting  
 G=Stainless steel

**Mechanical Characteristics**

Total Rotational Angle.....300°±10°/360°  
 A16/B16/D16=300°±10°  
 C16=360°  
 Rotational Detents And Angle.....  
 A16/B16/D16=16 Detents(20°±3°/Detents)  
 C16=16 Detents(22.5°/Detents)  
 Nut Tightening Strength.....10Kgf.cm min.

Rotational Torque.....150 to 400gf.cm  
 Shaft Stopper Strength.....5Kgf.cm min.  
 Shaft Push-Pull Strength.....8/15Kgf 10s min.  
 A=10Kgf  
 C=10Kgf  
 D=8Kgf  
 G=15Kgf

**Electrical Characteristics**

Contact Resistance.....ON:1 max. OFF: 1M min.  
 Insulation Resistance.....100M min.at 250V DC

Dielectric Strength.....1 minute at 300V AC

**Environmental Characteristics**

Operating Temperature Range.....-30 to +70  
 Storage Temperature Range.....-40 to +85

Soldering Heat Resistance.....350 ±5 at 3sec  
 Sealability(Optional).....IP40 or IP67

**Durability Characteristics**

Rotational Life.....30,000 cycles

**Signal Output Table**

Shaft shown in full CCW position

Detent position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E1: 1-2	○	○	○	○	●	●	●	●	○	○	○	○	○	○	○	○
E1: 2-3	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 1-2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 2-3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Shaft shown in full CCW position

Detent position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E1: 1-2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E1: 2-3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 1-2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 2-3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

● :ON ○ :OFF 16CH CODE(20° Step 300° Type:A)

● :ON ○ :OFF 16CH CODE(20° Step 300° Type:B)

Shaft shown in full CCW position

Detent position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E1: 1-2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E1: 2-3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 1-2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 2-3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Shaft shown in full CCW position

Detent position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
E1: 1-2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E1: 2-3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 1-2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E2: 2-3	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

● :ON ○ :OFF 16CH CODE(22.5° Step 360° Type:C)

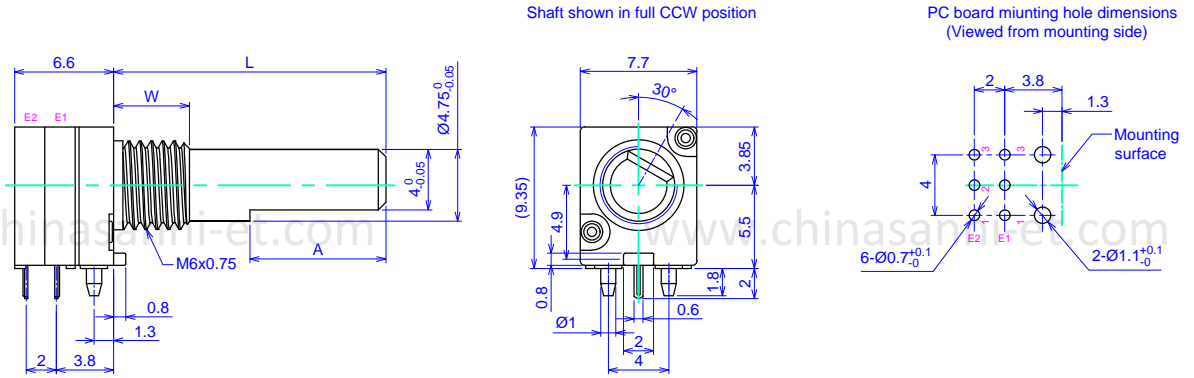
● :ON ○ :OFF 16CH CODE(20° Step 300° Type:D)



