Model 46HD-10

●Standard Model Nos.

Bushingmount type:

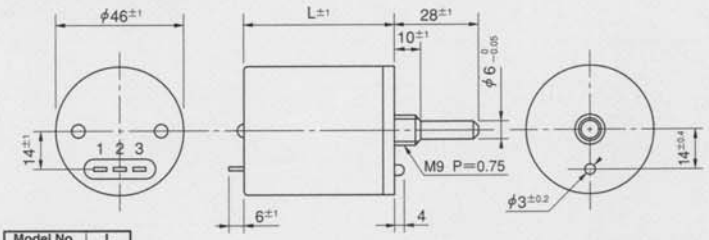
46HD-3	(3-turn)
46HD-5	(5-turn)
46HD-10	(10-turn)
46HD-15	(15-turn)
46HD-20	(20-turn)

Servomount type:

46HDS-3	(3-turn)
46HDS-5	(5-turn)
46HDS-10	(10-turn)
46HDS-15	(15-turn)
46HDS-20	(20-turn)

●Standard Dimensions

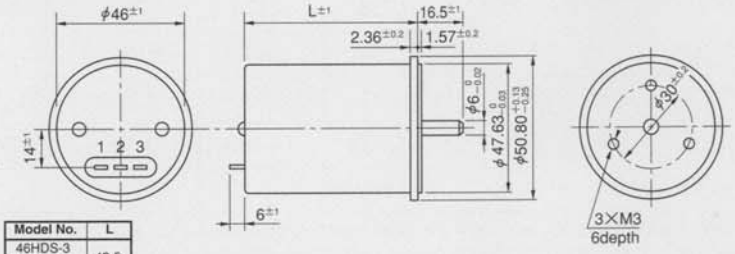
■Bushingmount type



Model No.	L
46HD-3	38.5
46HD-5	
46HD-10	56
46HD-15	75
46HD-20	94.5

Note: 1. 1 pc. each inner teeth washer and hex nut are attached.
2. Please process the mounting hole on the panel to be mounted with this potentiometer by the diameter of 9.0mm $^{+0.05}_{0}$.

■Servomount type



Model No.	L
46HDS-3	43.5
46HDS-5	
46HDS-10	61.5
46HDS-15	80
46HDS-20	100

●General Specifications

Standard Resistance Range:
0.5Ω to 20kΩ (3-turn)
0.5Ω to 50kΩ (5-turn)
0.5Ω to 100kΩ (10,15-turn)
0.5Ω to 200kΩ (20-turn)

Max. Practical Resistance Value:
50kΩ, 100kΩ (3-turn)
100kΩ (5-turn)
200kΩ (10,15-turn)
500kΩ (20-turn)

Total Resistance Tolerance:
Standard Class ±3% (H)
〔±5% (J) in case of below 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%
(Below 5kΩ)	(±0.25%)	(±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: Below 100Ω E.N.R.

Electrical Travel: 360° ×n ±5° (n: No. of turns)

Mechanical Travel: 360° ×n $^{+10^\circ}_{0^\circ}$ (n: No. of turns)

Insulation Resistance: Over 100MΩ at 1,000V.D.C.

Dielectric Strength: 1 minute at 1,000V.A.C.

Starting Torque: Below 20mN・m (200gf・cm) (Bushingmount type)
Below 10mN・m (100gf・cm) (Servomount type)

Stopper Strength: Approx. 0.9N・m (9kgf・cm)

Max. Working Voltage: 900V

Resist. Temperature Coefficient of Wire: ±20p.p.m./℃

Mass:
Approx. 90g (3,5-turn)
Approx. 120g (10-turn)
Approx. 150g (15-turn)
Approx. 180g (20-turn)

