

**SERIES:** PTN09X | **DESCRIPTION:** ROTARY POTENTIOMETER**FEATURES**

- ganging up to 4 sections
- center detent option
- carbon element
- multiple shaft options

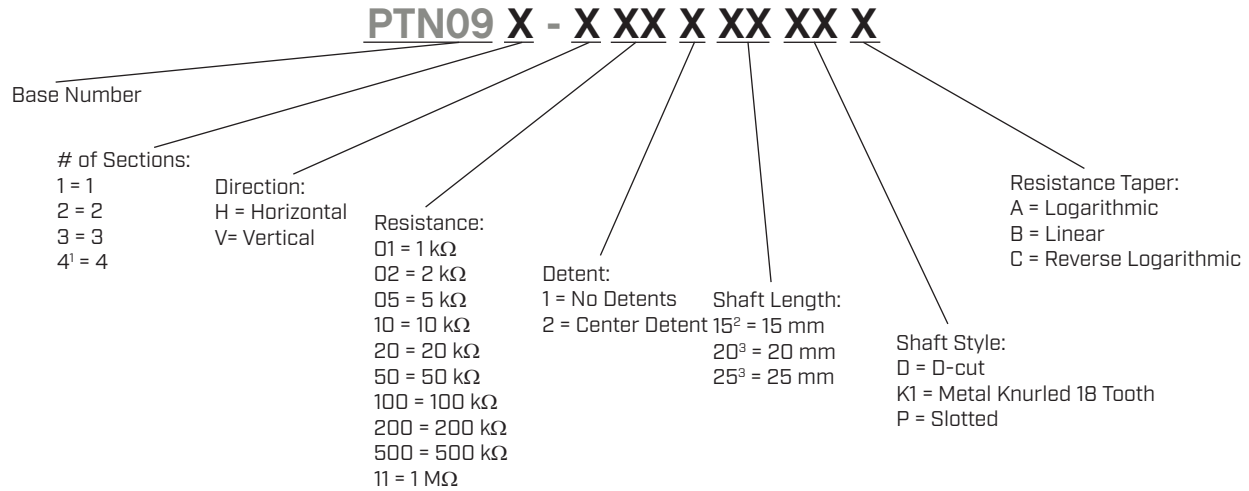
**SPECIFICATIONS**

| parameter                     | conditions/description                       | min | typ      | max      | units              |
|-------------------------------|--|-----|----------|----------|--------------------|
| maximum operating voltage     |  |     |          | 10<br>50 | Vdc<br>Vac         |
| power rating                  |  |     |          | 0.05     | W                  |
| taper                         | linear, logarithmic, and reverse logarithmic |     |          |          |                    |
| standard resistance range     | see Resistance Table                         | 1   |          | 1,000    | k $\Omega$         |
| standard resistance tolerance |  |     | $\pm 20$ |          | %                  |
| sliding noise                 |  |     |          | 68       | mV                 |
| operating temperature         |  | -10 |          | 75       | $^{\circ}\text{C}$ |
| hand soldering                | for 3 seconds max                            |     |          | 350      | $^{\circ}\text{C}$ |
| wave soldering                | for 5 seconds max                            |     |          | 260      | $^{\circ}\text{C}$ |
| RoHS                          | yes  |     |          |          |                    |

**MECHANICAL**

| parameter         | conditions/description | min | typ    | max | units      |
|-------------------|------------------------|-----|--------|-----|------------|
| mechanical angle  |                        | 290 | 300    | 300 | $^{\circ}$ |
| rotational torque |                        | 10  |        | 250 | gf-cm      |
| stop strength     |                        | 4   |        |     | kg-cm      |
| shaft wobble      | 0.5xL/30 mm p-p max    |     |        |     |            |
| rotational life   |                        |     | 10,000 |     | cycles     |
| weight            |                        |     | 5      |     | g          |

