



## SERIES: PTN16 | DESCRIPTION: ROTARY POTENTIOMETER

### FEATURES

- single and dual section control
- carbon element
- center detent option
- D-cut or knurled shaft options



### SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
maximum operating voltage				200	Vdc
power rating	at 70°C			0.125	W
taper	linear, logarithmic, and reverse logarithmic				
standard resistance range	see Resistance Table	1.0		1,000	kΩ
standard resistance tolerance			±20		%
residual resistance				±1	%
sliding noise				6	mV
operating temperature		-10		75	°C
hand soldering	for 3 seconds max			260	°C
RoHS	yes				

### MECHANICAL

parameter	conditions/description	min	typ	max	units
mechanical angle		295	300	305	°
rotational torque		10		150	gf-cm
detent torque		20		200	gf-cm
stop strength		4			kg-cm
rotational life			10,000		cycles
weight	single section models: weight varies by model	5	7	9	g
	double section models: weight varies by model	6	8	10	g
	switch section models: weight varies by model	6	8	10	g

## PART NUMBER KEY

### PTN16 - X XXX X XX XX X X

**Base Number**

**Terminal Configuration:**  
 A= Horizontal, 12.5 mm terminals  
 B= Horizontal, 18 mm terminals Height  
 C= Horizontal 15 mm solder tabs  
 D= Vertical, rear facing solder tabs  
 E= Vertical, front facing terminals  
 F= Vertical, rear facing terminals

**Resistance:**  
 01 = 1 kΩ  
 02 = 2 kΩ  
 05 = 5 kΩ  
 10 = 10 kΩ  
 20 = 20 kΩ  
 25 = 25 kΩ  
 50 = 50 kΩ  
 100 = 100 kΩ  
 200 = 200 kΩ  
 500 = 500 kΩ  
 11 = 1 MΩ  
 22 = 2 MΩ

**Shaft Length:**  
 15 = 15 mm  
 20 = 20 mm  
 25 = 25 mm  
 30 = 30 mm

**Detent:**  
 1 = No Detent  
 2 = Center Detent

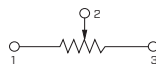
**Resistance Taper:**  
 A = Logarithmic  
 B = Linear  
 C = Reverse Logarithmic

**Number of Sections:**  
 1 = Single  
 2 = Dual  
 3 = With Switch

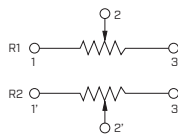
**Shaft Style:**  
 D = D-Cut  
 K1 = Metal knurled 18 tooth

## SCHEMATIC/TAPERS

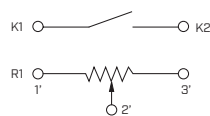
### Single



### Double

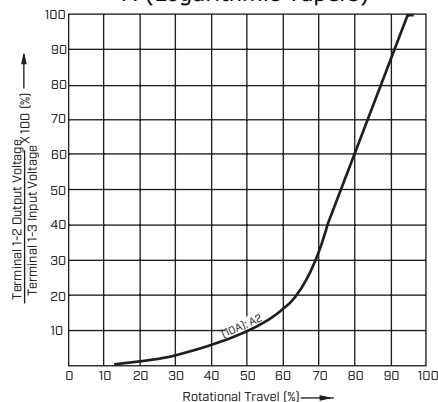


### With Switch

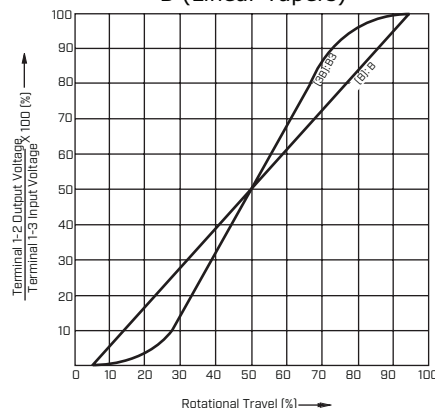


Resistance Table	
Resistance [KΩ]	Code
1	01
2	02
5	05
10	10
20	20
25	25
50	50
100	100
200	200
500	500
1,000	11
2,000	22

