90JA

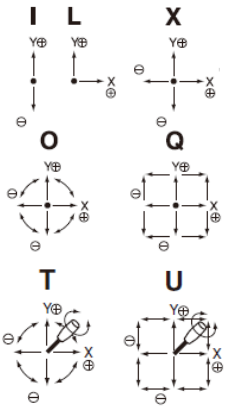
●Potentiometer outside-mounted type ●With conductive plastic element

●Nomenclature

S means special mechanical specifications not applicable to our standard
90 means approx. size of base housing in mm
J means joystick controller
A means 1-, 2- or 3-dimensional coordinate type
Potentiometers are mounted outside of housing case
M means round shape
X: 1-dimensional coordinate **Y**: 2-dimensional coordinate
Z: 3-dimensional coordinate **4**: 4 or more 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 directional operating type (X and Y)
Q: Square-directional 360° operating type
T: Omni-directional 360° and 3-dimensional coordinate operation with rotating a dial on the knob
U: Square-directional 360° and 3-dimensional coordinate operation with rotating a dial on the knob
S: Special operating directions other than the above-mentioned types

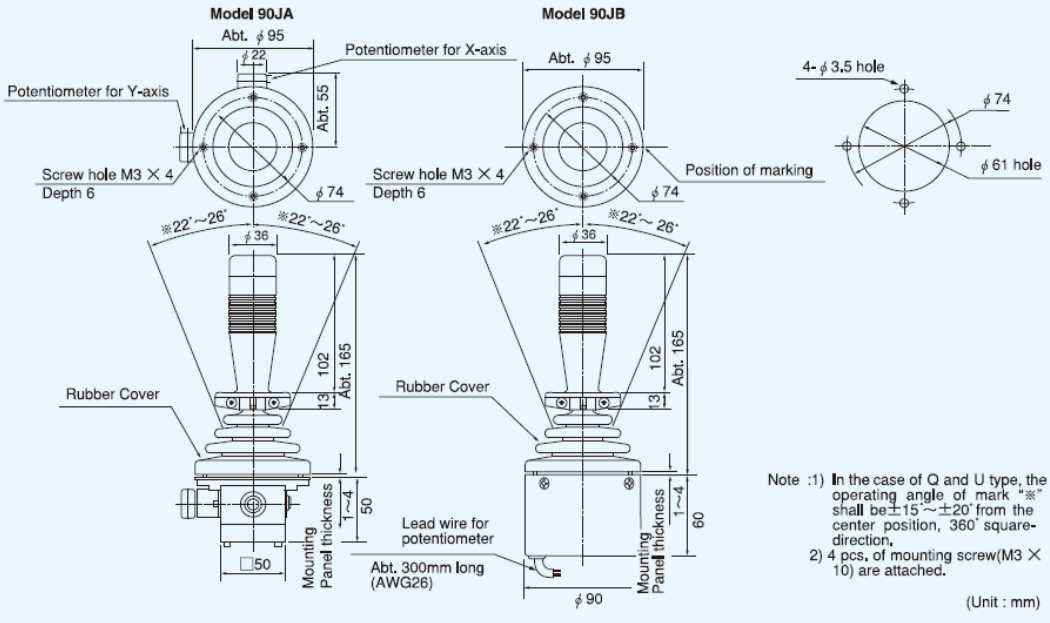
S	90	J	A	M	-	Y	O	-	2	0	R2	G	-	00000

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 or more switches incorporated **9**...Special switch incorporated
With spring return device **R1**: with spring return device for 1-dimensional coordinate
R2: spring return device for 2-dimensional **R3**: spring return device for 3-dimensional
Mounting accessories **G**: with dust proof rubber cover **P**: with sub-panel for mounting
Special part number In the case we produce customized products, we add 4 or 5-digit branch number



●Standard Dimensions

■ Panel Arrangements



Note :1) In the case of Q and U type, the operating angle of mark "※" shall be±15°~±20° from the center position, 360° square-direction.
2) 4 pcs. of mounting screw(M3 × 10) are attached.