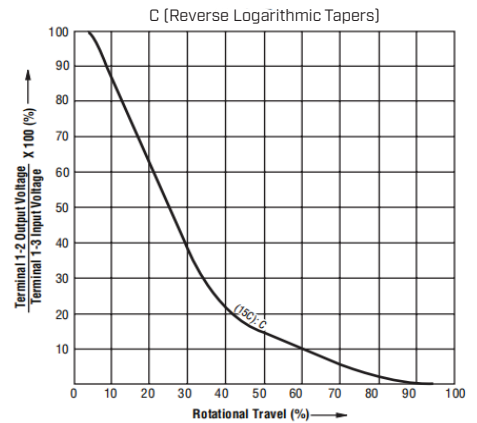
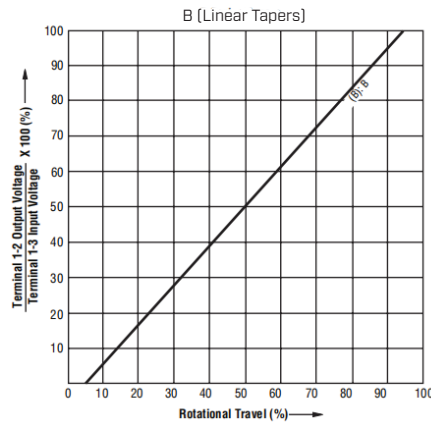
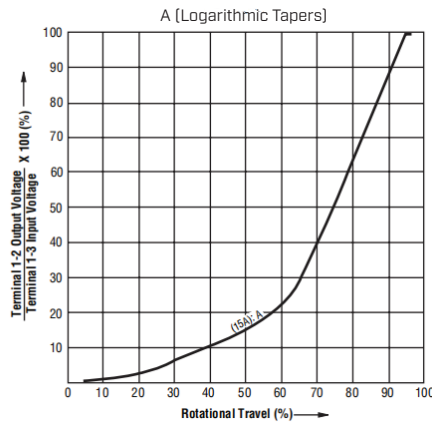
## PART NUMBER KEY



Note:

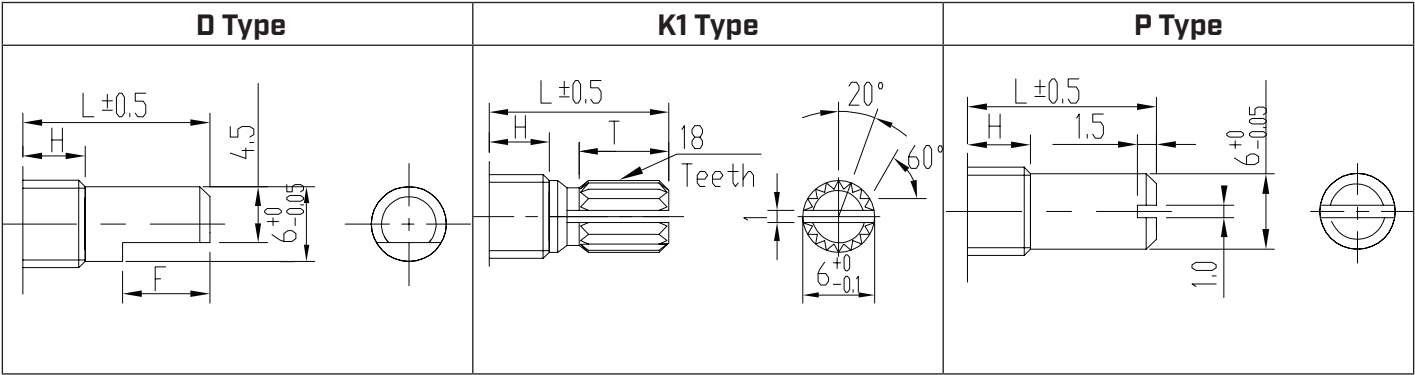
1. 4 sections only available in horizontal version.
2. 5 mm bushing length offered on 15 mm shaft only.
3. 7 mm bushing length offered on 20 & 25 mm shafts only.

## TAPERS



SHAFT TYPES

units: mm  
tolerance:  
X≤10.00: ±0.30 mm  
10.00<X≤30.00: ±0.50 mm  
30.00<X≤100.00: ±1.0 mm  
unless otherwise noted



