

16 mm Absolute Encoder

EN16AB Series



Features:

- Absolute type
- Plastic Shaft
- Vertical and Horizontal mount versions
- IP51 rated



Description:

16 mm encoder is an absolute type encoder, therefore output position is maintained after power loss. It is a good fit for various electronic applications such as frequency modulation, volume adjustment, and function switching.

Applications:

- Home Appliances
- Audio Equipment
- Temperature Control

Electrical Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

Output	Absolute
Positions (Per Revolution)	12, 16
Power Rating	12 Vdc / 4 mA
Insulation Resistance	10M Ω 1 Minute at 50 Vdc Max.
Dielectric Strength	1 Minute at 50 Vac
Contact Resistance	100 m Ω maximum

Encoder Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

Rotation	360° continuous
Rotational Torque	30-200 gf.cm
Detents per Rotation	12, 16
Rotational Life	30,000 Cycles Min.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

TT Electronics | BI Technologies
Circulo de la Amistad #102 PIMSA IV Mexicali B.C. Mexico C.P 21210
Ph: + 1 (714) 447-2345
www.ttelectronics.com

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Environmental Characteristics

TA = 25°C unless otherwise noted

Operating Temperature	-10°C to +70°C
IP Rating	IP 51
Soldering Condition	Wave/Reflow Soldering 260°C maximum for 1-3 seconds Hand Soldering 350°C maximum for 3 seconds
RoHS	Please refer to TT Electronics website
REACH	Please refer to TT Electronics website

Ordering

EN16AB	HB	1	1	B		F	23
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Part Family

Style

HB = Top Adjust, Plain Bushing

HM = Top Adjust, Threaded Bushing

VM = Side Adjust, Threaded Bushing

Positions

1 = 12 positions (HB style only)

2 = 16 positions (HM & VM style only)

Detents

1 = 12 (for 12 positions only)

2 = 16 (for 16 positions only)

Bushing Length

A = 5 mm (plain bushing only)

B = 7 mm (threaded bushing only)

Start Position (see Output Signal Format)

None = 12 pos.

0 = 16 pos. option 0

1 = 16 pos. option 1

2 = 16 pos. option 2

Shaft Type - F

Shaft Length (see Outline Drawings)

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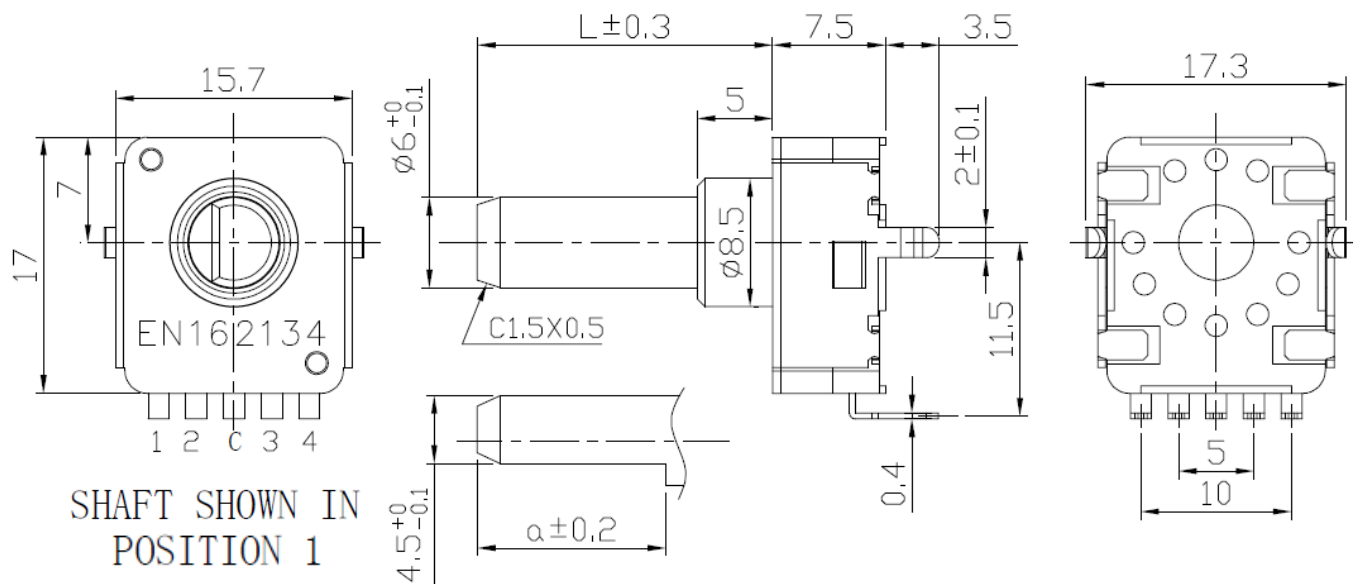
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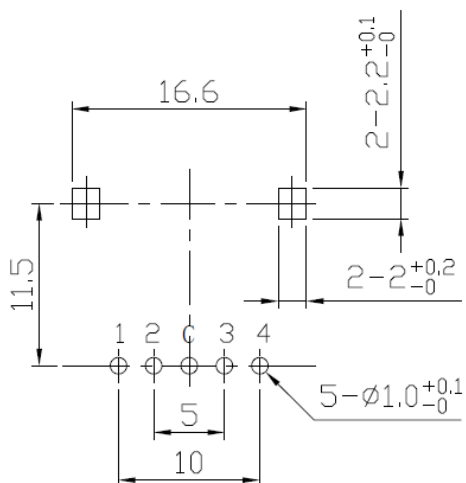
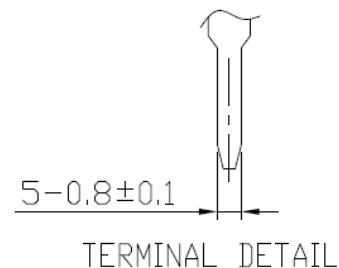


