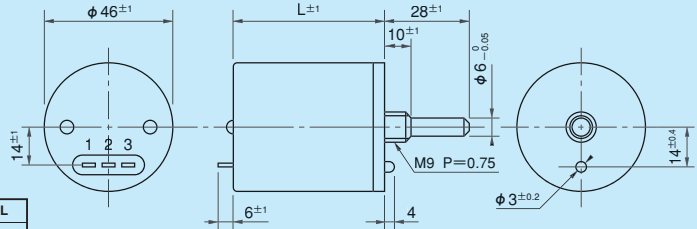




Model 46HD-10

● Standard Dimensions

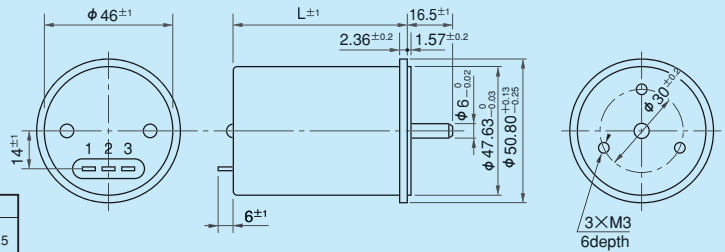
■ Bushingmount type



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 9.0mm $\begin{smallmatrix} +0.05 \\ 0 \end{smallmatrix}$.

■ 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 $\pm 3\%$ (H) [$\pm 5\%$ (J) in case of within 1kΩ] Precision Class $\pm 1\%$ (F) [in the pot. with a single-wire resistive element, the precision class should read $\pm 2\%$ (G)]												
Independent Linearity Tolerance	<table border="1"> <thead> <tr> <th></th> <th>3,5-turn</th> <th>10, 15, 20-turn</th> </tr> </thead> <tbody> <tr> <td>Standard Class</td> <td>$\pm 0.4\%$</td> <td>$\pm 0.3\%$</td> </tr> <tr> <td>Precision Class</td> <td>$\pm 0.2\%$</td> <td>$\pm 0.1\%$</td> </tr> <tr> <td>(Within 5kΩ)</td> <td>($\pm 0.25\%$)</td> <td>($\pm 0.15\%$)</td> </tr> </tbody> </table>		3,5-turn	10, 15, 20-turn	Standard Class	$\pm 0.4\%$	$\pm 0.3\%$	Precision Class	$\pm 0.2\%$	$\pm 0.1\%$	(Within 5kΩ)	($\pm 0.25\%$)	($\pm 0.15\%$)
	3,5-turn	10, 15, 20-turn											
Standard Class	$\pm 0.4\%$	$\pm 0.3\%$											
Precision Class	$\pm 0.2\%$	$\pm 0.1\%$											
(Within 5kΩ)	($\pm 0.25\%$)	($\pm 0.15\%$)											

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

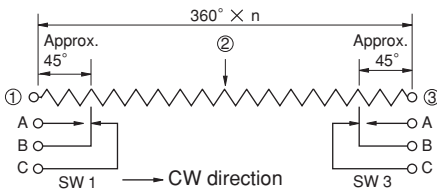
S46HD Series with LIMIT-SWITCHES

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.

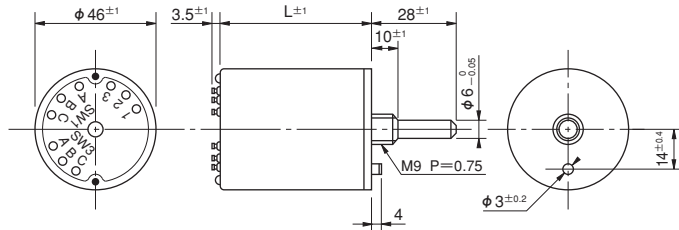
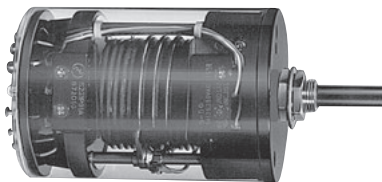
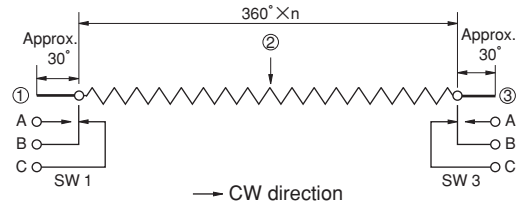
Inscription Type (a)

Limit-Switch is activated within effective electrical rotating angle (360° x n).



Circumscription Type (b)

Limit-Switch is activated outside effective electrical angle (360° x 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.