H90JA · H90JB

New Product

Potentiometer with a hall effect IC type resistive element

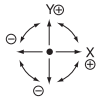
Nomenclature

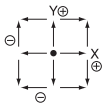
S means special mechanical specifications not applicable to our standard.
H means hall effect IC type potentiometer(HSM18E) is incorporated.
90 means approx. size of base housing in mm.
J means joystick controller.
Kind of types
A : 1,2 or 3-dimensional coordinate is available and also means potentiometer outside-mounted type.
B : 1,2 or 3-dimensional coordinate potentiometer is incorporated inside the housing.
M means round shape.
Kind of Mechanism
X means 1-dimensional coordinate.
Y means 2-dimensional coordinate.
Z means 3-dimensional coordinate.
Available directions of lever operation
Standard version:
O: Omni-directional 360˚operating type.
Special version:
I : I figure (Y) directional operating type.
L : L figure(+Y, +X only) directional operating type.
X : Cross direction of X and Y operating type.
Q : Square-directional 360˚operating angle.
T : In addition to omni-directional operation, 3-dimensional coordinate operation is possible by rotating knob in which a potentiometer is incorporated.
U : In addition to square-directional operation, 3-dimensional coordinate operation is possible by rotating knob in which a potentiometer is incorporated.

I


L


X


O


Q


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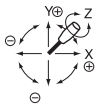

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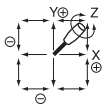
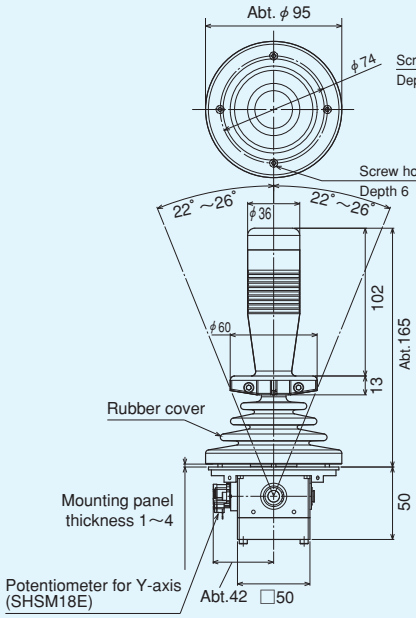


S	H	90	J	A	M	-	Y	O	-	2	0	R2	G	-	00000

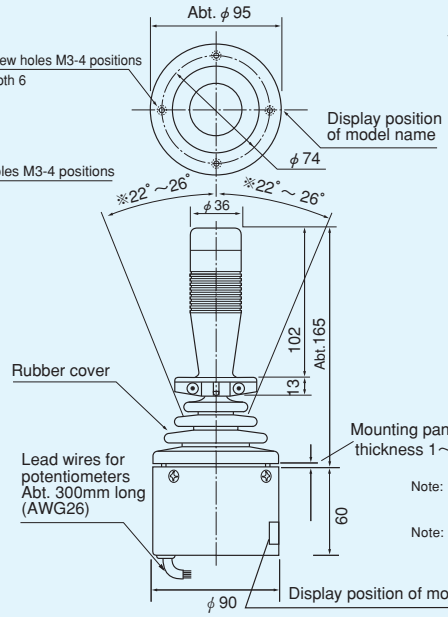
Number of potentiometers to be incorporated
0···no potentiometer incorporated. **1**···1 potentiometer incorporated.
2···2 potentiometers incorporated. **3**···3 potentiometers incorporated.
Number of switches to be incorporated
0···no switch incorporated. **1**···1 switch incorporated. **2**···2 switches incorporated.
3···3 switches incorporated. **4**···4 switches incorporated.
5···5 switches incorporated. **6**···6 and over 6 switches incorporated.
9···9 Other switches to your special request.
With spring return device:
R1: with spring return device for 1-dimensional coordinate.
R2: with spring return device for 2-dimensional coordinate.
R3: with spring return device for 3-dimensional coordinate.
Mounting accessories:
G : with dust proof rubber cover.
P : with sub-panel for mounting.
Special part number:
In case we produce customized product, we add 4-digit or 5-digit branch number.

Standard Dimensions

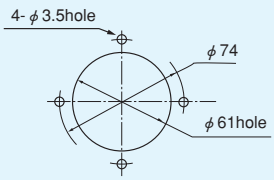
Model H90JA



Model H90JB



■ Panel Arrangements



Note: 1) In case of Q and U type, the operating angle of mark"＊" shall be±15˚ ~±20˚ from the center position, 360˚ square-directionally.
Note: 2) 4 pcs. of mounting screws(M3X10) are attached.

