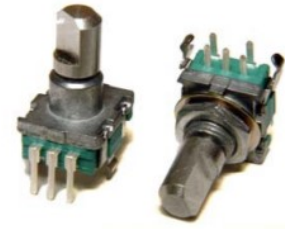


# Rotary Encoder

## Model EN11 Series



### Features:

- 11 mm rotary encoder
- 2 bits gray code
- Incremental/Contacting type
- Metal bushing/shaft
- Push-on switch option

### Model Styles Available

Top adjust, with switch, threaded bushing	EN11-HSM
Top adjust, without switch, threaded bushing	EN11-HNM
Top adjust, with switch, plain bushing	EN11-HSB
Top adjust, without switch, plain bushing	EN11-HNB
Side adjust, with switch, threaded bushing	EN11-VSM
Side adjust, without switch, threaded bushing	EN11-VNM
Side adjust, with switch, plain bushing	EN11-VSB
Side adjust, without switch, plain bushing	EN11-VNB

### Electrical

Pulses (per revolution)	15, 20
Encoder closed circuit resistance	3 Ohms, max.
Encoder contact rating	10mA/5Vdc
Operating current, maximum	10mA
Dielectric strength	300Vac/1mA, 1 minute
Insulation resistance, minimum	100M ohms at 250Vdc/ 1 mA
Sliding Noise (at 60 RPM)	2.0ms max.
Contact Bounce (at 15 RPM)	5.0ms max.
Operating speed (RPM)	100 RPM max.
Switch power rating	10mA/5Vdc
Switch contact resistance	100 miliohms
Actual electrical travel, nominal	Continuous

#### Notes:

1. Specifications subject to change without notice

#### General Note

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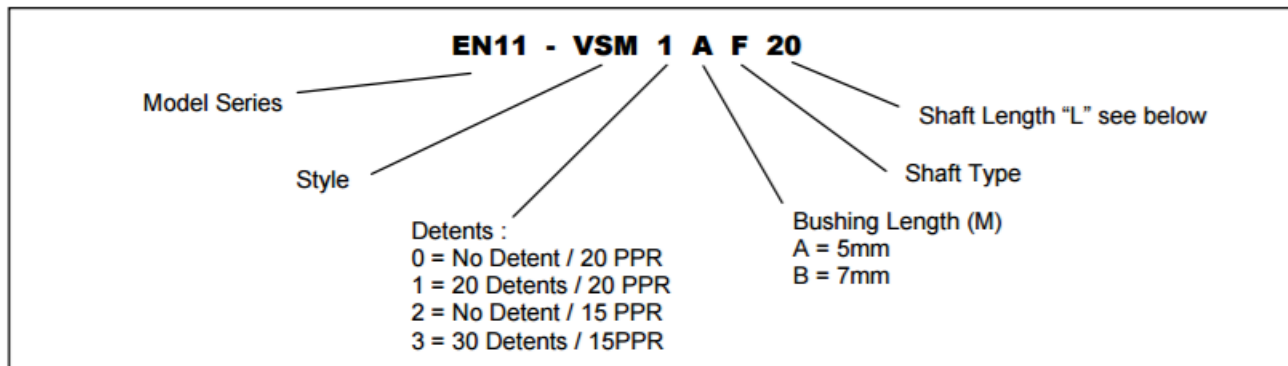
### Mechanical

Total mechanical travel	Continuous
Detents (per revolution)	0, 20 and 30
Rotational torque of detent, maximum	2.5 oz-in
Switch operating force	550 gf
Switch travel	0.5mm

