

# 18 mm Absolute Encoder

## EN18AB Series



### Features:

- Absolute type
- Plastic Shaft
- Horizontal mount
- IP51 and IP67 rated versions



### Description:

18 mm encoder is an absolute type encoder, therefore output 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<sub>A</sub> = 25°C unless otherwise noted

Output	Absolute
Positions (Per Revolution)	16 or 24
Power Rating	12 Vdc / 4 mA
Insulation Resistance	10MΩ 1 Minute at 100 Vdc Max.
Dielectric Strength	1 Minute at 50 Vac
Contact Resistance	100 mΩ maximum

## Encoder Characteristics

T<sub>A</sub> = 25°C unless otherwise noted

Rotation	360° continuous
Rotational Torque	100-300 gf.cm (EN18ABHH)
	300-700 gf.cm (EN18ABHB)
Detents per Rotation	16 or 24
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.

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### Environmental Characteristics

TA = 25°C unless otherwise noted

Operating Temperature	-20°C to +85°C
IP Rating	IP51 (EN18ABHH), IP 67 (EN18ABHB)
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

EN18AB	HH	2	2	H	0	H	0
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#### Part Family

#### Style

HH = Top Adjust, Hollow Shaft  
HB = Top Adjust, Plain Bushing

#### Positions

1 = 16 positions (HB style only)  
2 = 24 positions (HH style only)

#### Detents

1 = 16 (for 16 positions only)  
2 = 24 (for 24 positions only)

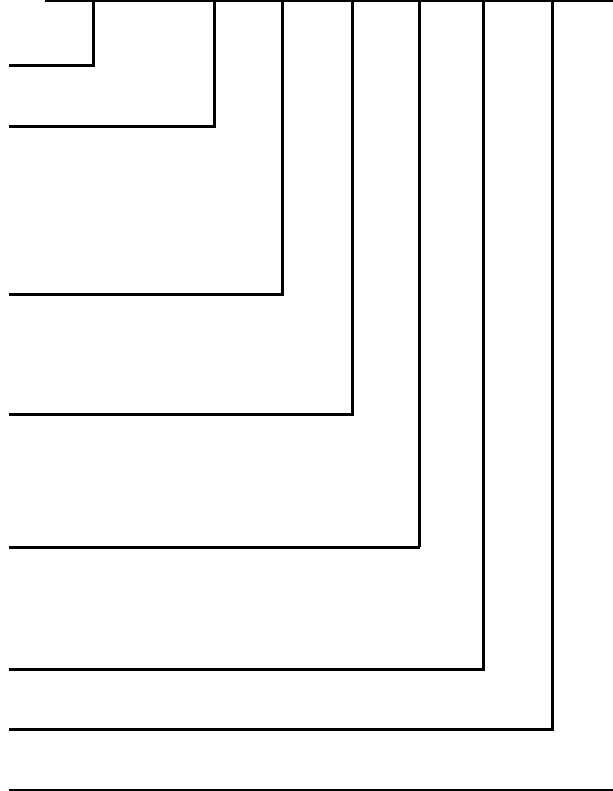
#### Bushing Length

A = 5 mm (plain bushing only)  
H = No Bushing

#### Start Position - 0

#### Shaft Type (see Outline Drawings)

#### Shaft Length (see Outline Drawings)



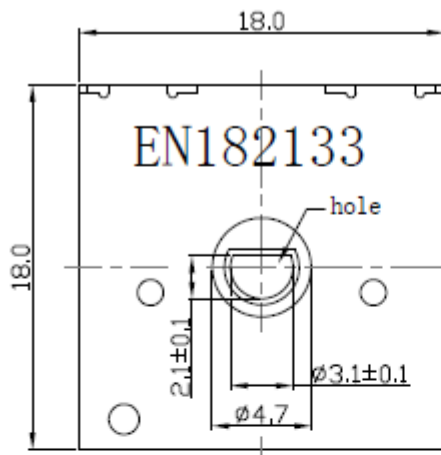
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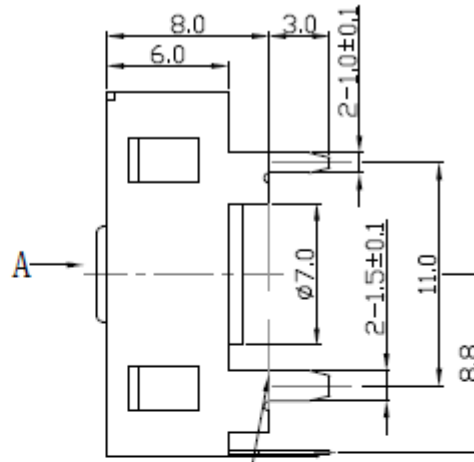