|   |    |    |    |
|---|----|----|----|
| H | 5  | 7  | 7  |
| L | 15 | 20 | 25 |
| F | 7  | 12 | 12 |

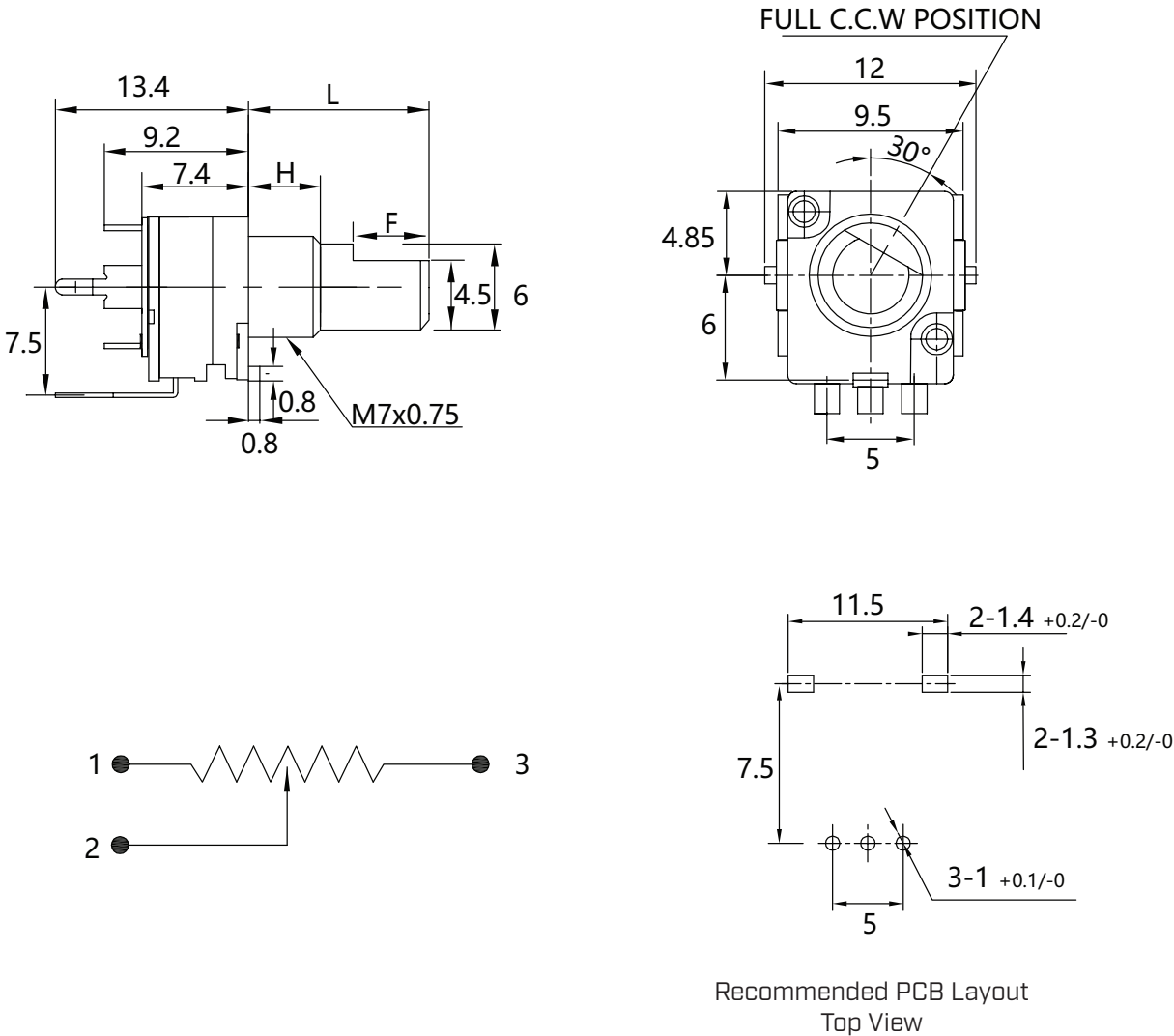
|   |    |    |    |
|---|----|----|----|
| H | 5  | 7  | 7  |
| L | 15 | 20 | 25 |
| F | 6  | 10 | 12 |

|   |    |    |    |
|---|----|----|----|
| H | 5  | 7  | 7  |
| L | 15 | 20 | 25 |

MECHANICAL DRAWING (VERTICAL, 1 SECTION)

units: mm  
tolerance:  
X≤10.00: ±0.30 mm  
10.00<X≤30.00: ±0.50 mm  
30.00<X≤100.00: ±1.0 mm  
unless otherwise noted