### Environmental

Operating temperature range	-10°C to +70°C
Rotational life	30,000 cycles

### Ordering Information

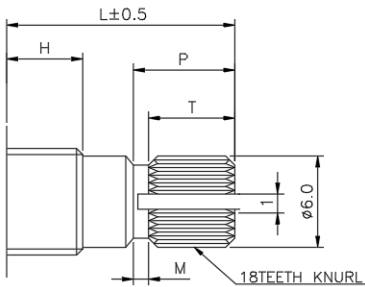


**Notes:**

1. Contact our customer service for custom designs and features.

### Shaft Types–N types (No switch)

#### Q Type



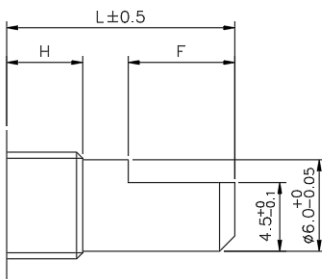
#### H = 5mm

L	12.5	15	20	25	30
P	7	7	7	11	14
T	6	6	6	10	12
M	1	1	1	2	4

#### H = 7mm

L	15	20	25	30
P	7	7	11	14
T	6	6	10	12
M	1	1	2	4

#### F Type



#### H = 5mm

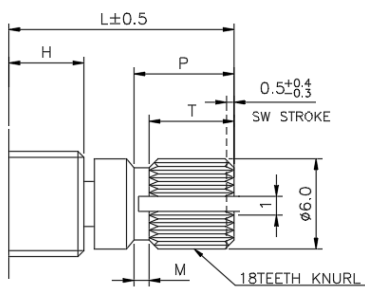
L	12	15	20	25	30
F	5	7	12	12	12

#### H = 7mm

L	15	20	25	30
F	7	7	12	12

### Shaft Types–S types (Switch)

#### Q Type



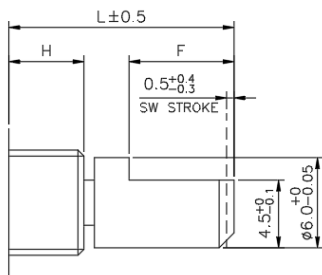
#### H = 5mm

L	12	15	20	25	30
P	4.5	7	7	11	14
T	4.5	6	6	10	12
M	1	2	2	2	4

#### H = 7mm

L	15	20	25	30
P	6	7	11	14
T	5	6	10	12
M	1	1	2	4

#### F Type



#### H = 5mm

L	12	15	20	25	30
F	5	7	12	12	12

#### H = 7mm

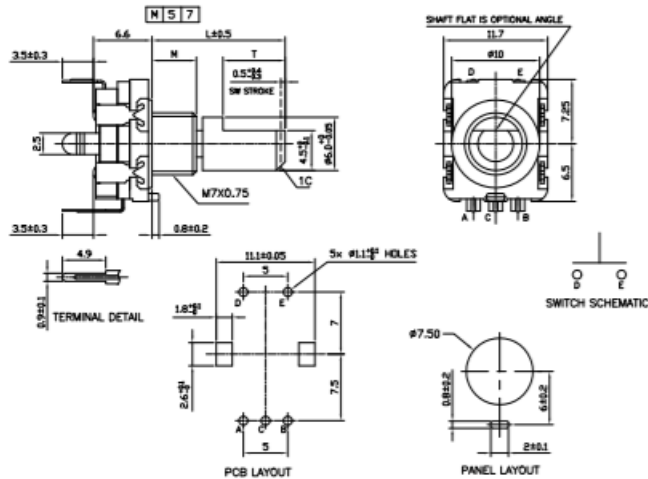
L	15	20	25	30
F	7	10	12	12

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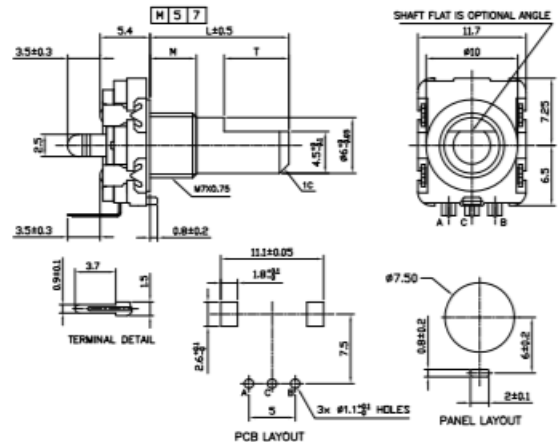
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 Circulo de la Amistad #102 PIMSA IV Mexicali B.C. Mexico C.P 21210  
 Ph: +1 714 447 2345  
 www.ttelectronics.com/bi-technologies