### Outline Drawings

#### EN18ABHH22H0H0 - Top Adjust, Hollow Shaft

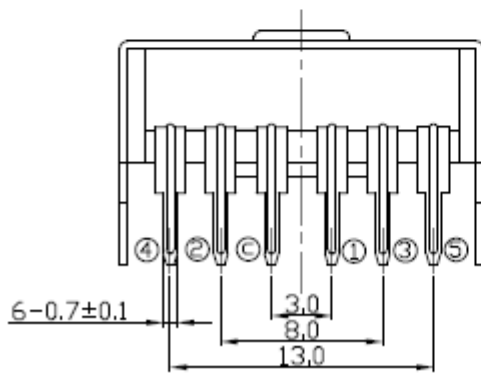


SHAFT SHOWN IN POSITION 1

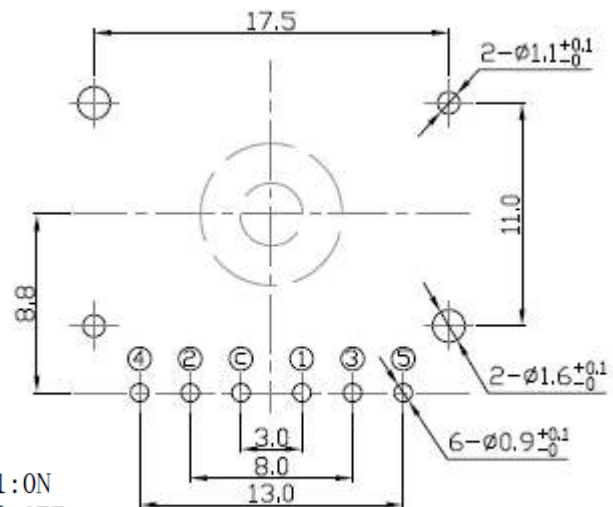


PC board mounting face

Shaft Type = H  
Shaft Length = 0



### Output Signal Format



P. C. B MOUNTING HOLES

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	17	18	19	20	21	22	23	24	
①		0	1	1	0	0	1	1	0	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	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	0	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	1	1	1	1	1	1	1	1	1
⑤		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

viewed from A direction

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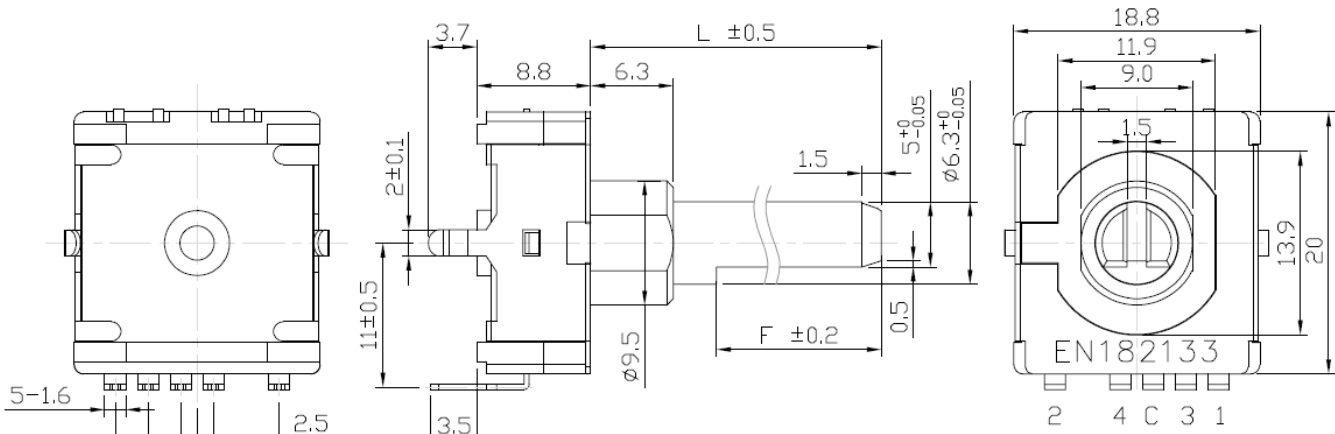
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### Outline Drawings

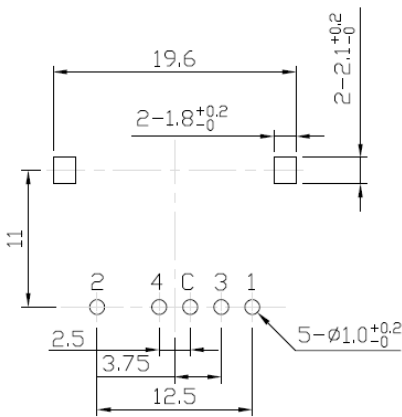
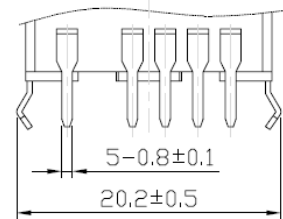
#### EN18ABHB11A0Fxx - Top Adjust, Plain Bushing



SHAFT SHOWN IN POSITION 1

Shaft Type = F  
Shaft Length = see Chart

Code	26	28	29
L	26.8	28.7	29.5
F	12.7	15.7	15.7



P. C. B MOUNTING HOLES

### Output Signal Format

TERM	POS	START POSITION															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		C. W →															
		1: ON 0: OFF															
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	0	0	0	0	0
4		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1

