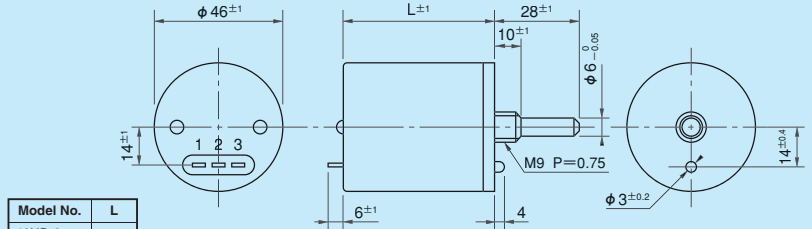




Model 46HD-10

## Standard Dimensions

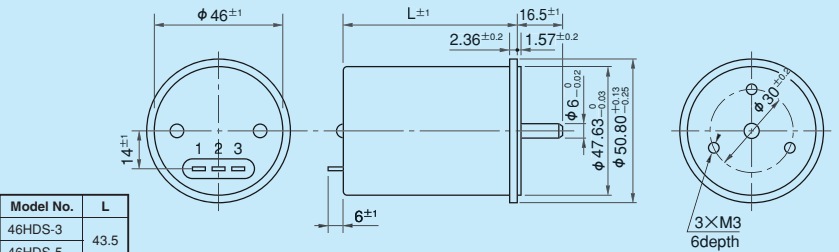
### Bushingmount type



Model No.	L
46HD-3	38.5
46HD-5	56
46HD-10	75
46HD-15	94.5

Note: 1. 1 pc. of inner teeth washer & 2 pcs. of hex nuts are attached.  
2. Please process the mounting hole on the panel. The diameter should be  $9.0\text{mm} \begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$ .

### Servomount type



Model No.	L
46HDS-3	43.5
46HDS-5	61.5
46HDS-10	80
46HDS-15	100

## Standard Model Numbers

Bushingmount type	
3-turn models	46HD-3
5-turn models	46HD-5
10-turn models	46HD-10
15-turn models	46HD-15
20-turn models	46HD-20
Servomount type	
3-turn models	46HDS-3
5-turn models	46HDS-5
10-turn models	46HDS-10
15-turn models	46HDS-15
20-turn models	46HDS-20

## General Specifications

Standard Resistance Range	10,20,50,100,200,500,1k,2k,5k,10k,20k Ω (3-turn) 20,50,100,200,500,1k,2k,5k,10k,20k,50k Ω (5-turn) 50,100,200,500,1k,2k,5k,10k,20k,50k,100k Ω (10,15-turn) 50,100,200,500,1k,2k,5k,10k,20k,50k,100k,200k Ω (20-turn)		
Max. Practical Resistance Value	50k,100k Ω (3-turn) 100k Ω (5-turn) 200k Ω (10,15-turn) 500k Ω (20-turn)		
Total Resistance Tolerance	Standard Class ±3% (H) [±5% (J) in case of within 1kΩ] Precision Class ±1% (F) [in the pot. with a single-wire resistive element, the precision class should read ±2% (G)]		
Independent Linearity Tolerance	3,5-turn 10, 15, 20-turn		
	Standard Class	±0.4%	±0.3%
	Precision Class	±0.2%	±0.1%
	(Within 5kΩ)	(±0.25%)	(±0.15%)

<b>Power Rating</b>	2.0W (3-turn) 2.5W (5-turn) 5.0W (10-turn) 7.5W (15-turn) 10.0W (20-turn)
<b>Noise</b>	Within 100Ω E.N.R.
<b>Electrical Travel</b>	$360^\circ \times n \pm 5^\circ$ (n: No. of turns)
<b>Mechanical Travel</b>	$360^\circ \times n \begin{smallmatrix} +10^\circ \\ 0^\circ \end{smallmatrix}$ (n: No. of turns)
<b>Insulation Resistance</b>	Over 100MΩ at 1,000V.D.C.
<b>Dielectric Strength</b>	1 minute at 1,000V.A.C.
<b>Starting Torque</b>	Within 20mN · m (200gf · cm) (Bushingmount type) Within 10mN · m (100gf · cm) (Servomount type)
<b>Stopper Strength</b>	Approx. 0.9N · m (9kgf · cm)
<b>Resistance Temperature Coefficient</b>	$\pm 20\text{p.p.m./}^\circ\text{C}$
<b>Mass</b>	Approx. 90g (3,5-turn) Approx. 120g (10-turn) Approx. 150g (15-turn) Approx. 180g (20-turn)

## Special Specifications Available

(In the case of the potentiometer with special specifications, the general specifications and environmental specifications may change. Please consult us in advance.)