### Outline Drawings

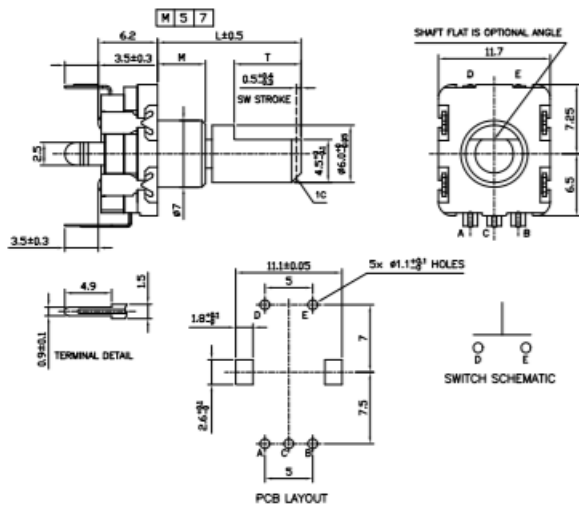
**MODEL EN11-HSM**  
(Top Adjust, with Switch, Threaded Bushing)



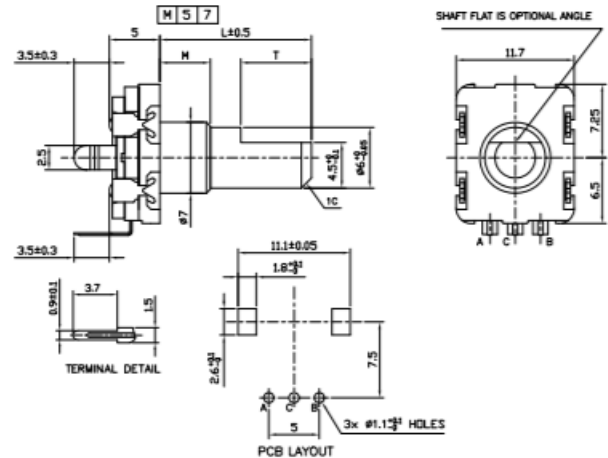
**MODEL EN11-HNM**  
(Top Adjust, without Switch, Threaded Bushing)



**MODEL EN11-HSB**  
(Top Adjust, with Switch, Plain Bushing)



**MODEL EN11-HNB**  
(Top Adjust, without Switch, Plain Bushing)

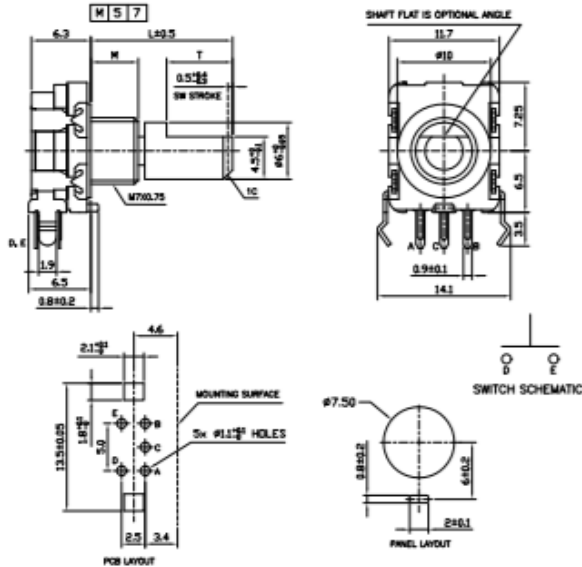


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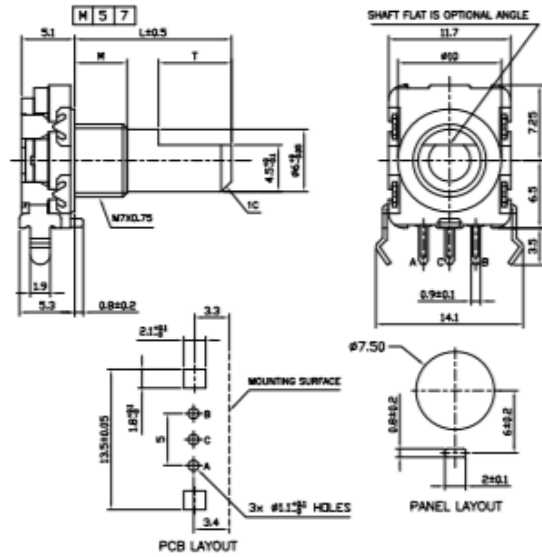
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### Outline Drawings