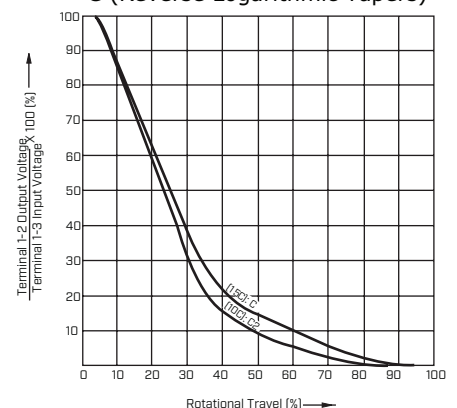
**A (Logarithmic Tapers)**



**B (Linear Tapers)**



**C (Reverse Logarithmic Tapers)**



Note:  
 1. Taper B3 only available on model PTN16-A20115K1B2.  
 2. Taper C only available on model PTN16-D100115K1C1.

## SHAFT TYPES

units: mm

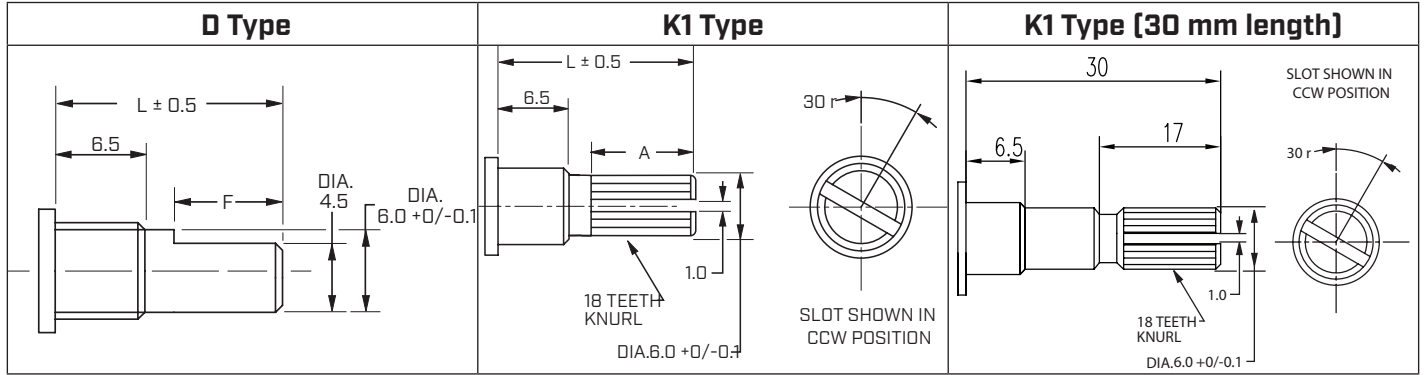
tolerance:

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

$10.00 < X \leq 30.00$ :  $\pm 0.50$  mm

$30.00 < X \leq 100.00$ :  $\pm 1.0$  mm

unless otherwise noted



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

	15K1	20K1	25K1	30K1
L	15	20	25	30
A	6.5	11.5	17	17

## MECHANICAL DRAWING (SINGLE SECTION, A TERMINAL CONFIGURATION)

units: mm

tolerance:

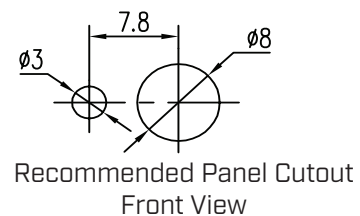
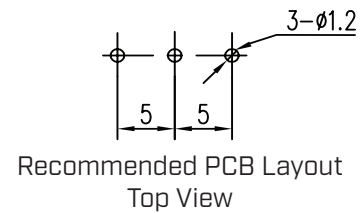
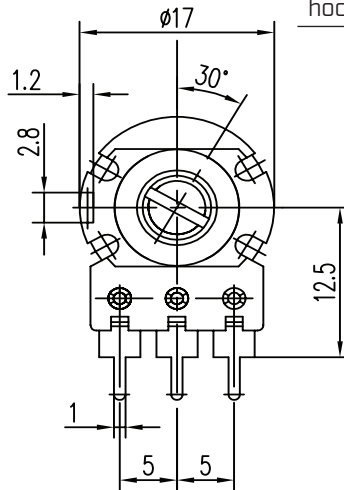
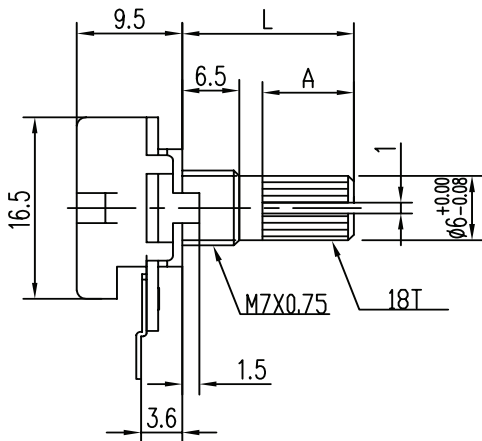
$X \leq 10.00$ :  $\pm 0.30$  mm

