OTTO®

PRODUCT BULLETIN

HJLG3

Sealed, Cost-Effective Hall Effect Joystick with Grip Options

Combine a high performance, sealed, cost-effective joystick with one of 5 different styles of OTTO G3 series grips to create an HJLG3 joystick with grip – a complete solution to fit your application. Select a standard, catalog codable solution that handles up to 250 lbs. static load strength, has a compact behind-panel size, and enjoys a long cycle life.

Choose from a large variety of grips, faceplates, outputs and gating options. Grip choices include G3-A, G3-B, G3-C, and G3-CK Universal Grips as well as the G3-D Control Grip that altogether offer nearly 50 standard faceplate design options.

Analog and digital outputs, CANopen, CANbus J1939, PWM, USB, and redundant sensor output selections are available. Standard gating options are single axis, single axis with center detent, dual axis, and various omnidirectional selections that include square smooth feel, on-axis and off-axis guided feel, square on-axis guided feel and center detent.

The HJLG3 serves agriculture, construction, off-highway, material handling and industrial equipment markets.

Features:

- **Contactless analog output Hall effect technology**
- **Multiple output options, both analog and digital**
- **Redundant sensors available**
- **Variety of gating options**
- **Modular design**
- **Left or right handed**
- **RoHS compliant**

Benefits:

- **Cost-effective joystick with grip solution**
- **Compact design made for armrest and panel mounting**
- **Mechanical life up to 6 million cycles**
- **Up to 250 lbs. static load strength at grip reference point (GRP)**
- **Electronics sealed to IP68S**
- **Excellent EMI/RFI immunity**

2 East Main Street
Carpentersville, IL 60110
847-428-7171

HJLG3

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

Select Your HJLG3 Joystick with Grip

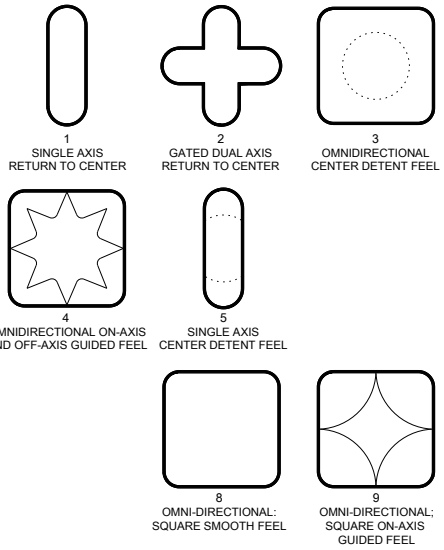
Start with a high-performance JHL Hall Effect Joystick.

Add an OTTO G3 Series Control Grip with high switch content capability and functionality that includes z-axis rotation and lighted keypads.

JHL

- Utilizes contactless analog output Hall effect technology
- Withstands loads up to 250 lbs.
- Offers multiple output configurations including CAN
- Choose from several gating options

JHL GATING ICONS



G3-A Universal Grip with AD Faceplate

Universal Grip with 17 Faceplate Style Choices

HJLG3-A

G3-B Universal Grip with BK Faceplate

Universal Grip with 11 Faceplate Style Choices

HJLG3-B

G3-C Universal Grip with CP Faceplate

Universal Grip with Z-Axis Rotation and 13 Faceplate Style Choices

HJLG3-C

G3-CK Control Grip with Side Keypad

Universal Grip with Lighted or Unlighted Faceplate Keypads and 10-Button Side Keypad Choices

HJLG3-CK

G3-D Control Grip with Operator Presence

Control Grip with Operator Presence Options

HJLG3-D

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HJLG3-A

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

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HJLG3-A

Combine a high performance, sealed, cost-effective JHL joystick with an OTTO G3-A series grip to create an HJLG3-A joystick with grip – a complete solution to fit your application.

