

Industrial Hall Effect Joystick

The JHM series Industrial Hall effect Joystick is a full function operator control that will fit in an armrest, on a panel, or any other location where a shallow behind panel depth joystick is needed. It utilizes Hall effect technology for long life and reliability. Electronics are sealed up to IP68S with an operational life of ten million cycles in all directions.

The standard JHM offers 18 output configuration choices, 15 handle styles and 9 gating options.

Output options include CANopen, J1939, PWM, USB, analog and digital control outputs, and redundant sensors. The JHM offers a variety of switches and handle styles such as a ball handle, a lockout handle, a G3-D grip and handles with pushbuttons, rockers and 5-button keypads.

Gating options include single axis, dual axis, friction y-axis, and various omnidirectional selections that include omnidirectional round smooth feel, omnidirectional on-axis and off-axis guided feel and omnidirectional square on-axis guided feel.

Features:

- Designed for armrest & panel mounting
- Shorter behind panel depth
- Contactless analog output Hall effect technology
- Electronics sealed up to IP68S
- Up to 10 million operational cycles in all directions
- Available with a variety of grip & switch options
- Redundant sensors available
- Various output configurations
 - CANopen
 - J1939
 - USB
 - PWM
 - Serial
 - Analog
- Variety of gating options
- RoHS compliant



JHM with
Hall Effect Rocker



JHM with Ball
Handle Style



JHM with G3-D
Handle Style

Standard Characteristics/Ratings:

Sensor Type: Hall effect analog, factory programmed with temperature compensation, ground and supply line break detection, and over voltage and reverse voltage protection options.

Design: Contactless sensing

Magnet: Dual bar permanent magnet

ELECTRICAL RATINGS: Joystick Rated at 5V @ 20°C, Load = 1ma (4.7kΩ)

Electrical	Units	Min	Typ	Max
Supply Voltage, Vcc	VDC	4.5	5.0	5.5
Output Voltage Tolerance at Center AA, BB, CC, DD, EE, FF, GG & HH	VDC @ 5V Vcc	-0.25	N/A	+0.25
Output Voltage Tolerance at Center AT, BT, CT, DT, ET & FT	VDC @ 5V Vcc	-0.15	N/A	+0.15
Output Voltage Tolerance Full Travel	VDC @ 5V Vcc	-0.25	N/A	+0.25
Supply Current Per Sensor	mA	N/A	N/A	10.00
Output Source Current Limit	mA	-1.00	N/A	1.00

MECHANICAL (JOYSTICK):

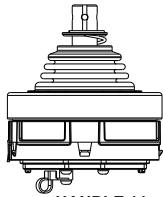
Mechanical Life: In all directions, 2,500,000 cycles min up to 10,000,000 cycles depending on configuration. (Boot life varies depending on configuration.)

Mechanical (Return to Center)	Units	Min	Typ	Max
Travel Angle	Degrees	18°	20°	22°
High Force @ 2" GRP (Return to Center)	Lbs.	0.5	1.25	2.0
Low Force @ 2" GRP (Return to Center)	Lbs.	0.5	1.0	1.5
High Force @ 3" GRP (Return to Center)	Lbs.	0.5	1.0	1.5
Low Force @ 3" GRP (Return to Center)	Lbs.	0.4	0.7	1.0
High Force @ 4" GRP (Return to Center) Handle Styles 51, 52, 53	Lbs.	1.2	2.5	3.8
Low Force @ 4" GRP (Return to Center) Handle Styles 51, 52, 53	Lbs.	0.4	0.8	1.2
Friction @ 2" GRP	Lbs.	1.5	4.5	7.5
Friction @ 3" GRP	Lbs.	1.0	3.5	6.0
Friction @ 4" GRP Handle Styles 51, 52, 53	Lbs.	0.8	2.4	4.0

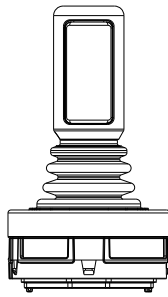
ENVIRONMENTAL:

Operating Temperature (except below)	° C	-40	20	85
Operating Temperature (Handle 61, 62)	° C	-25	20	70
Storage Temperature (Handle 61, 62)	° C	-40	20	85

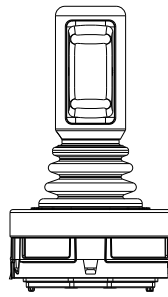
JHM Handle Styles



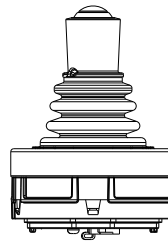
HANDLE 11
(NO HANDLE)



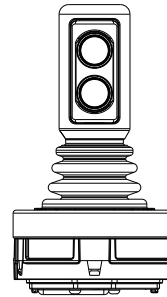
HANDLE 12
(STANDARD BLANK)