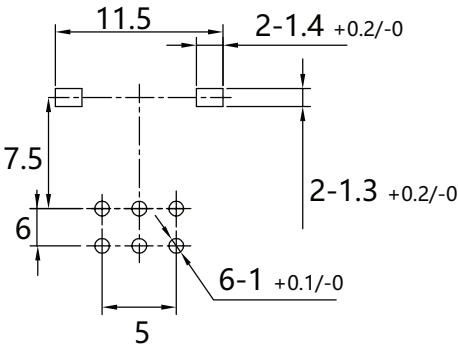
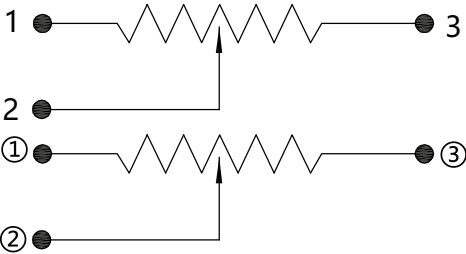
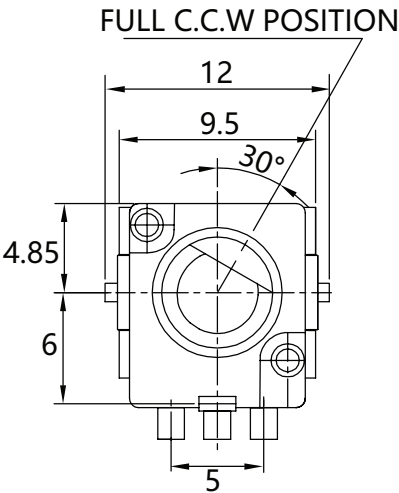
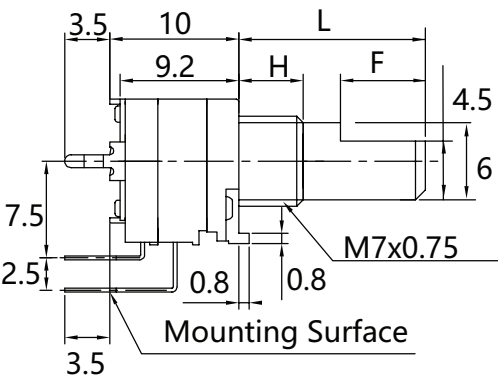
| DESCRIPTION   | MATERIAL          |
|---------------|-------------------|
| shaft         | aluminum          |
| bushing       | zinc alloy        |
| driving plate | POM               |
| rivet         | aluminum          |
| reed          | phosphor copper   |
| base          | PBT               |
| carbon plate  | FR4 substrate     |
| terminal      | cold rolled strip |
| cover plate   | PBT               |



MECHANICAL DRAWING (VERTICAL, 2 SECTIONS)

units: mm  
tolerance:  
X≤10.00: ±0.30 mm  
10.00<X≤30.00: ±0.50 mm  
30.00<X≤100.00: ±1.0 mm  
unless otherwise noted

| DESCRIPTION   | MATERIAL          |
|---------------|-------------------|
| shaft         | aluminum          |
| bushing       | zinc alloy        |
| driving plate | POM               |
| rivet         | aluminum          |
| reed          | phosphor copper   |
| base          | PBT               |
| carbon plate  | FR4 substrate     |
| terminal      | cold rolled strip |
| cover plate   | PBT               |

