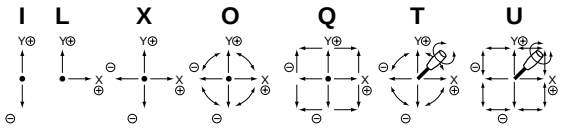
90JA·90JB

Nomenclature

S means special mechanical specifications not applicable to our standards.

90 means approx. size of base housing in mm.
J means joystick controller.
A means kind of type :
A : Available with1,2 and 3-dimensional coordinates Potentiometer outside-mounted type.
B : Available with 1, 2 and 3-dimensional coordinates Potentiometer incorporated inside the housing.
M : means round type
Y means kind of mechanism : **X** 1-dimensional coordinate.
Y : 2-dimensional coordinate. **Z**: 3-dimensional coordinate.
4 and more numbers : Over 4-dimensional coordinate.
Available directions of lever operation as below illustration.
(Standard Version)
O : 360° omni-directionally operating type.
(Special Version)
Q : 360° square-directionally operating type.
X : Cross direction of X and Y only operating type.
I : I-figure (Y) direction only operating type.
L : L-figure direction only operating type.
T : In addition to 360° omni-directional operation. 3-dimensional coordinate operation is possible by rotating knob in which a potentiometer is mounted.
U : In addition to "O operation" 3-dimensional coordinate operation is possible by rotating knob in which a potentiometer is mounted.
S : Special directions of lever operation other than above mentioned types.

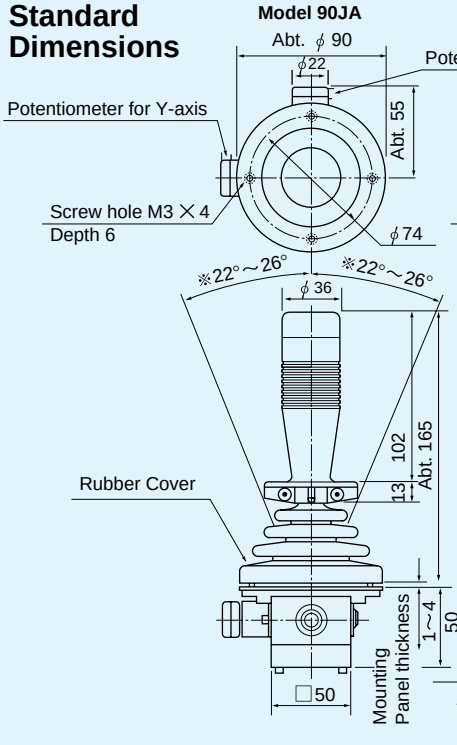


S	90	J	A	M	-	Y	O	-	2	0	R2	G	-	0000

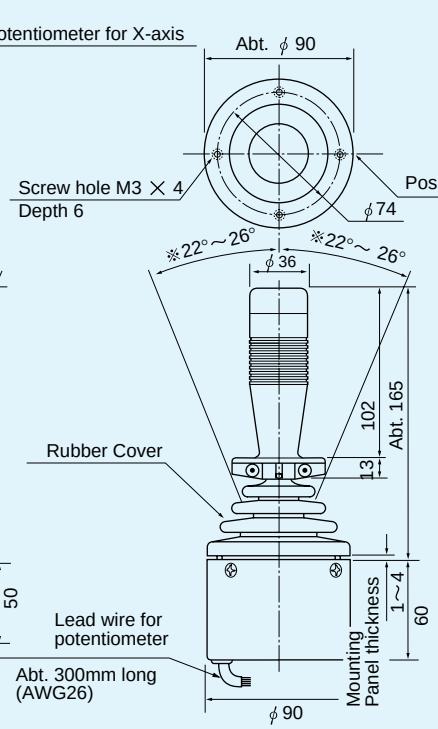
Number of potentiometers to be mounted.
0···no potentiometer mounted. **2**···2 potentiometers mounted.
1···1 potentiometer mounted. **3**···3 potentiometers mounted.
Number of switches to be mounted.
0···no switch mounted. **1**···1 switch mounted. **2**···2 switches mounted.
3···3 switches mounted. **4**···4 switches mounted. **5**···5 switches mounted.
6···6 and over 6 switches mounted. **9** ···others.
With spring return device (90JA•JB standard option) :
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.(90JA•JB standard option) **P** : with sub-panel or mounting.
Special part number basing on customer s specifications with 4 digits number.

Standard Dimensions

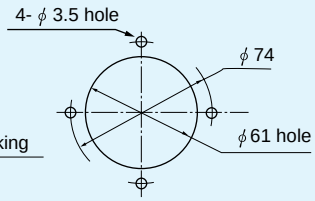
Model 90JA



Model 90JB



■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.
2) 4 pcs. of mounting screws(M3 × 14) are attached.