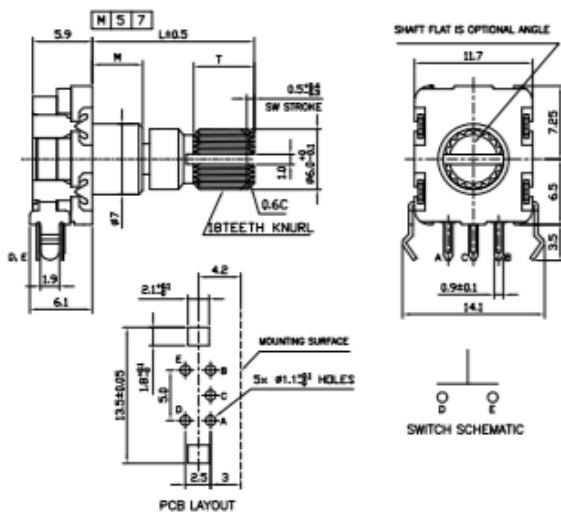
**MODEL EN11-VSM**  
(Side Adjust, with Switch, Threaded Bushing)



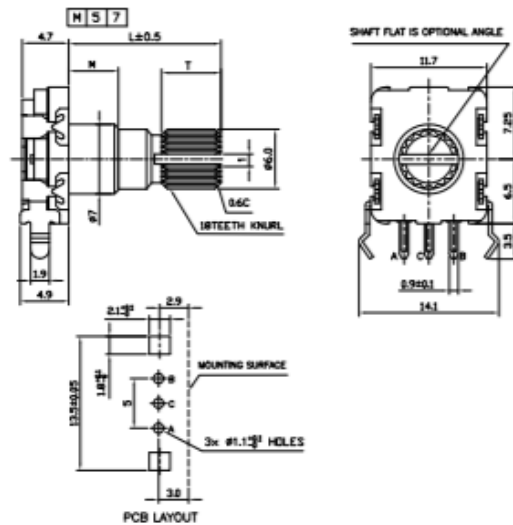
**MODEL EN11-VNM**  
(Side Adjust, without Switch, Threaded Bushing)



**MODEL EN11-VSB**  
(Side Adjust, with Switch, Plain Bushing)



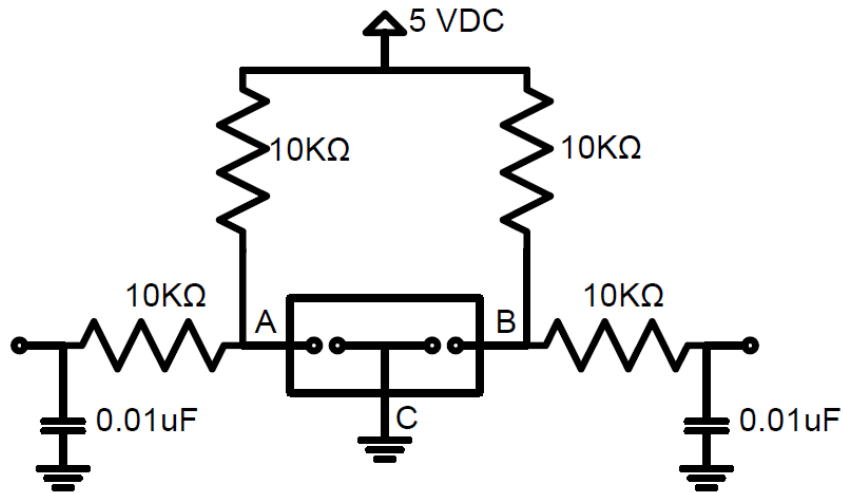
**MODEL EN11-VNB**  
(Side Adjust, without Switch, Plain Bushing)



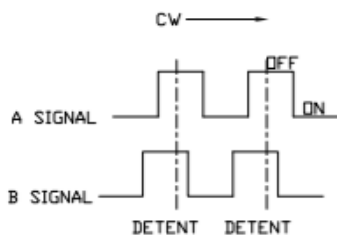
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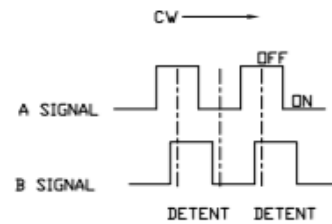
### Recommended Filter Schematic



### Circuit Diagram



**For 20 PPR (B leads A)**



**For 15 PPR (A leads B)**