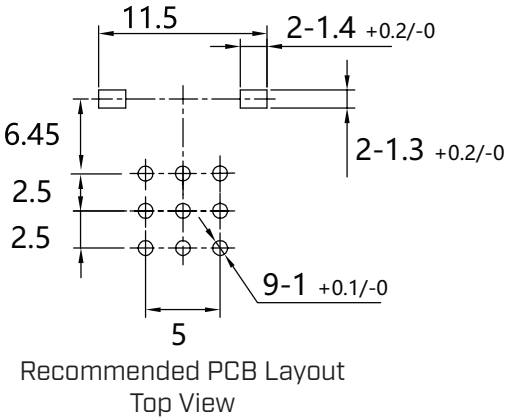
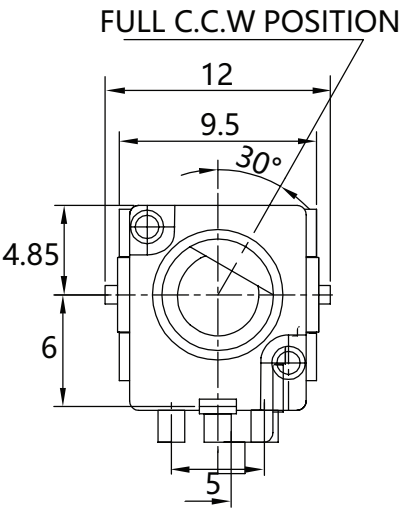
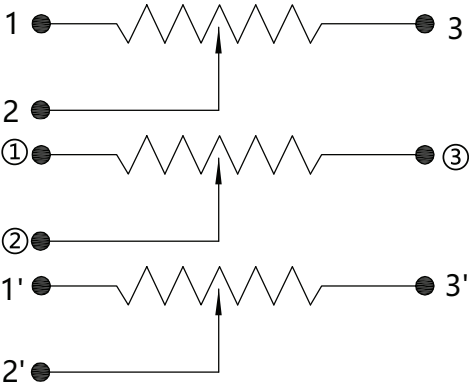
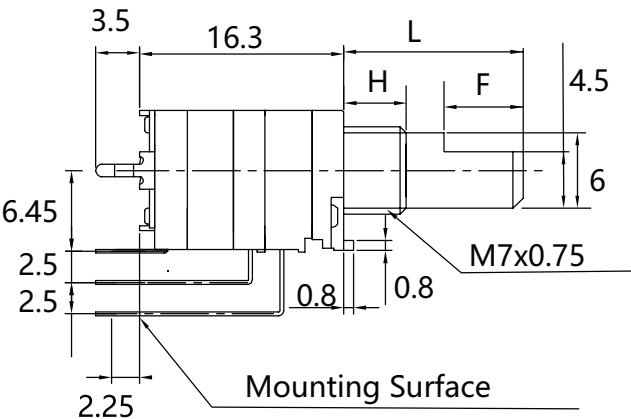


Recommended PCB Layout  
Top View

MECHANICAL DRAWING (VERTICAL, 3 SECTIONS)

units: mm  
tolerance:  
 $X \leq 10.00$ :  $\pm 0.30$  mm  
 $10.00 < X \leq 30.00$ :  $\pm 0.50$  mm  
 $30.00 < X \leq 100.00$ :  $\pm 1.0$  mm  
unless otherwise noted

| DESCRIPTION   | MATERIAL          |
|---------------|-------------------|
| shaft         | aluminum          |
| bushing       | zinc alloy        |
| driving plate | POM               |
| rivet         | aluminum          |
| reed          | phosphor copper   |
| base          | PBT               |
| carbon plate  | FR4 substrate     |
| terminal      | cold rolled strip |
| cover plate   | PBT               |



## MECHANICAL DRAWING (HORIZONTAL, 1 SECTION)

units: mm

tolerance:

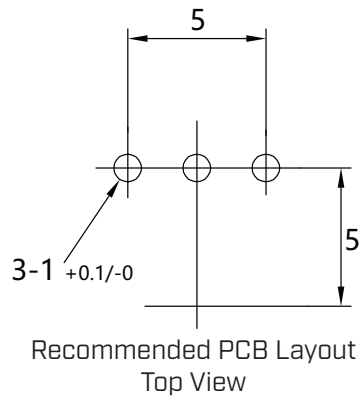
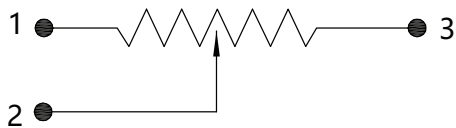
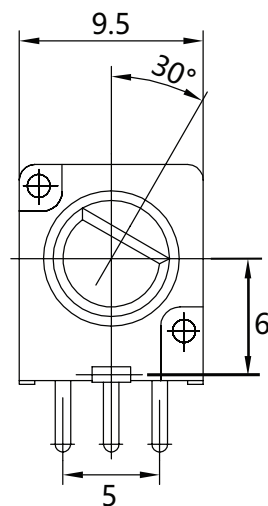
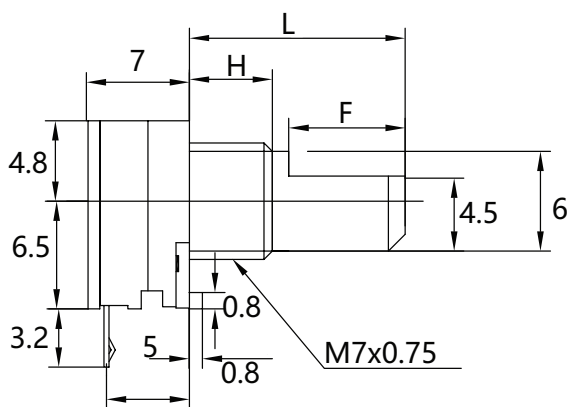
$X \leq 10.00$ :  $\pm 0.30$  mm