- 30-turn type (S46HD-30) ● Multi-ganged (Available up 2 gangs) ● With limit-switches

- Shaft with front and rear extension (in case of bushingmount type, rear shaft with 6mm dia. and 28mm length together with the bushing of M9

× 10mm and in case of servomount type, rear shaft with 6mm dia. and 15mm length)

- Shaft dia. (φ 6.35mm) & bushing with inch dimension ● Simple sealed housing ● Oil-filled type (OF46HD)

- Special machining on the shaft

● Standard Resistance Values ■ No. of Wire Turns ■ Resistance Wire Used

Resist. Value (Ω)	10	20	50	100	200	500	1k	2k	5k
46HD-3	556	690	950	1,190	1,515	2,080	2,550	—	—
46HD-5	※	925	1,275	1,640	2,080	2,860	3,450	—	—
46HD-10	※	※	2,000	2,500	3,180	4,350	5,400	6,850	—
46HD-15	※	※	2,530	3,220	4,160	5,710	7,410	9,510	—
46HD-20	※	※	3,030	3,920	5,120	7,140	9,300	11,900	14,100
Resist. Wire Used	Cu-Ni								

Resist. Value (Ω)	2k	5k	10k	20k	50k	100k	200k	500k
46HD-3	2,330	3,225	4,080	5,130	6,890*	8,330*	—	—
46HD-5	3,230	4,170	5,720	7,410	11,000	12,500*	—	—
46HD-10	—	6,600	8,550	10,850	14,900	18,850	24,390*	—
46HD-15	—	8,800	11,300	14,500	20,000	25,600	32,250*	—
46HD-20	—	—	13,150	16,950	23,250	30,790	38,200	55,550 *
Resist. Wire Used	Ni-Cr							

Note: Mark ※ shows the pot. with a single-wire resistive element, which gives an essentially infinite resolution.  
Mark \* shows special high resistance value.

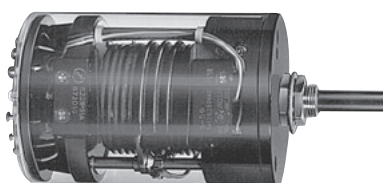
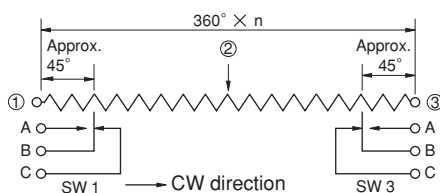
## S46HD Series with LIMIT-SWITCHES

46HD Series Helicalohm potentiometer can have Limit-Switch built in. Limit-Switch works as an alert and can prevent the mechanical stopper from being fractured and it is also used as a compact automatic control unit.

There are basically 2 types depending on where it is activated. Unless being specified, circumscription type (b) is supplied.

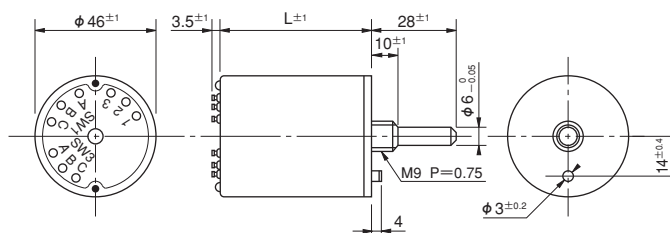
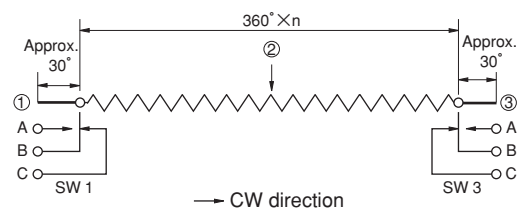
### Inscription Type (a)

Limit-Switch is activated within effective electrical rotating angle ( $360^\circ \times n$ ).



### Circumscription Type (b)

Limit-Switch is activated outside effective electrical angle ( $360^\circ \times n$ ).



- Rating of Limit-Switch is 5 A. 125V. A.C. (or 2.5A, 250V. A.C.)
- Outer dimensions of these special versions are the same as those of standard model 46HD Series except its body length which is longer than the latter by 28 mm.
- Electrical and mechanical specifications and mounting dimensions are also the same as those of standard model 46HD series.