(Unit : mm)

H90JAM-YO-20R2G
(Standard : 2-dimensional coordinate type)

H90JBM-YO-20R2G
(Standard : 2-dimensional coordinate type)

STANDARD SPECIFICATIONS

● Mechanical performance

Controlling range of operating lever:
- 2-dimensional coordinate type: Omni-directionally approx.±22˚～±26˚operation from center position.
- 3-dimensional coordinate type: Approx.±45˚～±50˚operation from center position of knob in addition to the operating range of 2-dimensional coordinate type.

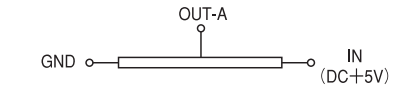
Operating force: (Standard spring return device : Automatically return to center(Omni-directional type))
X and Y directions: Approx.2～12N(200～1200gf)
X direction: Approx.20～85mN･m(200～850gf･cm)
Operating temperature range: −20℃～+65℃
Vibration: 10～55Hz 98m/s²
Shock: 294m/s²
Mechanical life expectancy: Approx.10,000,000 operations.
Mass: 2-dimensional coordinate type: Approx.650g
3-dimensional coordinate type: Approx.750g

● Electrical performance

Hall effect IC type potentiometer (SHSM18E) incorporated
- Applied voltage: 5V±10% D.C.
- Effective output: Approx.0.5V～4.5V
- Electrical rotating angle: X and Y-axis: Approx.±22˚ Z-axis: Approx.±45˚
- Independent linearity tolerance: ±3%FS
- Load resistance: over 10KΩ

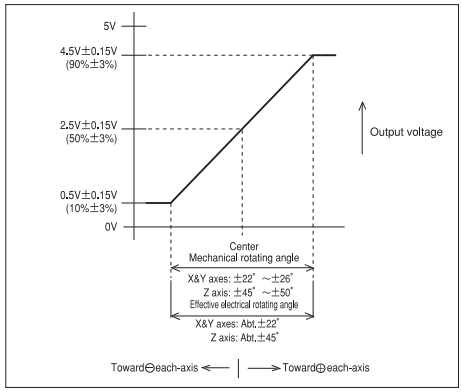
Resolution: Infinitesimal
Dielectric strength: 1 minute at 250V.A.C.
Insulation resistance: Over 100MΩ at 250V.D.C.
EMS durability: 100V/m(80MHz～1GHz 1KHz sine-wave 80%AM modulation)
ESD durability: ±8KV contact ±15KV aerial discharge 10 times at 1 second interval, single discharge.

● Terminal Connection Diagram



Note: 1) H90JA is terminals type.
Note: 2) H90JB is lead-wires type with approx. 300mm long.(AWG26)
Each lead-wire is recognized by tags, respectively.

● Output Characteristic

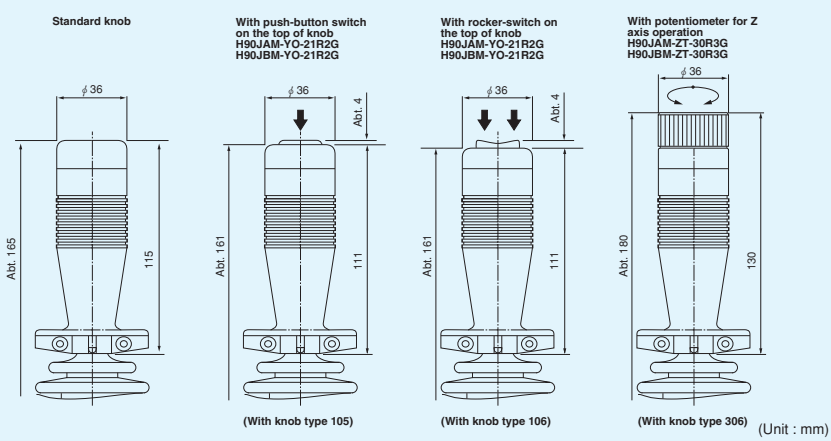


● Special Specifications Available

Please see page 47, a table of “Standard and Special Specifications Available".
Regarding kind of output characteristic, dual cross output or dual parallel output instead of single output is also available.

■ Specially Ordered Versions for Z axis

The following versions are available to Z axis knob for both models H90JAM and H90JBM.



(Unit : mm)