$10.00 < X \leq 30.00$ :  $\pm 0.50$  mm

$30.00 < X \leq 100.00$ :  $\pm 1.0$  mm

unless otherwise noted

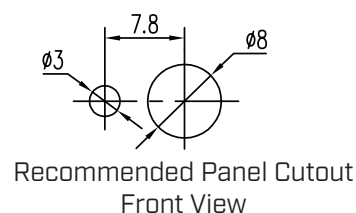
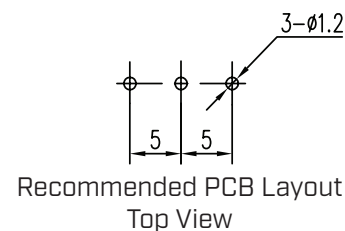
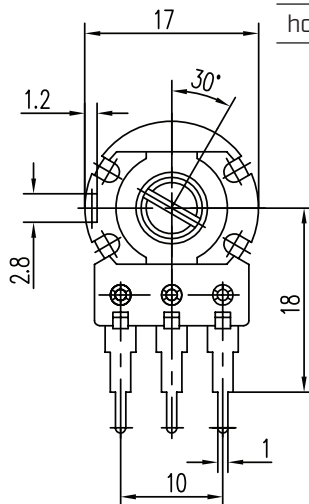
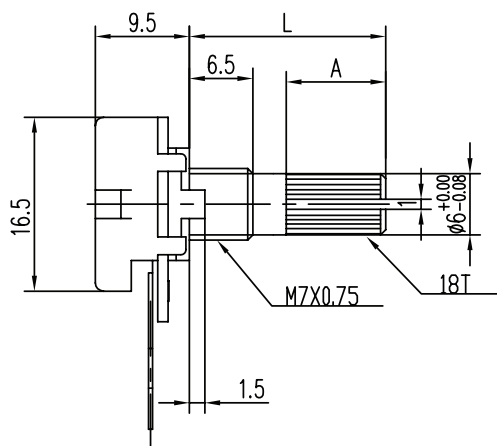
DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc



## MECHANICAL DRAWING (SINGLE SECTION, B TERMINAL CONFIGURATION)

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

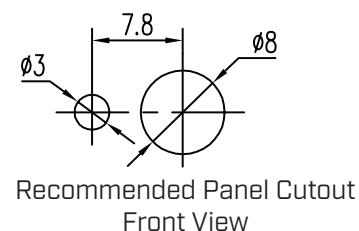
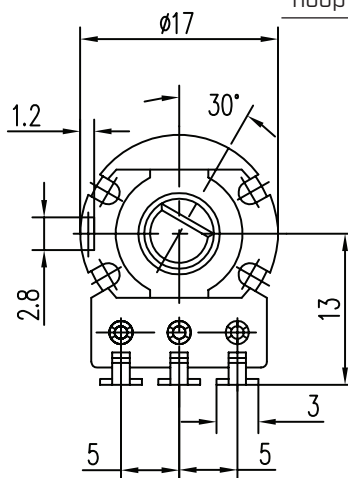
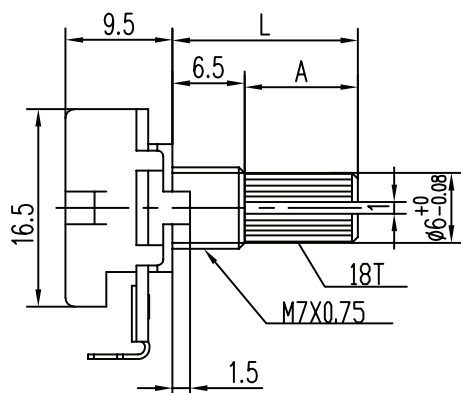
DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc



