

## Medium Hall Effect Joystick with Grip Options



HJMG3 Joysticks with Universal Grips

The HJMG3 is a top mount JHM medium Hall effect joystick with a variety of grip, faceplate, output and gating options.

The HJMG3 allows you to easily create a catalog codable joystick with grip. Grip choices include the G3-A, G3-B and G3-C Universal and the G3-D Control Grips, with a total of 30 faceplate design options.

Analog and digital control outputs, CANopen, CANbus J1939, PWM, USB, and redundant sensor output selections are available. Gating options are single axis, dual axis, friction y-axis, and various omnidirectional selections that include round smooth feel, on-axis and off-axis guided feel and square on-axis guided feel.

The HJMG3 can be configured for top-of-the-line machines requiring high switch content, or to provide very basic functions on lower tier units, and can be manufactured with an almost unlimited variety of switches, custom termination and custom mounting options. The HJMG3 serves agriculture, construction, off-highway, material handling and specialized industrial equipment markets.

### Features:

- Designed for armrest and panel mounting
- Contactless Hall effect technology
- Multiple output options, both analog and digital
- Electronics sealed to IP68S
- Redundant sensors available
- Variety of gating options
- RoHS compliant



HJMG3 Joystick with G3-D Grip

### Standard Characteristics/Ratings:

#### ELECTRICAL: Output options AA-FT and LL

Joystick				
Rated at Vcc = 5V @ 20°C Load = 1 ma (4.7 KΩ)	Units	Min	Typ	Max
Supply Voltage, Vcc	VDC	4.5	5.0	5.5
Output Voltage Tolerance at Center	VDC	-.25	N/A	+.25
AA, BB, CC, DD, EE, FF, GG, HH	@ 5V Vcc			
Output Voltage Tolerance at Center	VDC	-.15	N/A	+.15
AT, BT, CT, DT, ET, FT	@ 5V Vcc			
Output Voltage Tolerance at Full Travel	VDC	-.25	N/A	+.25
B=0, Vcc=5V, Iout=0	@ 5V Vcc			
Supply Current Per Sensor	mA	N/A	N/A	10
Output Source Current Limit	mA	-1.20	N/A	1.20
B=X*, Vo=0				

#### P9 Switches

Electrical Rating	10mA Resistive Load @ 5VDC
Electrical Life	1250,000 Cycles

#### HTW Switches

Supply Voltage, Vcc	VDC	4.5	5.0	5.5
Output Voltage	VDC	-.15	NA	+.15
Tolerance at Center	@ 5V Vcc			
Output Voltage	VDC	-.25	N/A	+.25
Tolerance at Full Travel	@ 5V Vcc			
Supply Current B=0, Vcc=5V, Iout=0	mA	N/A	N/A	10

#### HTWM and HTLT4 Switches

Output Voltage	VDC	-.25	NA	+.25
Tolerance at Center	@ 5V Vcc			
Output Voltage	VDC	-.25	N/A	+.25
Tolerance at Full Travel	@ 5V Vcc			
HTWM Supply Current B=0, Vcc=5V, Iout=0	mA	N/A	N/A	10
HTLT4 Supply Current B=0, Vcc=5V, Iout=0	mA	N/A	10	12

#### TC-5 Switches

Electrical Rating @ 1-32 VDC	10-100mA
Electrical Life	3,000,000 Cycles

#### MECHANICAL:

##### Joystick

Mechanical Life	5,000,000 cycles; 250,000 cycles (Friction)			
Travel Angle	Degrees	18	20	22
Op. Force (w/Boot) High Force @ GRP, Ret. to Ctr.	Lbs.	1.5	2.5	3.5
Op. Force (w/Boot) Low Force @ GRP, Ret. to Ctr.	Lbs.	1.0	2.0	3.0
Op. Force (w/Boot) High Force @ GRP, Friction	Lbs.	1.0	2.5	4.0

##### P9 Switches

Mechanical Life	1,250,000 cycles
Operating Force	Oz. 1.2 1.7 2.2

##### HTW and HTWM Switches

Mechanical Life Full Forward to Full Back	3,000,000 cycles
Travel Angle	+/- 40°
Operating Force 25°C at Top of Roller	Oz. 2 5 8
Maximum Allowable Radial Load	Lbs. N/A N/A 30