10.00<X≤30.00: ±0.50 mm

30.00<X≤100.00: ±1.0 mm

unless otherwise noted

| DESCRIPTION   | MATERIAL          |
|---------------|-------------------|
| shaft         | aluminum          |
| bushing       | zinc alloy        |
| driving plate | POM               |
| rivet         | aluminum          |
| reed          | phosphor copper   |
| base          | PBT               |
| carbon plate  | FR4 substrate     |
| terminal      | cold rolled strip |
| cover plate   | PBT               |



## MECHANICAL DRAWING (HORIZONTAL, 2 SECTIONS)

units: mm

tolerance:

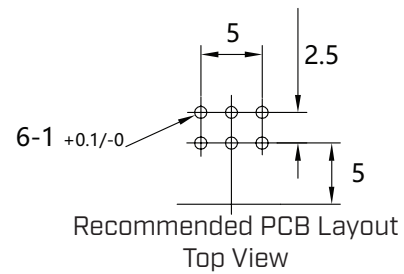
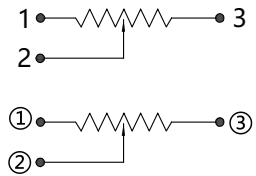
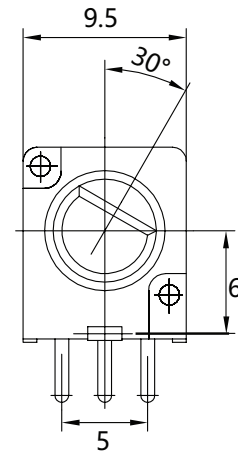
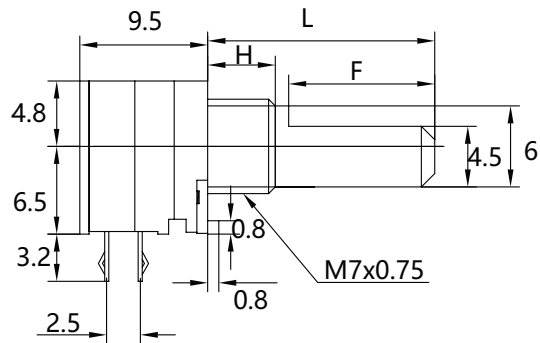
$X \leq 10.00$ :  $\pm 0.30$  mm

10.00<X≤30.00: ±0.50 mm

30.00<X≤100.00: ±1.0 mm

unless otherwise noted

| DESCRIPTION   | MATERIAL          |
|---------------|-------------------|
| shaft         | aluminum          |
| bushing       | zinc alloy        |
| driving plate | PDM               |
| rivet         | aluminum          |
| reed          | phosphor copper   |
| base          | PBT               |
| carbon plate  | FR4 substrate     |
| terminal      | cold rolled strip |
| cover plate   | PBT               |





## MECHANICAL DRAWING (HORIZONTAL, 3 SECTIONS)

units: mm

tolerance:

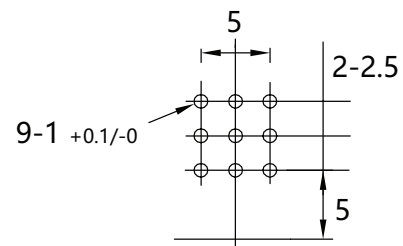
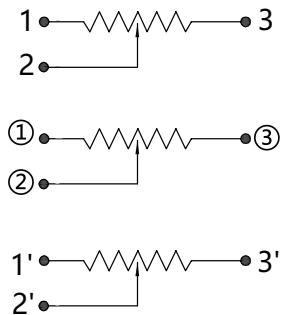
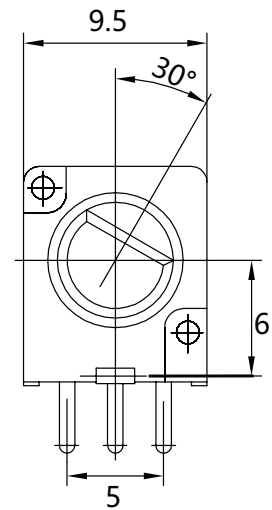
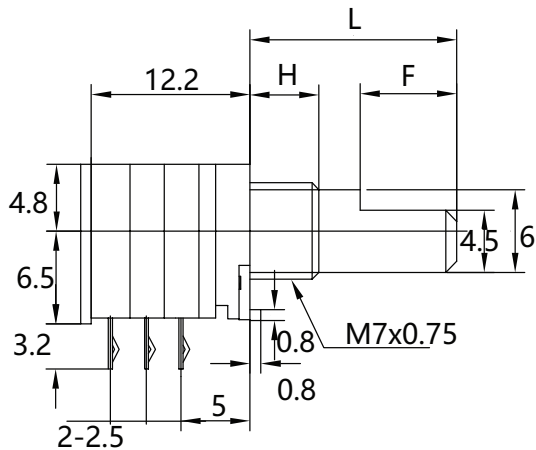
$X \leq 10.00$ :  $\pm 0.30$  mm