(Unit : mm)

90JAM-YO-20R2G

(Standard 2-dimensional coordinate type)

STANDARD SPECIFICATIONS

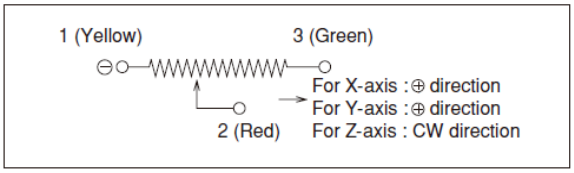
Mechanical Performance

Controlling range of operating lever	X, Y axis: Approx. ±22°～±26° omni-directionally from center position Z axis: Approx. ±45°～±50° from center position
Operating force (with spring return)	X, Y directions: Approx. 2N～12N (200～1,200gf) Z direction: Approx. 20～85mN・m (200～850gf・cm)
Operating temperature range	-20℃～+65℃
Vibration	10Hz～55Hz 98m/s^2
Shock	294m/s^2
Life expectancy	Approx. 5,000,000 operations
Mass	2-dimensional coordinate type: Approx. 650g 3-dimensional coordinate type: Approx. 750g

Electrical Performance

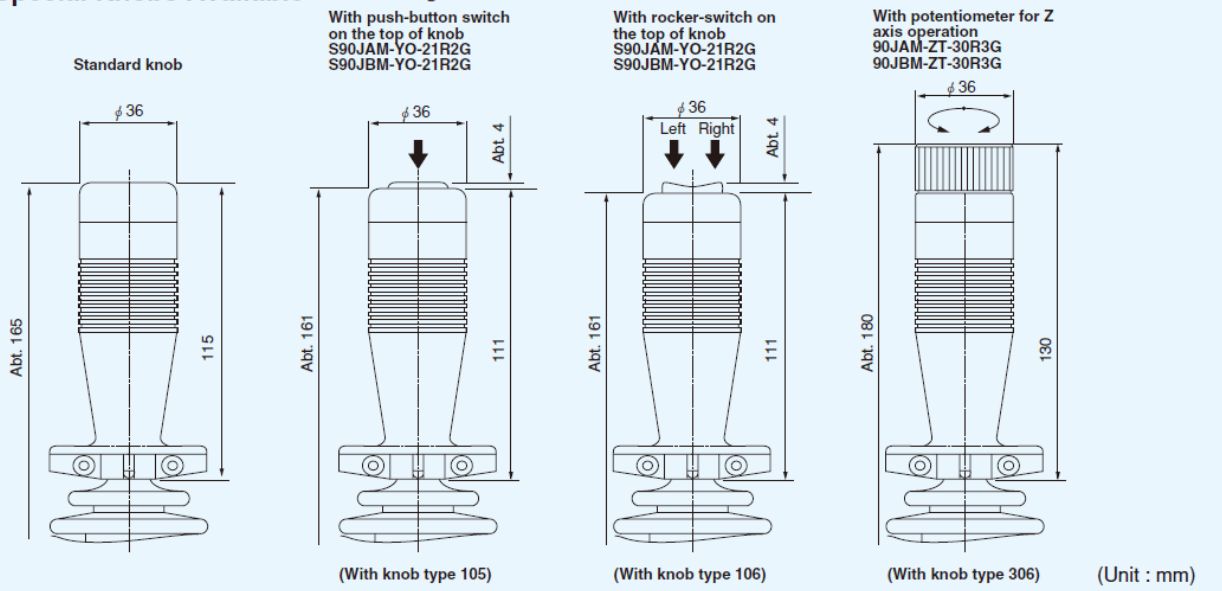
Potentiometers mounted	X, Y axis: SFCP22E 10kΩ±15%, independent linearity tolerance ±3%, 0.2W (Conductive plastic element), electrical rotating angle approx. 44° Z axis: SFCP22AC 10kΩ±15%, independent linearity tolerance ±3%, 0.3W, electrical rotating angle approx. 90°
Output smoothness	Below 0.2% against input voltage
Resolution	Essentially infinite
Dielectric strength	1 minute at 500V A.C.
Insulation resistance	Over 1,000MΩ at 500V D.C.

Terminal Connection Diagram



Special specifications Available

Please see page 55, a table of “Special Specifications Available”.

■ Special Knobs Available

The following versions are available to knob for both models 90JAM and 90JBM.