Outline Drawings

EN16AB-HB - Top Adjust, Plain Bushing



Code	20	23
L	19.5	22.5
a	12	12.5



P. C. B MOUNTING HOLES

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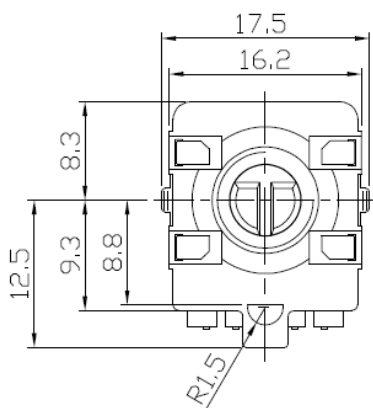
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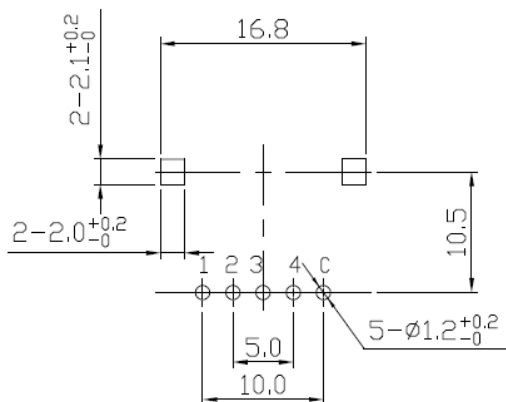
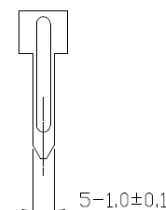
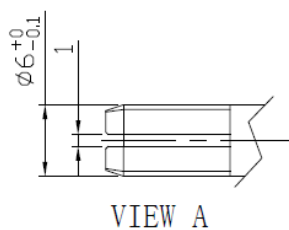
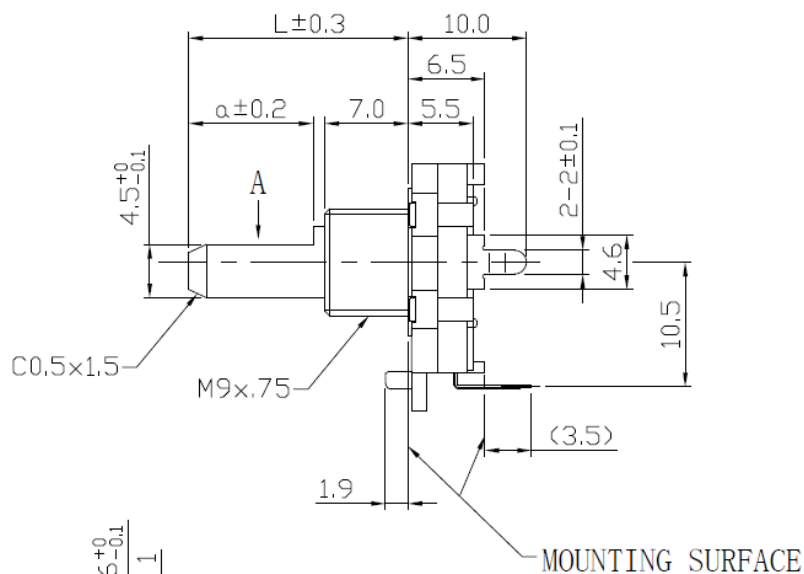
Outline Drawings