10.00<X≤30.00: ±0.50 mm

30.00<X≤100.00: ±1.0 mm

unless otherwise noted

| DESCRIPTION   | MATERIAL          |
|---------------|-------------------|
| shaft         | aluminum          |
| bushing       | zinc alloy        |
| driving plate | POM               |
| rivet         | aluminum          |
| reed          | phosphor copper   |
| base          | PBT               |
| carbon plate  | FR4 substrate     |
| terminal      | cold rolled strip |
| cover plate   | PBT               |

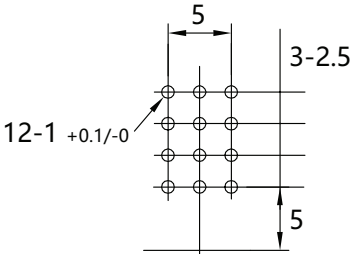
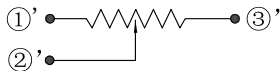
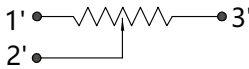
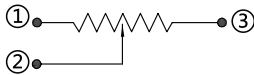
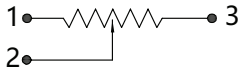
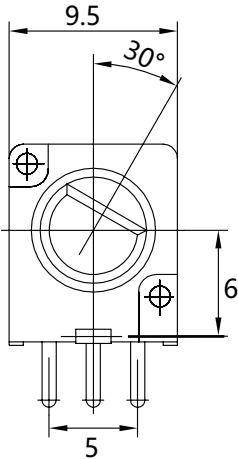
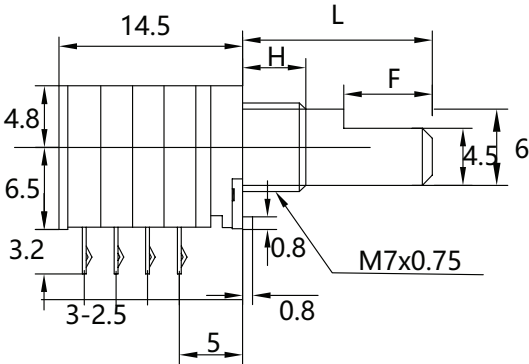


### Recommended PCB Layout Top View

MECHANICAL DRAWING (HORIZONTAL, 4 SECTIONS)

units: mm  
tolerance:  
 $X \leq 10.00$ :  $\pm 0.30$  mm  
 $10.00 < X \leq 30.00$ :  $\pm 0.50$  mm  
 $30.00 < X \leq 100.00$ :  $\pm 1.0$  mm  
unless otherwise noted