## MECHANICAL DRAWING (SINGLE SECTION, D TERMINAL CONFIGURATION)

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	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc





## MECHANICAL DRAWING (DUAL SECTION, A TERMINAL CONFIGURATION)

units: mm

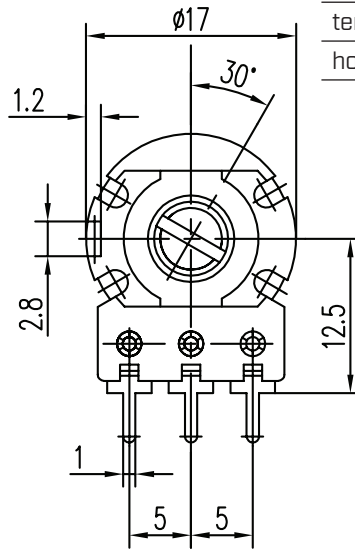
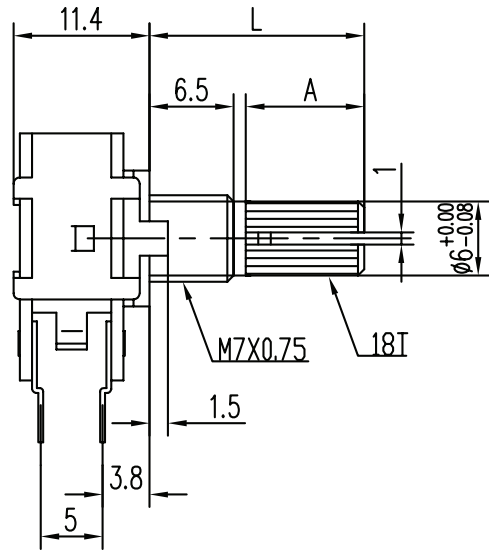
tolerance:

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

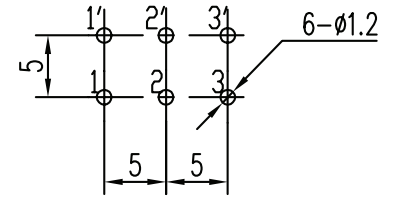
$10.00 < X \leq 30.00$ :  $\pm 0.50$  mm

$30.00 < X \leq 100.00$ :  $\pm 1.0$  mm

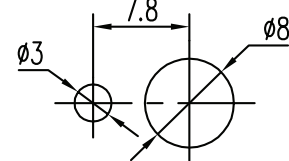
unless otherwise noted



DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc



Recommended PCB Layout  
Top View



Recommended Panel Cutout  
Front View

## MECHANICAL DRAWING (DUAL SECTION, C TERMINAL CONFIGURATION)

units: mm

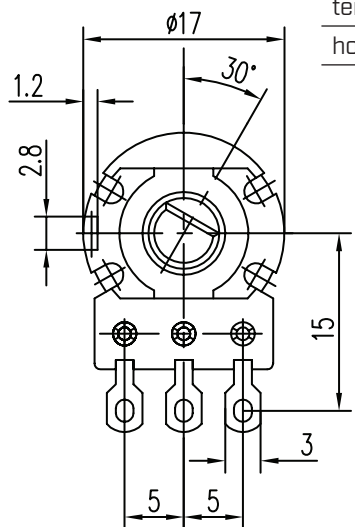
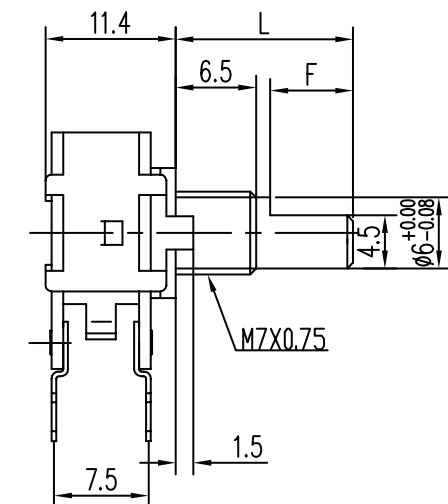
tolerance:

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

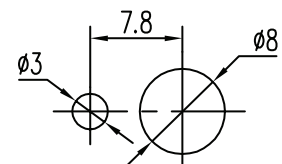
$10.00 < X \leq 30.00$ :  $\pm 0.50$  mm

$30.00 < X \leq 100.00$ :  $\pm 1.0$  mm

unless otherwise noted



DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc



Recommended Panel Cutout  
Front View

## MECHANICAL DRAWING (DUAL SECTION, E TERMINAL CONFIGURATION)

units: mm

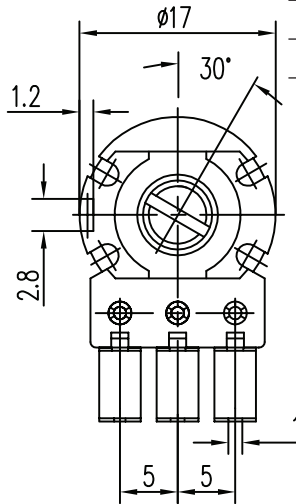
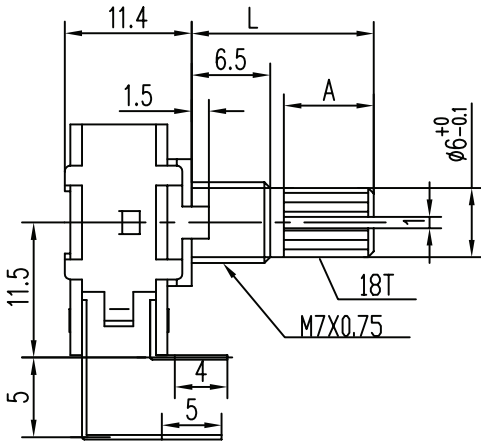
tolerance:

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

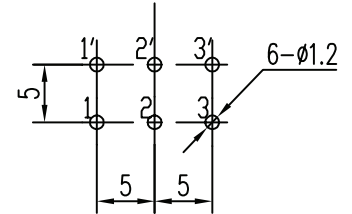
$10.00 < X \leq 30.00$ :  $\pm 0.50$  mm

$30.00 < X \leq 100.00$ :  $\pm 1.0$  mm

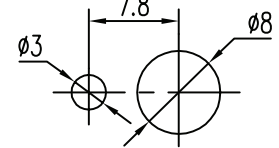
unless otherwise noted



DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc



Recommended PCB Layout  
Top View



Recommended Panel Cutout  
Front View

## MECHANICAL DRAWING (DUAL SECTION, F TERMINAL CONFIGURATION)

units: mm

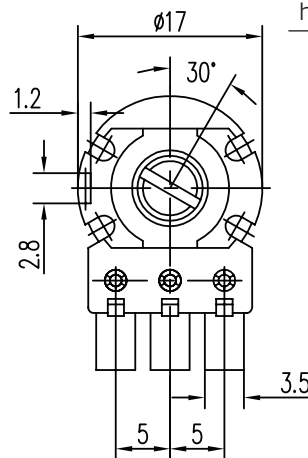
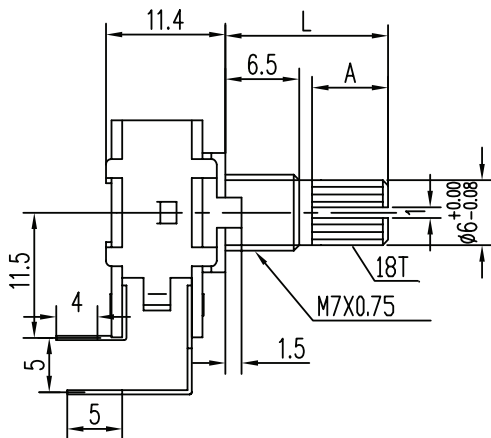
tolerance:

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

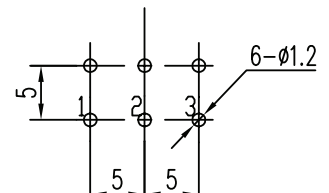
$10.00 < X \leq 30.00$ :  $\pm 0.50$  mm