EN16AB-HM - Top Adjust, Threaded Bushing



SHAFT SHOWN IN POSITION 1

Code	15	20	25	30	35
L	15	20	25	30	35
a	7	12	12	12	12



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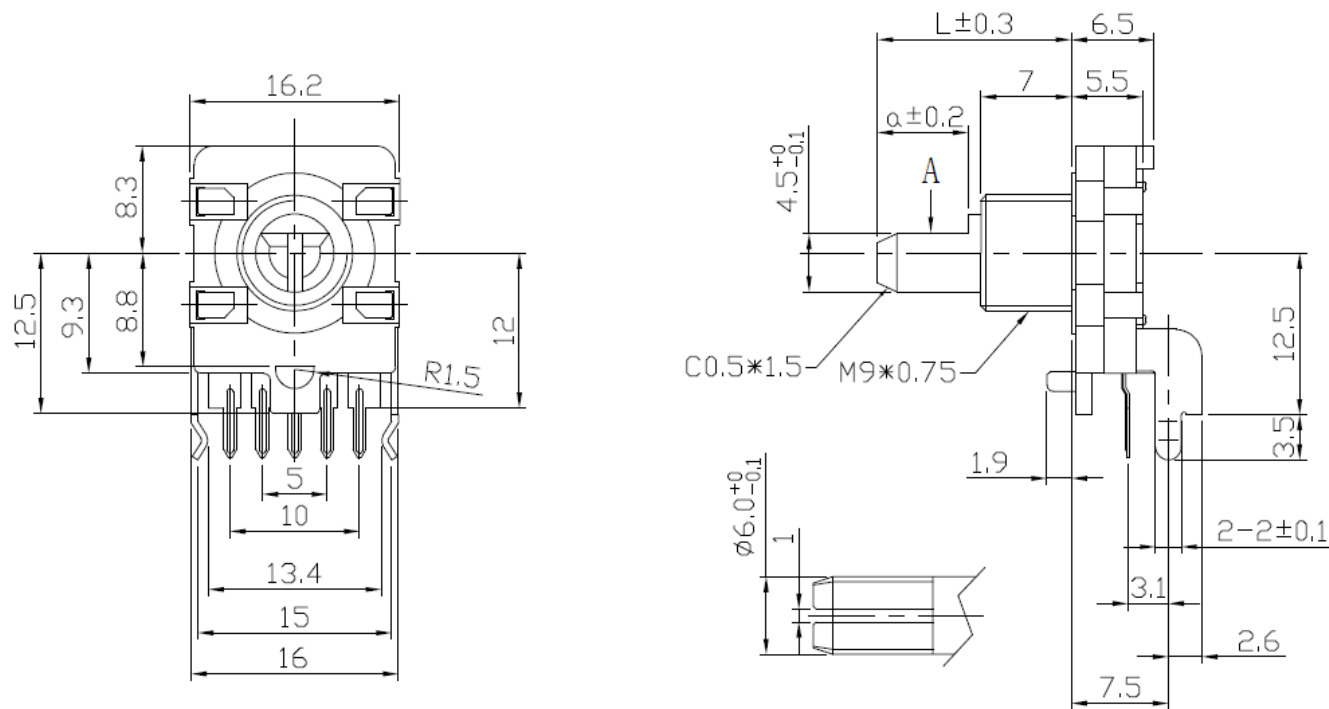
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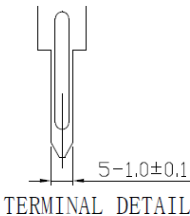
Outline Drawings

