



**α HSM12 - HSM18E**

**Standard dimensions**



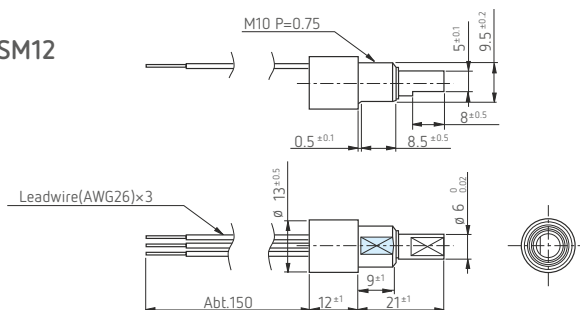
Model HSM12



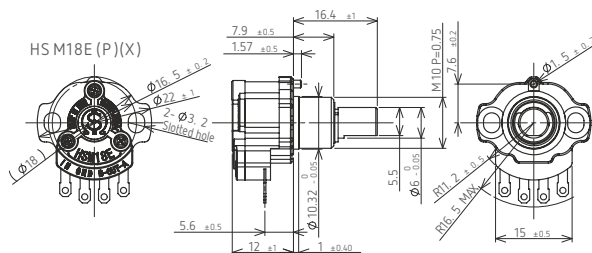
Model HSM18E  
Lug terminal type

Model HSM18EL  
Leadwire type

Model HSM12



Model HSM18



- Note: 1) The drawings show the position of shaft flatted at the ratio value of 50%.  
2) 1pc.each of inner teeth washer and hex nut is attached.(2pcs. each attached in case of HSM12)  
3) Please duly note that inner construction may burn out when applying the voltage to the wrong terminals except input terminal.

**Standard Model Nos.**

HSM12(Bushingmount type)  
HSM18E · L(Bushingmount and flangemount)

**General Specifications**

Model number	HSM12	HSM18E · EL	
Current Consumption	Approx. 7mA	Single output : Approx.7mA Dual output : Approx.14mA	
Independent Linearity Tolerance	±1.5%FS(FS=90°)	Output A: ±1.5%FS(FS=90°) Output B: ±3.0%FS (FS=90°)	
Mechanical Rotating Angle	360°(Endless)		
Effective Electrical Angle	±45°(90°)		
Applied Voltage	5V±10%D.C.		
Load resistance	10KΩ min.		
Effective Output	Approx. 10%	Approx. 90%Vin	FS(FS=100°)
Output Temperature Characteristics	Within ±2.5%Vout/FS		
Drift at center position	Within ±0.5%Vout/FS		
Operating Temperature Range	-40°C~+105°C		
Storage Temperature Range	-40°C~+105°C		
Mass	Approx. 15g		
Rotating Torque	Within 2mN·m (Within 20gf·cm)		

## ■ Environmental specifications

Model number	HSM12	HSM18E • EL
Thermal Shock	5 cycles -50°C~+105°C	
Exposure at Low Temperature	24 hours at -50°C	
Exposure at High Temperature	1,000 hours at -105°C	
Vibration	10 to 2,000Hz 196m/s <sup>2</sup>	
Shock	980m/s <sup>2</sup> 6ms	
Life Expectancy (shaft revolutions)	Approx. 50,000,000 shaft revolutions	
EMS Durability	50V/m(80Mhz-1GHz 1KHz 80% Amplitude Modulation)	100V/m(same as on the left)
ESD Durability	±4kV contact discharge/±4kV aerial discharge	±8kV contact discharge/±15kV aerial discharge

(Note) Rotational Life Expectancy may differ from the specifications depending on status of use.

## ■ Special specifications Available

Special effective electrical angle (Possible to meet with from ±10° to ±45° by 5° step, as requested),  
 Special machining on the shaft, Special output (HSM18E & EL are only available - Cross, Parallel)

*The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification.*

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