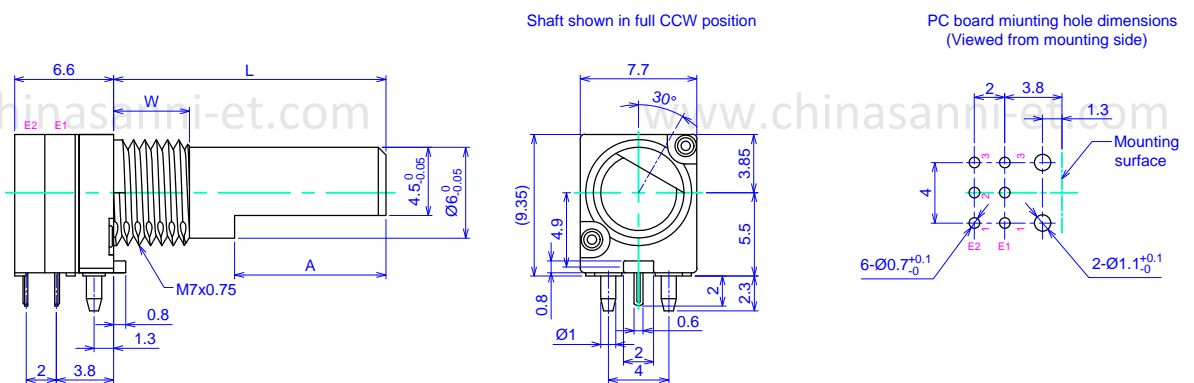
Product Dimensions

Unit:mm

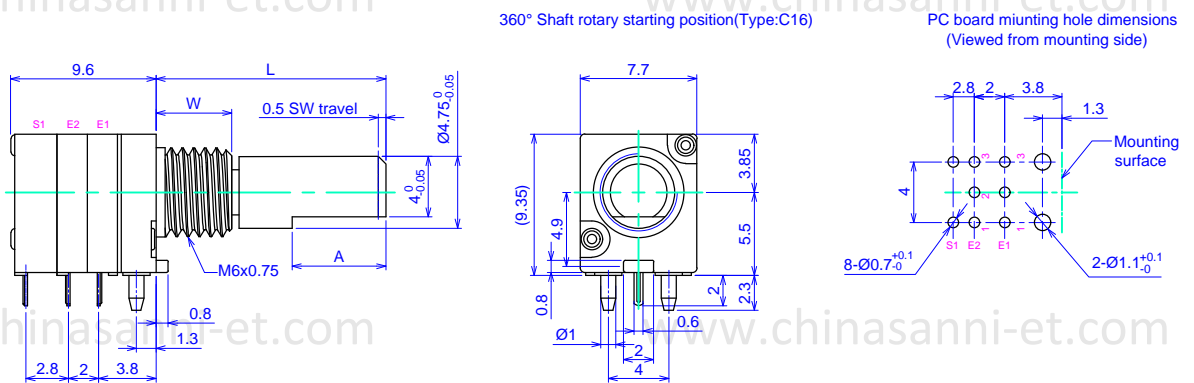
RE874F0:A16/B16



RE81AF0:A16/B16



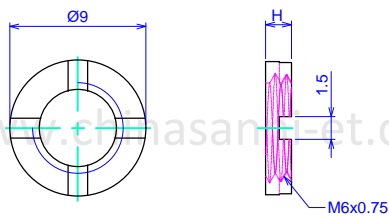
RE874FM:C16



Mountings

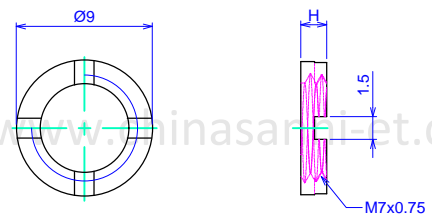
Unit:mm

M6:NUT



H	1.3	1.7	2.0
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M7:NUT



H	1.3	1.7	2.0
---	-----	-----	-----

◆ The nuts can be made by customer's spec .

◆ The nuts can be made by customer's spec .

Bushing Type Unit:mm

**A:(M6x0.75)**

W	5.0	7.0	10.0
	4	5	6

**B:(M7x0.75)**

W	5.0	7.0
	D	F

**C:(M6x0.75)**

W	7.0
	E

**D:(Ø6.0)**

W	5.0
	P

Shaft Specifications Unit:mm

**FE-Shaft Type**

Detail Dimensions

Shaft shown in full CCW position

L	10.7	13	15	18
W=5	4.9	7.0	7.0	9.0
W=7			7.0	9.0

**FD-Shaft Type**

Detail Dimensions

Shaft shown in full CCW position

L	15
W=5	7.0
W=7	7.0

**FK-Shaft Type**

Detail Dimensions

Shaft shown in full CCW position

L	15
W=5	7.0
W=7	7.0

**FB-Shaft Type**

Detail Dimensions

Shaft shown in full CCW position

L	10.0	15	20
W=5	4.0	7.0	12
W=7		7.0	12

◆ Notes:

- Shaft sleeve/Bushing can be customized when detail drawing is provided. Waterproof function can be added per request.
- Rubber O-ring in stalled between the shaft and bushing to prevent warer intrusion is available as an option.(Waterproof option meets IP67)