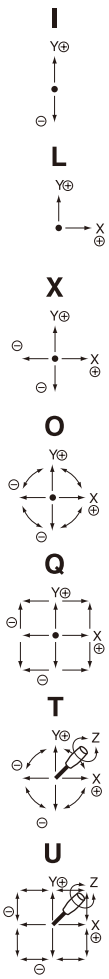
H90JA・H90JB

● H90JA: Potentiometer outside-mounted ● H90JB: Potentiometer incorporated ● With a hall effect IC

● Nomenclature

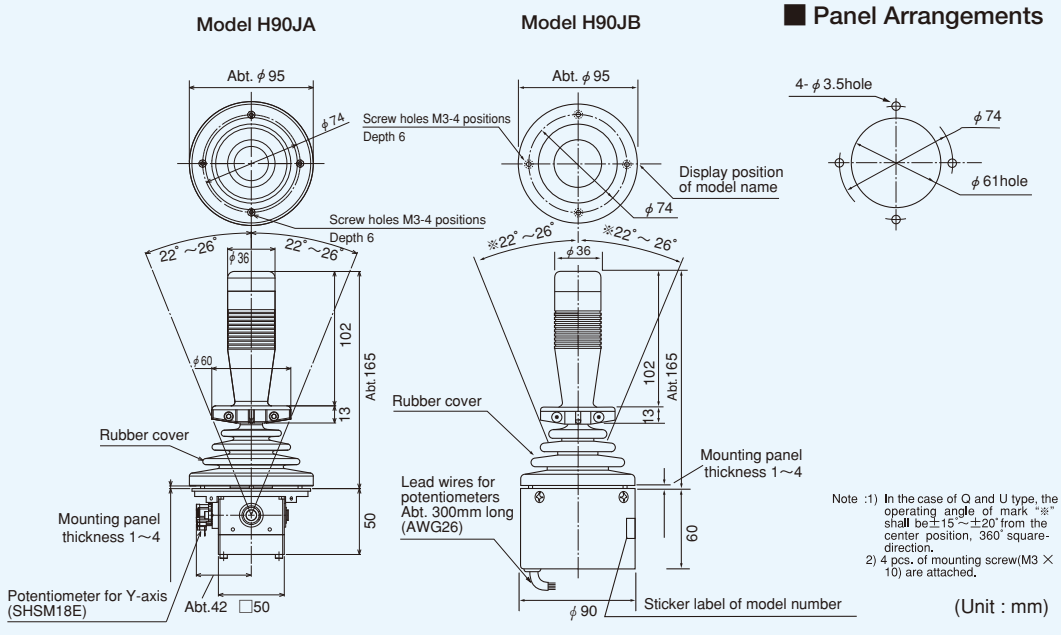
S means special mechanical specifications not applicable to our standard.
H means hall effect IC type potentiometer(HSM18E) is incorporated.
90 means approx. size of base housing in mm.
J means joystick controller.
Kind of types
A : 1,2 or 3-dimensional coordinate is available and also means potentiometer 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.



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 the case we produce customized product, we add 4-digit or 5-digit branch number.

● Standard Dimensions



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

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

STANDARD SPECIFICATIONS

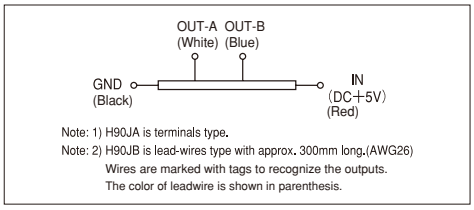
Mechanical Performance

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) Z direction: Approx.20 ～ 85mN・m(200 ～ 850gf・cm)
Operating temperature range	–20°C～+65°C
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

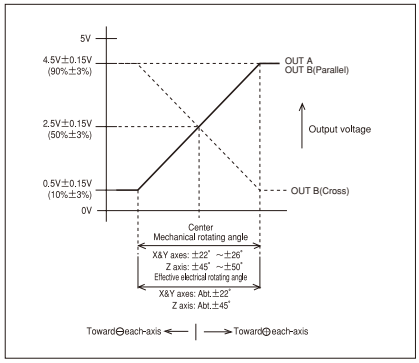
Hall effect IC type potentiometer (SHSM18E) incorporated	●Applied voltage: 5V±10% D.C. ●Effective output: Approx.0.5V～4.5V ●Electrical rotating angle: X and Y-axis: Approx.±22° Z-axis: Approx.±45° ●Independent linearity tolerance: ±3%FS ●Load resistance: over 10KΩ
Resolution	Infinitesimal
Dielectric 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 (Based on IEC61000-4-2).

Terminal Connection Diagram



Note: 1) H90JA is terminals type.
Note: 2) H90JB is lead-wires type with approx. 300mm long.(AWG26)
Wires are marked with tags to recognize the outputs.
The color of leadwire is shown in parenthesis.

Output Characteristic

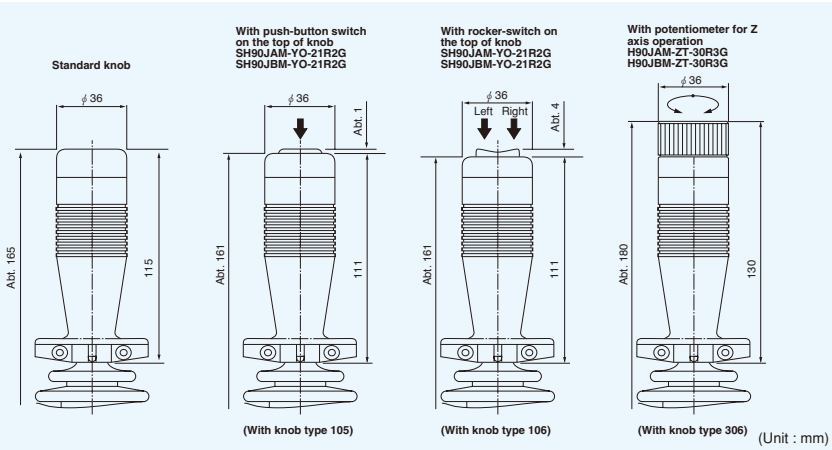


Special Specifications Available

Please see page 55, a table of "Special Specifications Available".
Regarding kind of output characteristic, dual cross output or dual parallel output instead of single output is also available.

■ Special knobs Available

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



(Unit : mm)