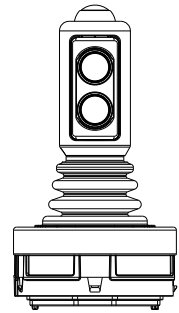
HANDLE 21
(W / HALL EFFECT ROCKER)



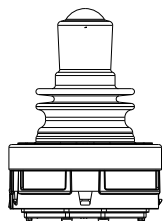
HANDLE 31
(W / PUSHBUTTON,
TOP HANDLE, HALF BOOT)



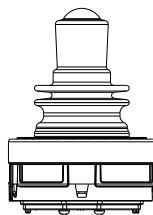
HANDLE 32
(W / 2X PUSHBUTTONS)



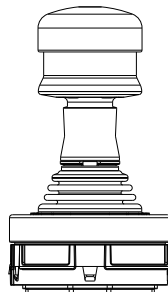
HANDLE 33
(W / 3X PUSHBUTTONS)



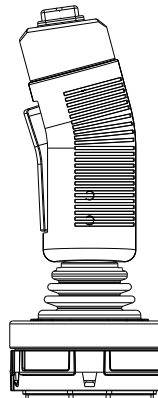
HANDLE 34
(W / PUSHBUTTON,
TOP HANDLE, FULL BOOT)



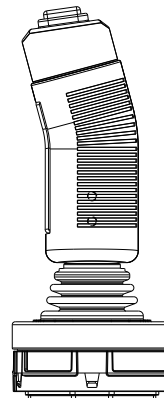
HANDLE 35
(NO PUSHBUTTON,
TOP HANDLE, FULL BOOT)



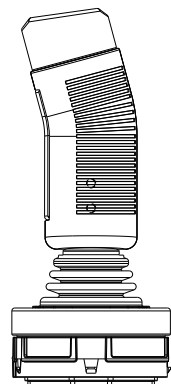
HANDLE 41
(LOCKOUT)



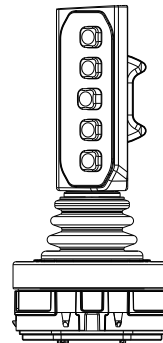
HANDLE 51
(G3-D WITH ROCKER AND
OPERATOR PRESENCE)



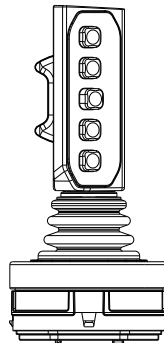
HANDLE 52
(G3-D WITH ROCKER)



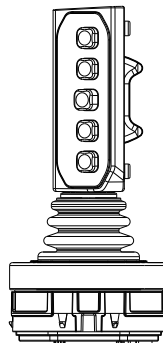
HANDLE 53
(G3-D)



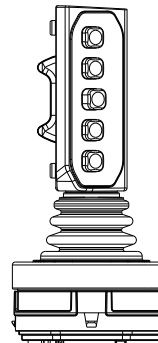
HANDLE 61
(5-BUTTON KEYPAD &
HALL ROCKER RIGHT)



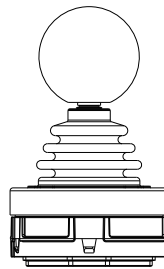
HANDLE 62
(5-BUTTON KEYPAD &
HALL ROCKER LEFT)



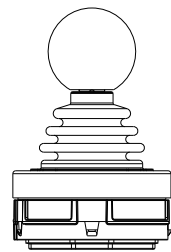
HANDLE 63
(7-BUTTON KEYPAD &
HALL ROCKER RIGHT)



HANDLE 64
(7-BUTTON KEYPAD &
HALL ROCKER LEFT)



HANDLE 71
(LARGE BALL)

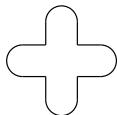


HANDLE 72
(SMALL BALL)

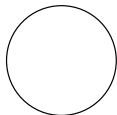
JHM Gating Icons



1
SINGLE AXIS
RETURN TO
CENTER



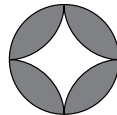
2
GATED DUAL AXIS
RETURN TO
CENTER



3
OMNIDIRECTIONAL
ROUND
SMOOTH FEEL



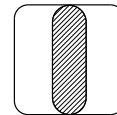
4
OMNIDIRECTIONAL
ON-AXIS AND OFF-AXIS
GUIDED FEEL ****



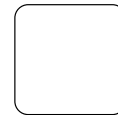
5
OMNIDIRECTIONAL
ROUND ON-AXIS
GUIDED FEEL ****



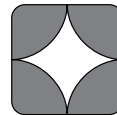
6
SINGLE AXIS
FRICTION



7
FRICTION Y-AXIS;
RETURN TO CENTER
X-AXIS



8
OMNI-DIRECTIONAL:
SQUARE SMOOTH
FEEL ****



9
OMNI-DIRECTIONAL:
SQUARE ON-AXIS
GUIDED FEEL ****

**** FEEL DEFINED BY SHADING

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