$30.00 < X \leq 100.00$ :  $\pm 1.0$  mm

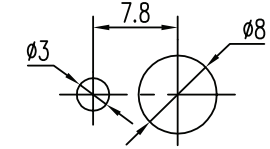
unless otherwise noted



DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc



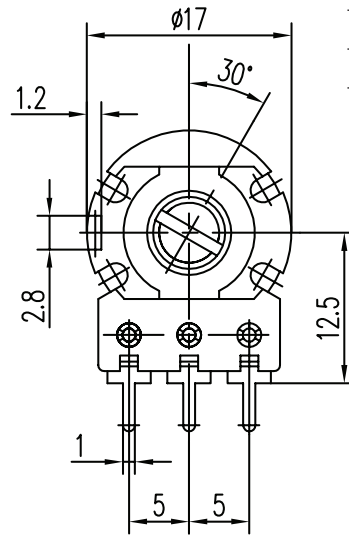
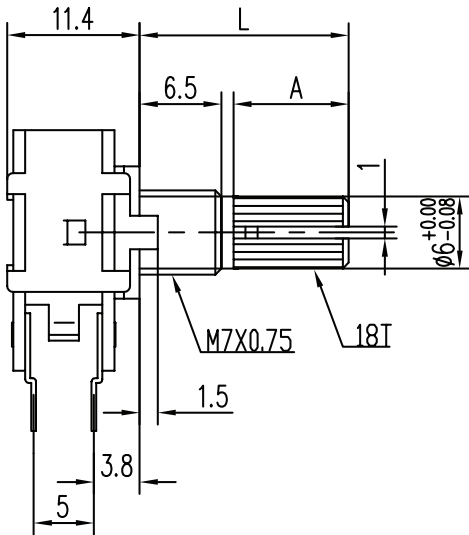
Recommended PCB Layout  
Top View



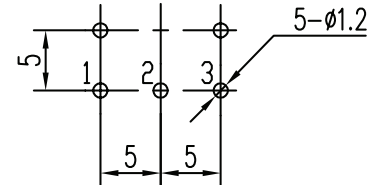
Recommended Panel Cutout  
Front View

## MECHANICAL DRAWING (SWITCH SECTION, A TERMINAL CONFIGURATION)

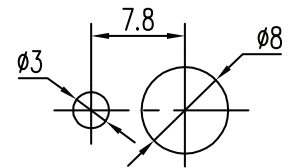
units: mm  
 tolerance:  
 X≤10.00: ±0.30 mm  
 10.00<X≤30.00: ±0.50 mm  
 30.00<X≤100.00: ±1.0 mm  
 unless otherwise noted



DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc



Recommended PCB Layout  
Top View

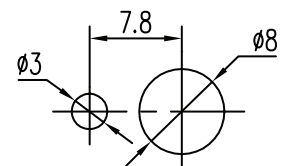
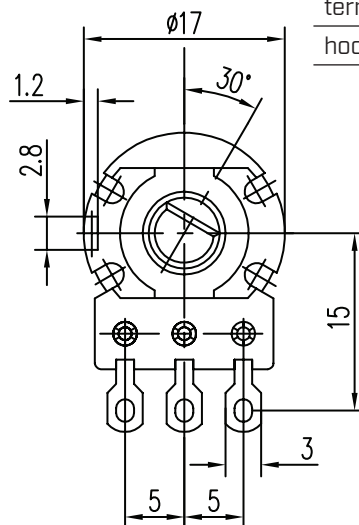
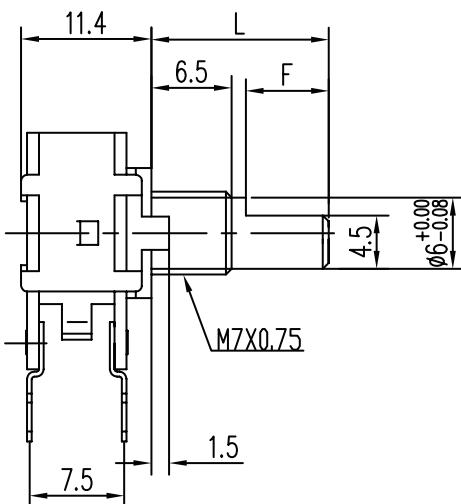


