

## 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 new HJMG3 allows you to easily create a catalog codable joystick with grip. Grip choices include small G3 Universal, medium G3 Universal, Universal Contour and the G3-D Control Grip, 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 AA, BB, CC, DD, EE, FF, GG, HH	VDC	-.25	N/A	+.25
Output Voltage Tolerance at Center AT, BT, CT, DT, ET, FT	VDC	-.15	N/A	+.15
Output Voltage Tolerance at Full Travel	VDC	-.25	N/A	+.25
Supply Current Per Sensor B=0, Vcc=5V, Iout=0	mA	N/A	N/A	10
Output Source Current Limit B=X*, Vo=0	mA	-1.20	N/A	1.20

**P9 Switches**

Electrical Rating	10mA Resistive Load @ 5VDC		
Electrical Life	1,000,000 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; 2,500,000 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	1,000,000 cycles		
Operating Force	Oz.	8	12

**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
Maximum Allowable Radial Load	Lbs.	N/A	N/A

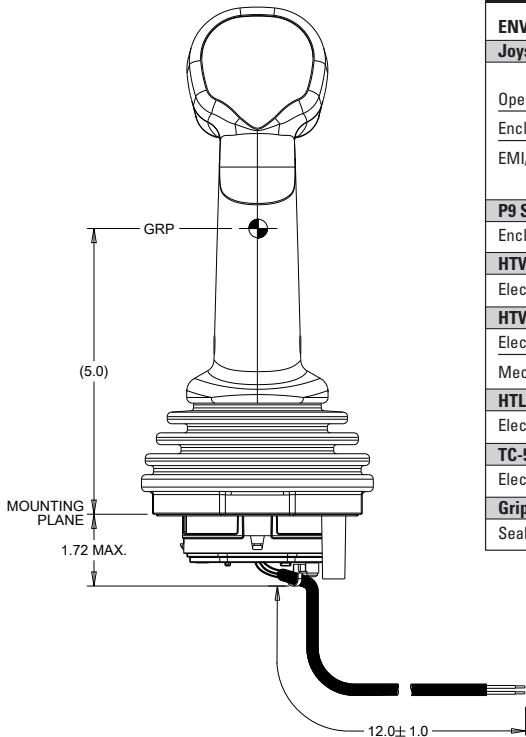
**HTLT4 Switches**

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**

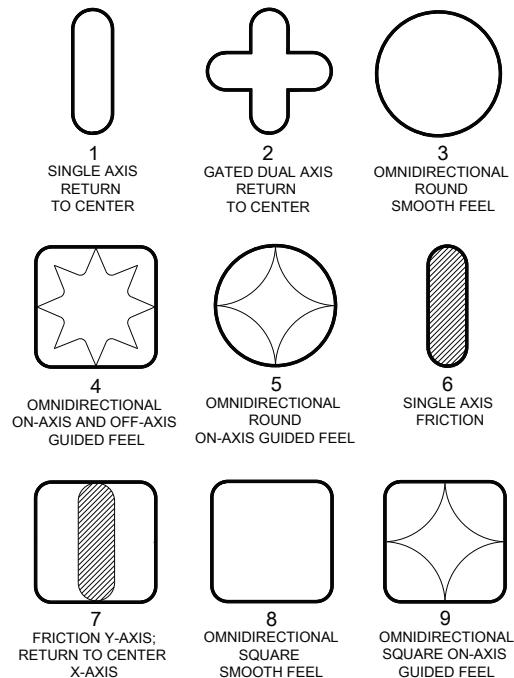
Mechanical Life	3,000,000 cycles		
Operating Force	Oz.	8	16

## Small Universal with AS Faceplate

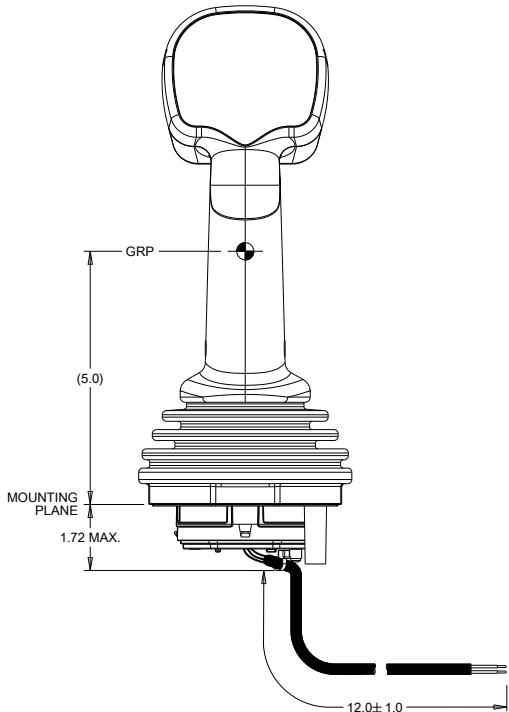


Standard Characteristics/Ratings:				
ENVIRONMENTAL				
<b>Joystick</b>				
Operating Temperature	Units °C	Min -40	Typ 20	Max 85
Enclosure Design		Sealed to IP68S		
EMI/RFI Withstand		Per SAE J1113. Contact factory for details		
<b>P9 Switches</b>				
Enclosure Design		Sealed to IP68S		
<b>HTW Switches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

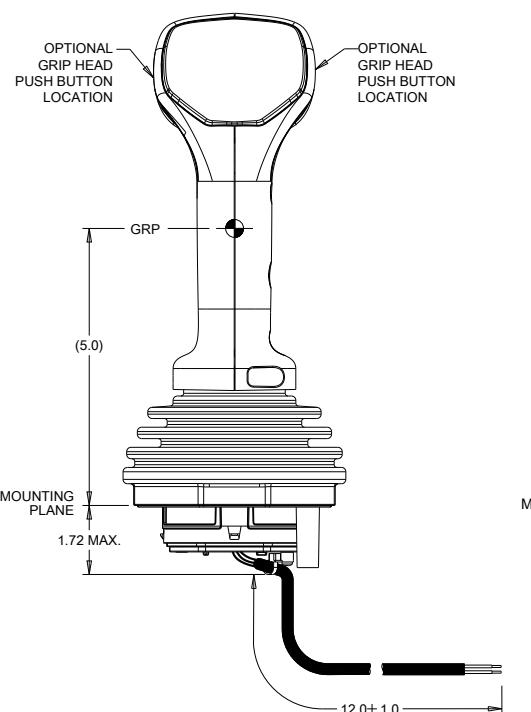
## HJMG3 Gating Icons



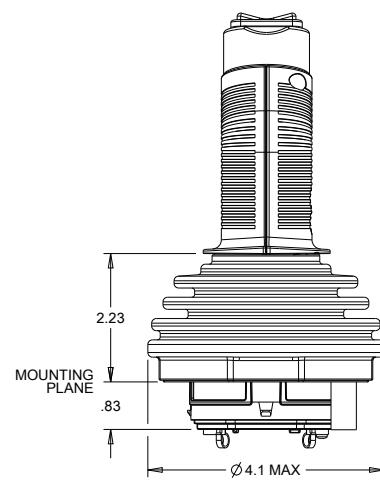
## Medium Universal with BL Faceplate



## Universal Contour with CL Faceplate



## G3-D Control Grip with DA Faceplate



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