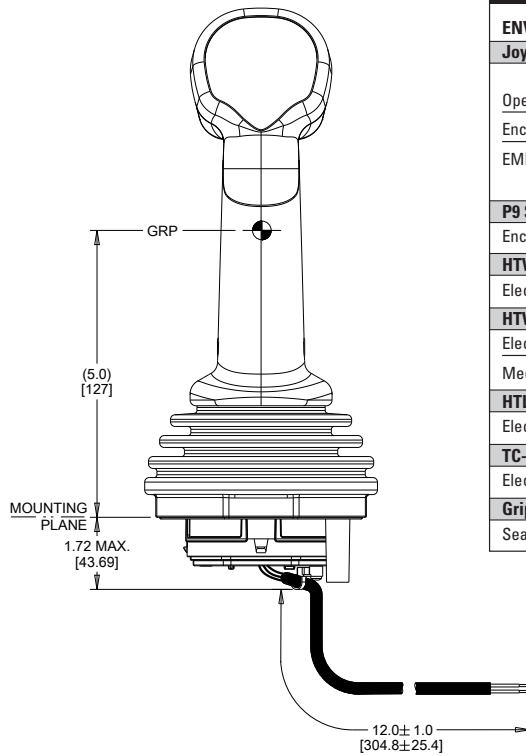
##### HTLT4 Switches

Mechanical Life	3,000,000 cycles
Travel Angle	Degrees 19 20 21
Operating Force (w/Boot) at Top of Button, @ 20° C	Oz. 5 8 16
Max Allowable Vertical Force on Button	Lbs. N/A N/A 25
Max Allowable Radial Force on Top of Knob	Lbs. N/A N/A 25
Max Allowable Torque on Button about Shaft Axis	In-Lbs. N/A N/A 5.5

##### TC-5 Switches

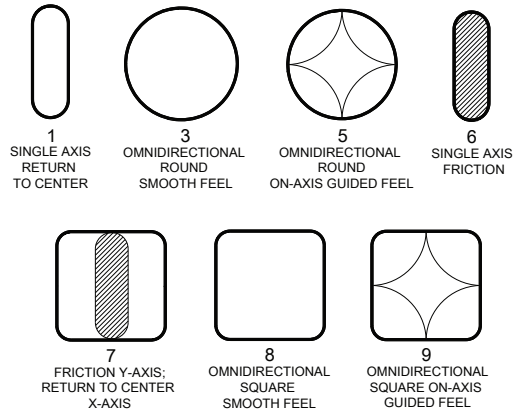
Mechanical Life	3,000,000 cycles
Operating Force	Oz. 8 16 24

## G3-A Universal Grip with AS Faceplate

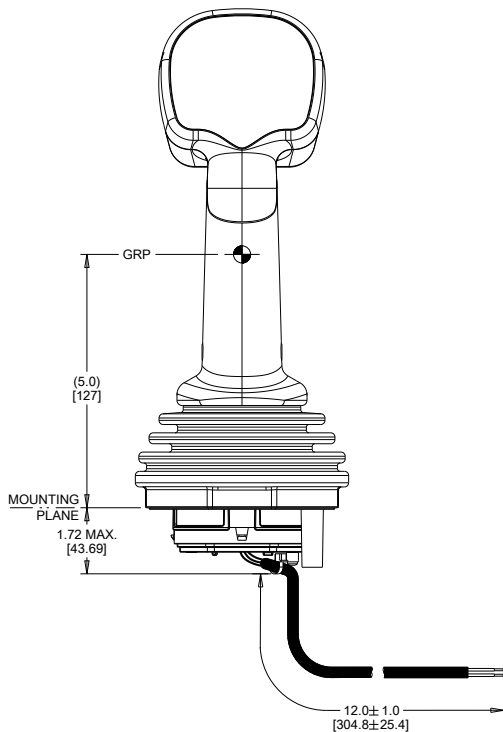


Standard Characteristics/Ratings:				
<b>ENVIRONMENTAL</b>				
<b>Joystick</b>				
Operating Temperature	Units	Min	Typ	Max
	°C	-40	20	85
Enclosure Design	Sealed to IP68S			
EMI/RFI Withstand	Per SAE J1113. Contact factory for details			
<b>P9 Switches</b>				
Enclosure Design	Sealed to IP68S			
<b>HTW Switches</b>				
Electronics Seal Integrity	IP68S			
<b>HTWM Switches</b>				
Electronics Seal Integrity	IP68S			
Mechanical Seal Integrity	Unsealed			
<b>HTLT4 Switches</b>				
Electronics Seal Integrity	IP68S			
<b>TC-5 Switches</b>				
Electronics Seal Integrity	IP68S			
<b>Grip</b>				
Seal Integrity	Unsealed			

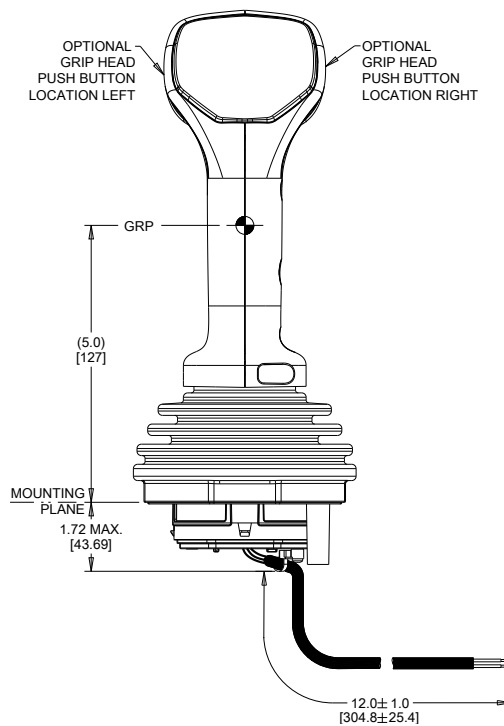
## HJMG3 Gating Icons



## G3-B Universal Grip with BL Faceplate



## G3-C Universal Grip with CL Faceplate



## G3-D Control Grip with DA Faceplate