Recommended Panel Cutout  
Front View

## MECHANICAL DRAWING (SWITCH SECTION, C TERMINAL CONFIGURATION)

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	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	POM (UL94HB)	
reed	zinc	cupronickel
carbon plate	FR4 (UL94HB)	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc

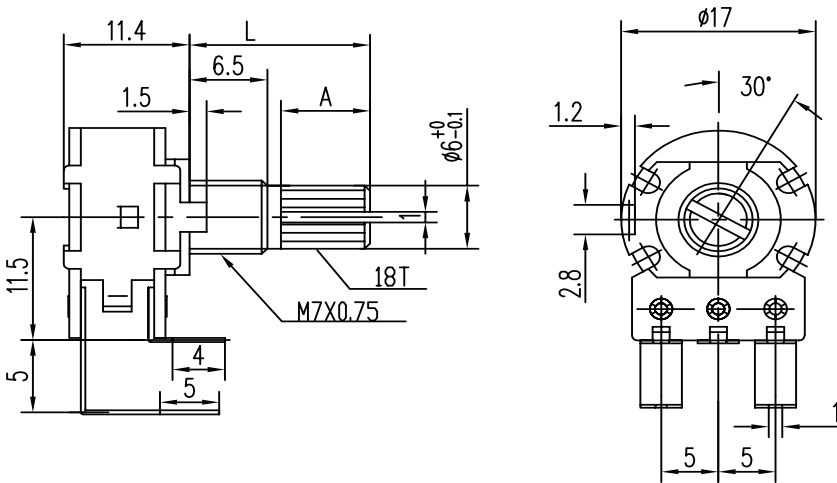


Recommended Panel Cutout  
Front View

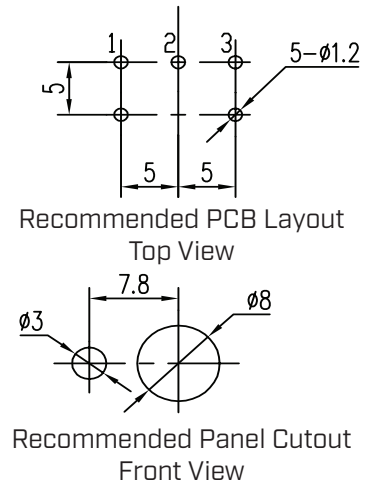


## MECHANICAL DRAWING (SWITCH SECTION, E TERMINAL CONFIGURATION)

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

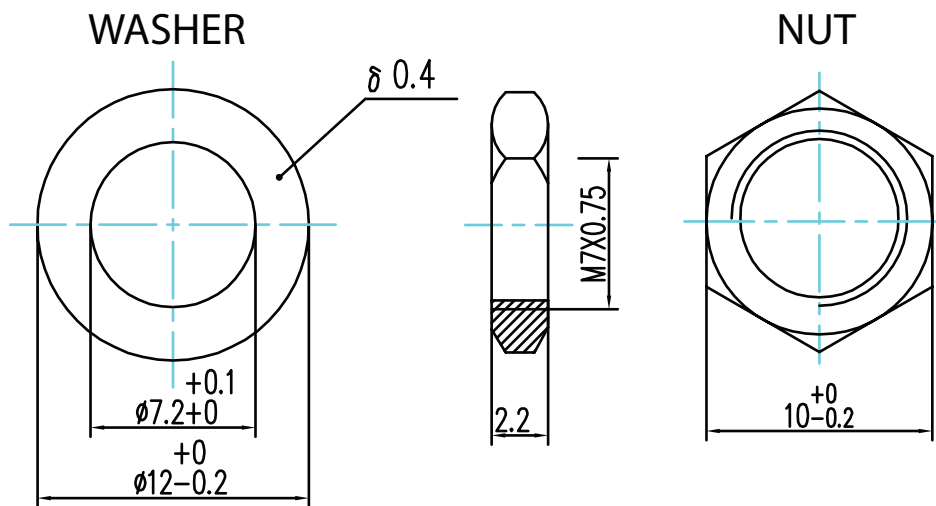


DESCRIPTION	MATERIAL	PLATING/COLOR
shaft	zinc alloy	
bushing	zinc alloy	
driving plate	PDM [UL94HB]	
reed	zinc	cupronickel
carbon plate	FR4 [UL94HB]	
terminals	cold rolled steel	tin
hoop	cold rolled steel	zinc