●Special Specifications Available

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. (φ6.35mm)・bushing with inch dimensions, 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)	0.5	1	2	5	10	20	50	100	200	500
46HD-3	※	※	※	※	556	690	950	1,190	1,515	2,080
46HD-5	※	※	※	※	※	925	1,275	1,640	2,080	2,860
46HD-10	※	※	※	※	※	※	2,000	2,500	3,180	4,350
46HD-15	※	※	※	※	※	※	2,530	3,220	4,160	5,710
46HD-20	※	※	※	※	※	※	3,030	3,920	5,120	7,140
Resist. Wire Used	Cu-Ni System									

Resist. Value (Ω)	1k	2k	5k	10k	20k	50k	100k	200k	500k
46HD-3	2,550	2,330	3,225	4,080	5,130	6,890＊	8,330＊	—	—
46HD-5	3,450	3,230	4,170	5,720	7,410	11,000	12,500＊	—	—
46HD-10	5,400	6,850	6,600	8,550	10,850	14,900	18,850	24,390＊	—
46HD-15	7,410	9,510	8,800	11,300	14,500	20,000	25,600	32,250＊	—
46HD-20	9.300	11,900	14,100	13,150	16,950	23,250	30,790	38,200	55,550＊
Resist. Wire Used	Cu-Ni System			Ni-Cr System					

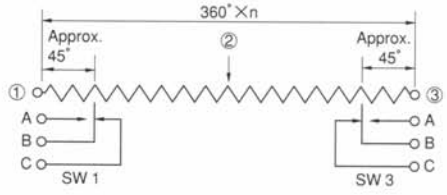
Note: Mark ※shows the pot. with a single-wire resistive element, which gives an essentially infinite resolution.
Mark ＊ shows values at special higher practical resistance.

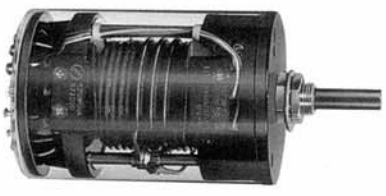
S46HD Series with LIMIT-SWITCHES

Special 46HD Series Helicalohm potentiometer with incorporated Limit-Switch can automatically control the circuit. It can conveniently be used for minifying the instrument in which this model is employed.
The construction of the Limit-Switch is given in the below figure and its function limit, either upper or lower, or to either side, can be freely determined according to customer's requirement.
Its capacity is 5 A, 125V.A.C. (or 2.5A, 250V.A.C.)
This model is most recommended to all kinds of automatic control equipment.

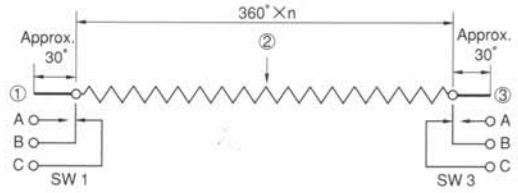
Note. Functioning position of Limit-Switch...
In case of this model being coupled to servo-motor, an over-rotation of the servo-motor due to its inertia, after the power source being OFF, may sometimes break the Helicalohm Pot. unless an adequate precaution is made. In order to avoid such failure, two kinds of the Helicalohm Potentiometer with limit-switch are offered: one is an inscription type (a) limit-switch having its function position slightly this side from the stopper of Helicalohm Pot. and the other is a circumscription type (b) for which a special overtravel is prepared in the Helicalohm Pot.

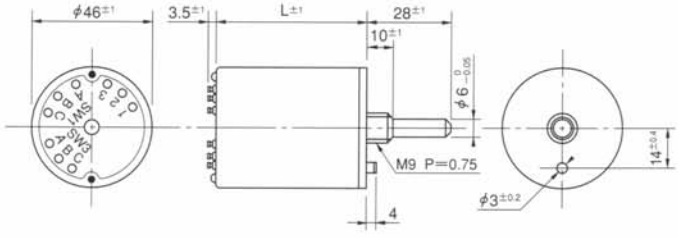
Inscription Type (a)





Circumscription Type (b)





N.B.: Unless otherwise specified, we will supply the circumscription type (b).

●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.
●As for smaller multi-turn potentiometer with limit-switches, please see page 47.