(Unit : mm)

90JAM-YO-20R2G
(standard)
(2-dimensional coordinate type)

90JBM-YO-20R2G
(standard)
(2-dimensional coordinate type)

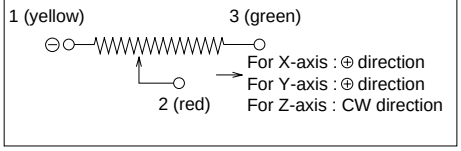
STANDARD SPECIFICATIONS

●Mechanical Performances

Controlling range of operating lever :
- 2-dimensional coordinate type : Approx. ±22° ~±26° omni-directionally 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 : With standard automatically center returning spring return device type.
X, Y directions : Approx. 2 ~ 12N (20 ~ 1,200gf)
Z direction : Approx. 20 ~ 85mN•m (200 ~850gf •cm)
Operating temperature range : -20°C ~ +65°C
Vibration : 10 ~ 55Hz 98m/s^2 (10G)
Shock : 294m/s^2 (30G)
Life expectancy : Approx. 5,000,000 operations.
Mass : 2-dimensional coordinate type : Approx. 650g
3-dimensional coordinate type : Approx. 750g

●Terminal Connection Diagram



●Electrical Performances

Potentiometer mounted :
90JA type : SFCP22E, 10kΩ±15%, 0.2W, independent linearity tolerance±3% (conductive plastic resistive element), electrical rotating angle for X and Y axis : Approx. 44°.
90JB type : Special resistive element exclu-sively used for 90JB series is incorporated : 10kΩ±15%, 0.2W, Independent linearity tolerance±3% (conductive plastic resistive element), Electrical rotating angle for X and Y axis : Approx. 44°.
In case of 90JA and 90JB with 3-dimensional coordinate Z-axis potentiometer-inside-knob incorporated type, the following potentiometer is used : SFCP22AC, 10kΩ±15%, 0.3W, Independent linearity tolerance ±3%, Electrical rotating angle : Approx. 90°.
Output smoothness : Below 0.2% against input voltage.
Contact resistance variation : Below 5% C.R.V.
Resolution : Essentially infinite.
Dielectric strength : 1 minute at 500 V.A.C.
Insulation resistance : Over 1,000 MΩ at 500 V.D.C.

●Special Specifications Available

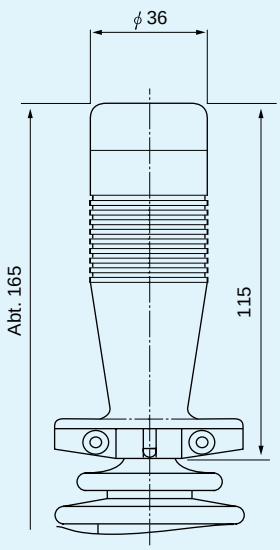
please see page 41, a table of "Standard and Special Specifications Available".

◎ For outdoor applications, please use model 90JA series.

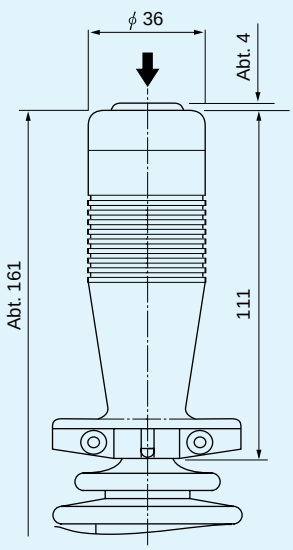
■Specially Ordered Versions for Z axis

The following versions are available on Z axis knob of both models 90JAM and 90JBM.

Standard knob

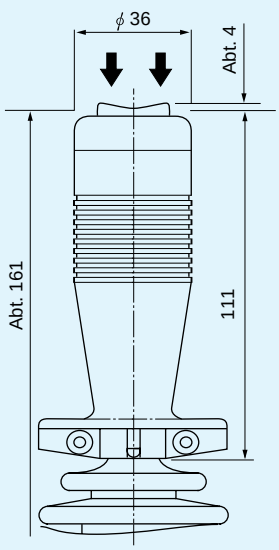


With push-button switch on the top of knob
S90JAM-YO-21R2G
S90JBM-YO-21R2G



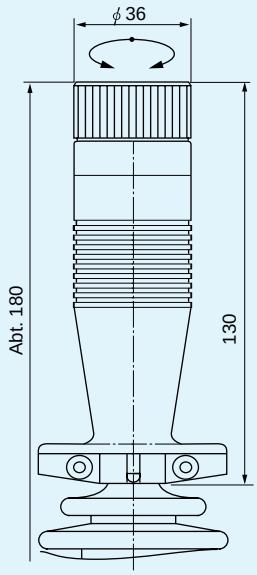
(knob type 105)

With rocker-switch on the top of knob
S90JAM-YO-21R2G
S90JBM-YO-21R2G



(knob type 106)

With potentiometer for Z axis operation
S90JAM-ZT-30R3G
S90JBM-ZT-30R3G



(knob type 306) (Unit : mm)