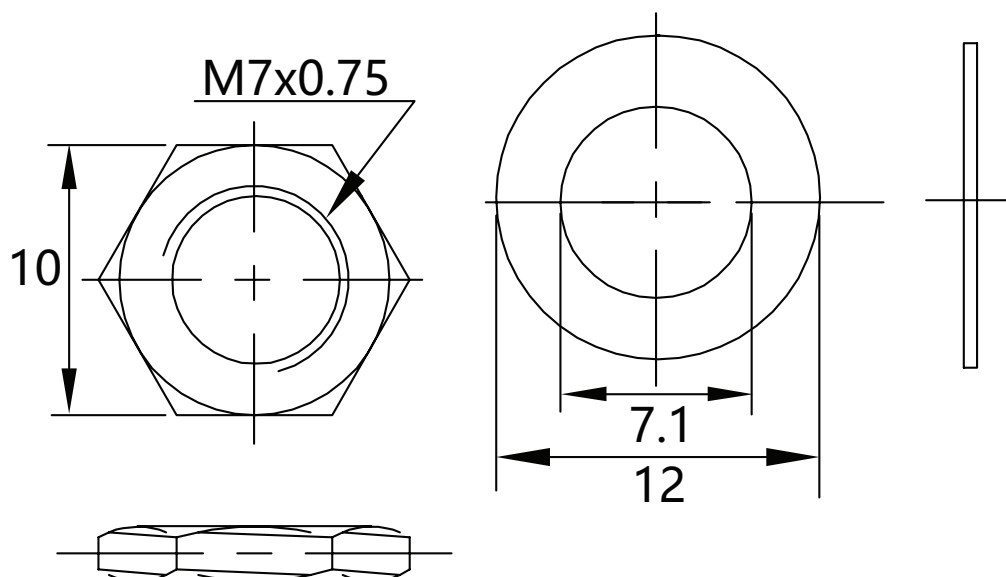
| DESCRIPTION   | MATERIAL          |
|---------------|-------------------|
| shaft         | aluminum          |
| bushing       | zinc alloy        |
| driving plate | PDM               |
| rivet         | aluminum          |
| reed          | phosphor copper   |
| base          | PBT               |
| carbon plate  | FR4 substrate     |
| terminal      | cold rolled strip |
| cover plate   | PBT               |



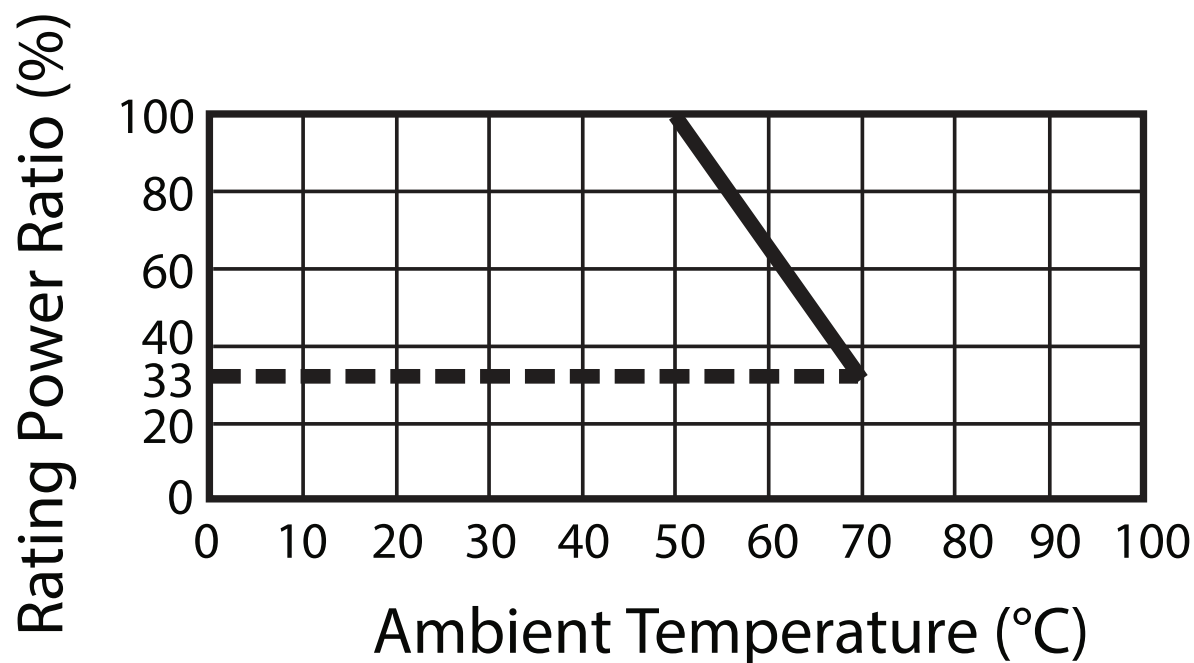
Recommended PCB Layout  
Top View

## MOUNTING HARDWARE

units: mm  
tolerance:  
X≤10.00: ±0.30 mm  
unless otherwise noted



## POWER DERATING CURVE



REVISION HISTORY

| rev. | description     | date       |
|------|-----------------|------------|
| 1.0  | initial release | 08/01/2024 |

The revision history provided is for informational purposes only and is believed to be accurate.



CUI Devices offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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