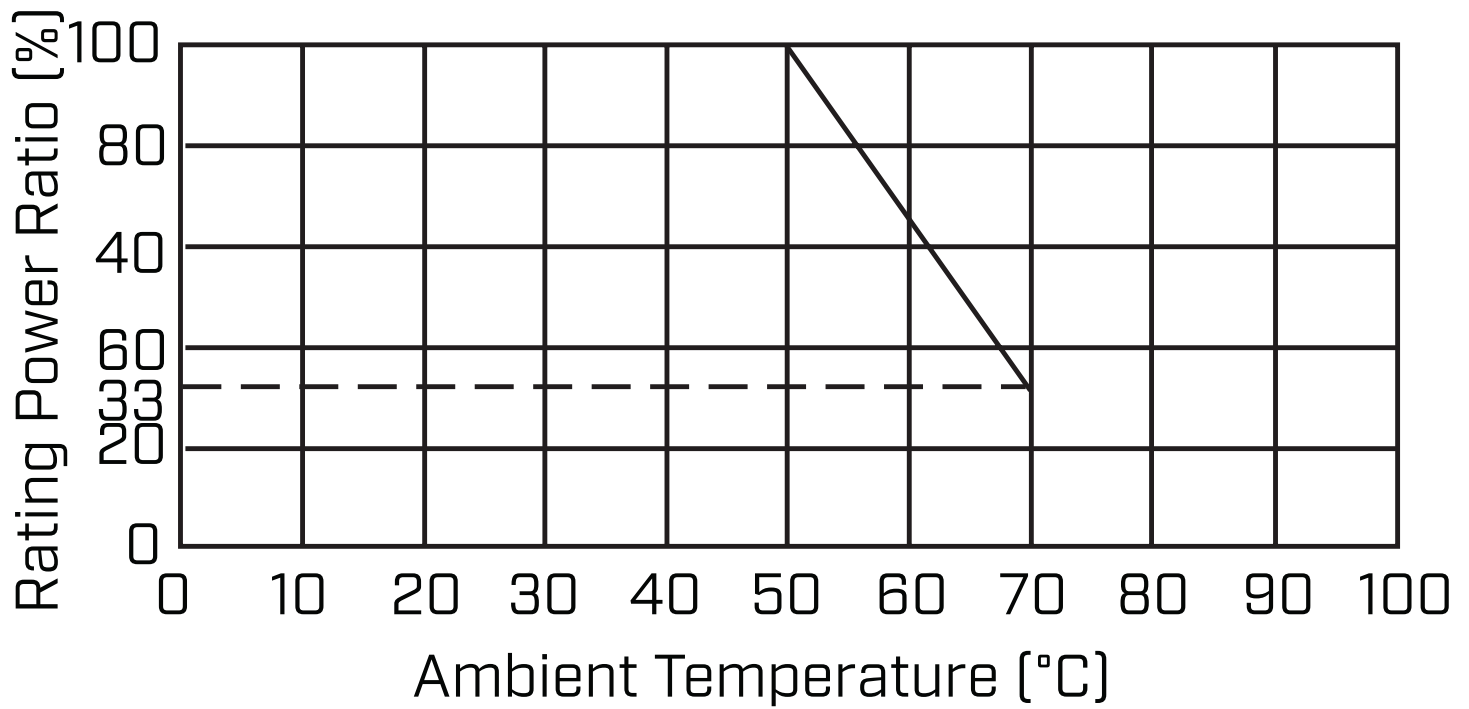


## MOUNTING HARDWARE

units: mm  
 tolerance:  
 $X \leq 10.00$ :  $\pm 0.30$  mm  
 unless otherwise noted



## POWER DERATING CURVE



## REVISION HISTORY

rev.	description	date
1.0	initial release	05/16/2023
1.01	updated taper detail	01/15/2024
1.02	updated datasheet	04/16/2024
1.03	CUI Devices rebranded to Same Sky	09/12/2024

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



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

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

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