EN16AB-VM - Side Adjust, Threaded Bushing

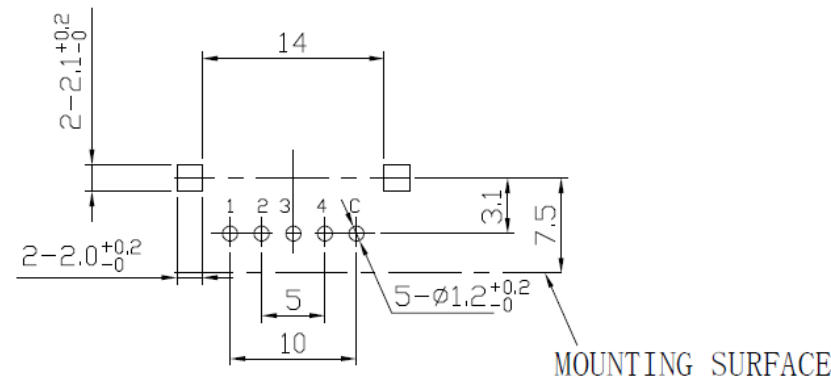


SHAFT SHOWN IN POSITION 1

Code	15	20	25	30	35
L	15	20	25	30	35
a	7	12	12	12	12



TERMINAL DETAIL



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Output Signal Format

X=NONE **START POSITON** C. W → 1: ON
0: OFF

TERM \ POS	1	2	3	4	5	6	7	8	9	10	11	12
1	0	1	1	1	1	0	0	0	0	0	0	0
2	1	1	0	0	1	1	1	1	0	0	0	0
3	0	0	0	1	1	1	1	0	0	1	1	0
4	0	0	0	0	0	0	1	1	1	1	0	0

X=0 **START POSITON** C. W → 1: ON
0: OFF

TERM \ POS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0
2	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0
3	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0
4	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

X=1 **START POSITON** C. W → 1: ON
0: OFF

TERM \ POS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
2	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0
3	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0
4	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1	0

X=2 **START POSITON** C. W → 1: ON
0: OFF

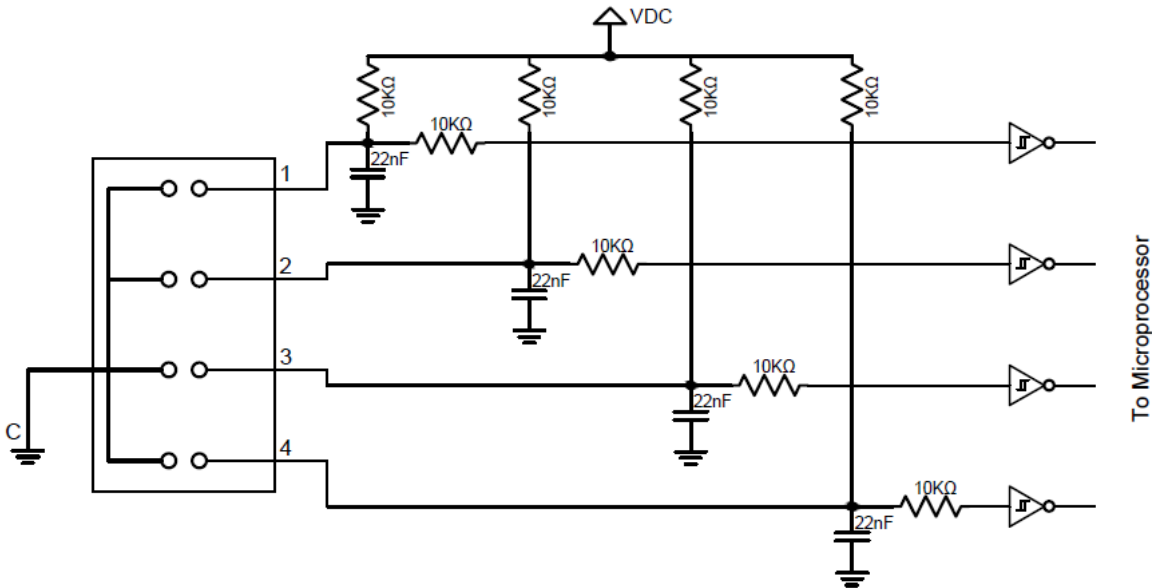
TERM \ POS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
3	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
4	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

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Recommended Circuit Connection



Packaging

Standard Packaging	Plastic Trays
Included Hardware	Nut & Washer—VM & HM Styles

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