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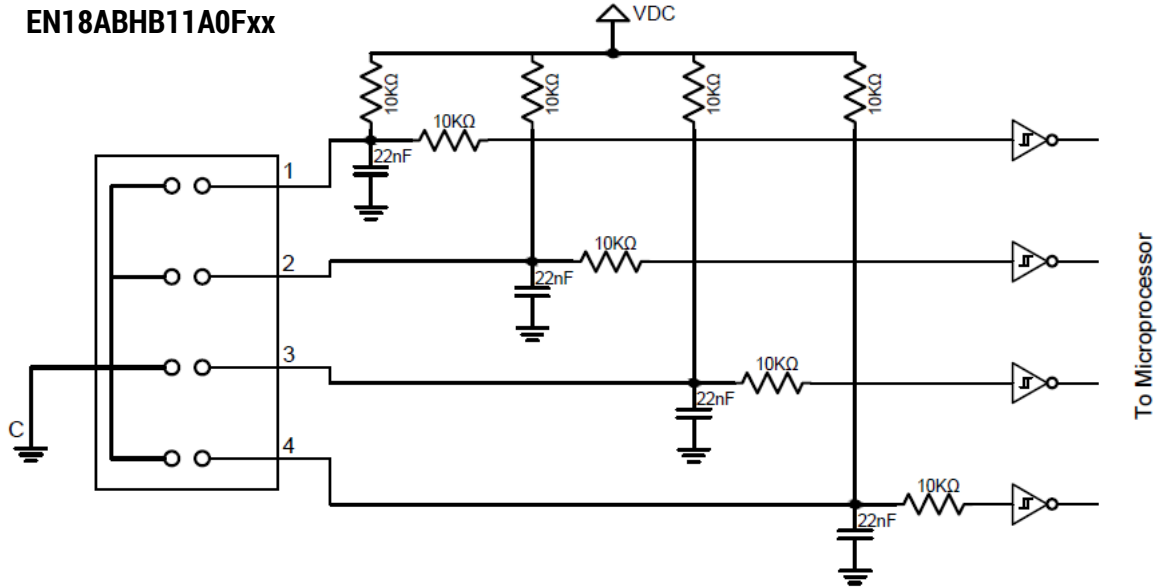
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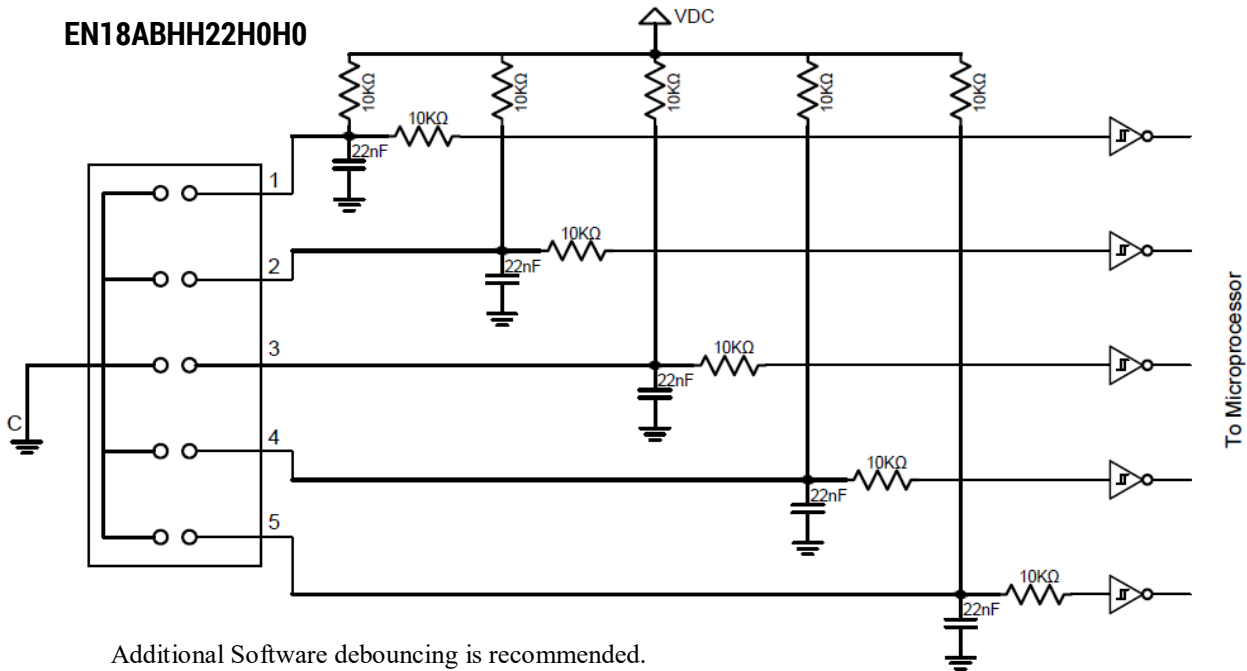


### Recommended Circuit Connection

EN18ABHB11A0Fxx



EN18ABHH22H0H0



Additional Software debouncing is recommended.

### Packaging

Standard Packaging	Plastic Trays
Included Hardware	None

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