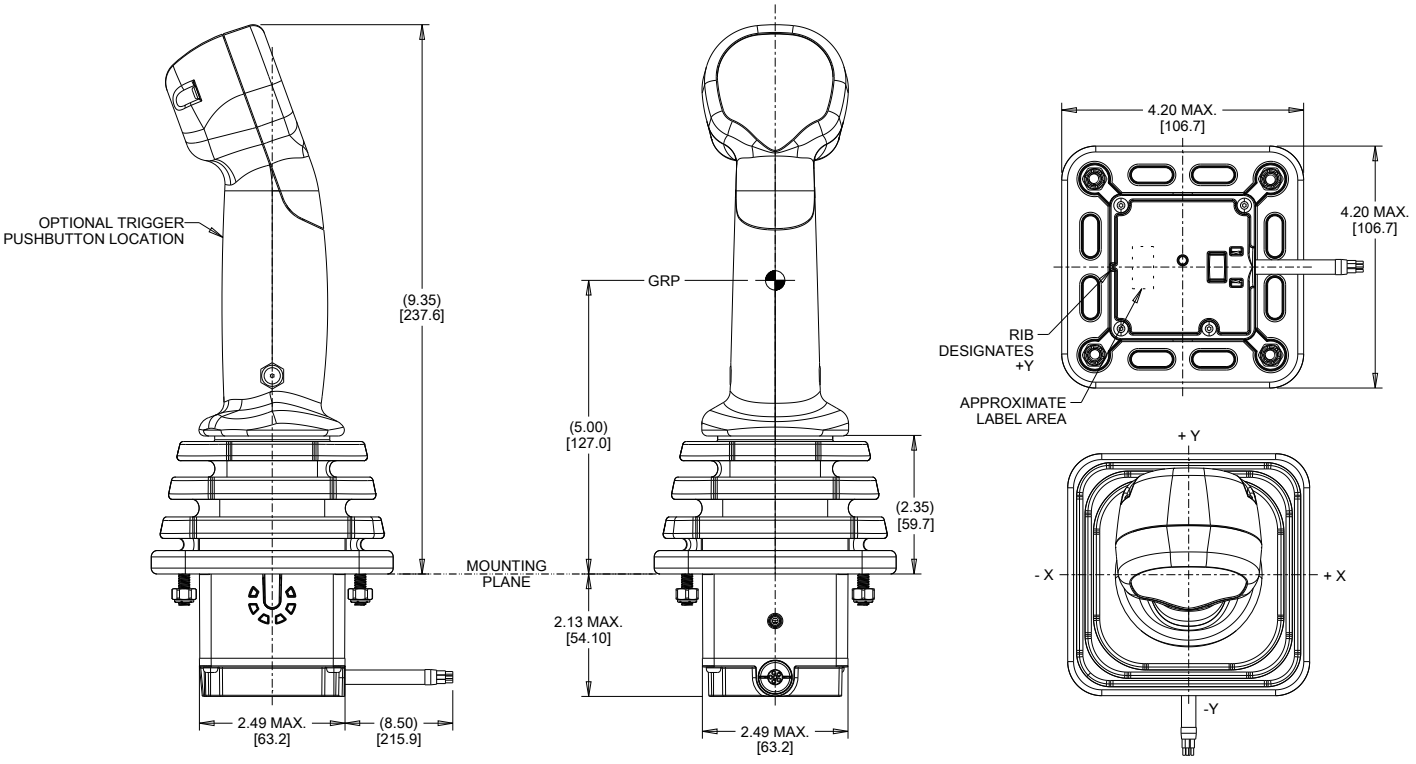
Features:

- **Contactless analog output Hall effect technology**
- **Multiple output options, both analog and digital**
- **Redundant sensors available**
- **Variety of gating options**
- **Modular design**
- **Left or right handed**
- **RoHS compliant**

Benefits:

- **Cost-effective joystick with grip solution**
- **Compact design made for armrest and panel mounting**
- **Mechanical life up to 6 million cycles**
- **Up to 250 lbs. static load strength at grip reference point (GRP)**
- **Electronics sealed to IP68S**
- **Excellent EMI/RFI immunity**

HJLG3-A DRAWINGS



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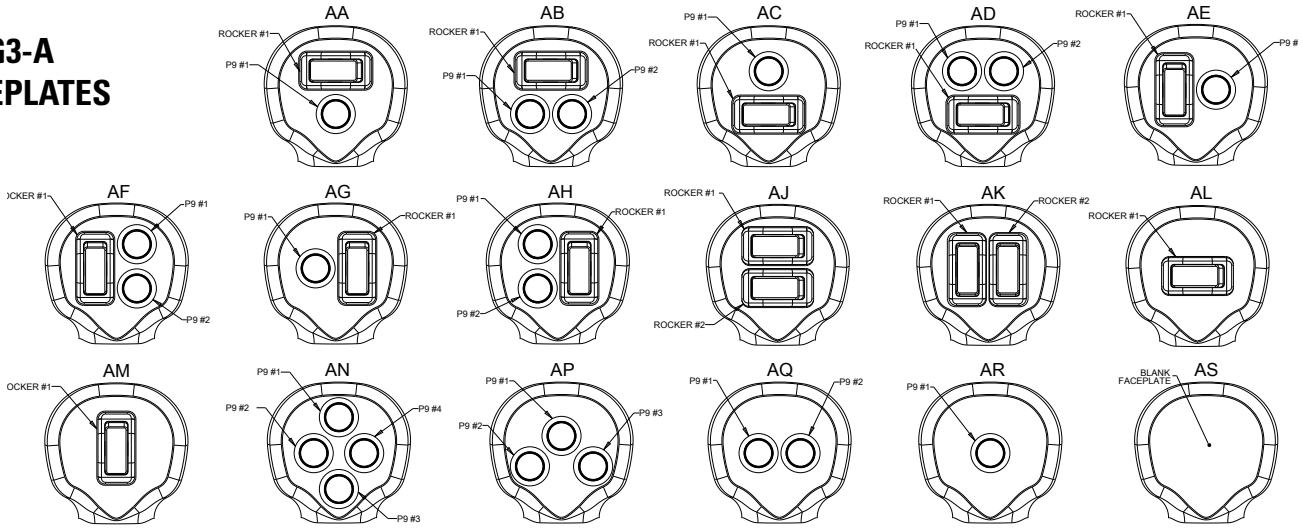
HJLG3-A

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

HJLG3-A FACEPLATES



HJLG3-A PART NUMBER CODE

HJLG3-A – X XX X X XX X X (Continued Below)

Gating

1. Gated Single Y-Axis; Return to Center
2. Gated Dual Axis; Return to Center
3. Omni-directional; Center Detent Feel
4. Omni-directional; On-Axis and Off-Axis Guided Feel
5. Gated Single Y-Axis; Center Detent Feel
8. Omni-directional; Square Smooth Feel
9. Omni-directional; Square On-Axis Guided Feel

Joystick Output 1* / Joystick Output 2**

	Output 1*	Output 2**
AA.	2.5 +/- 2.0VDC	NONE
BB.	2.5 +/- 2.0VDC	2.5 +/- 2.0VDC
CC.	2.5 +/- 2.0VDC	2.5 -/+ 2.0VDC
DD.	2.5 +/- 1.5VDC	NONE
EE.	2.5 +/- 1.5VDC	2.5 +/- 1.5VDC
FF.	2.5 +/- 1.5VDC	2.5 -/+ 1.5VDC
GG.	0.5 - 4.5VDC	0.5 - 4.5VDC
HH.	1.0 - 4.0VDC	1.0 - 4.0VDC
JJ.	CANbus J1939	NONE
KK.	CANopen	NONE

Operate Force

2. Medium
3. High

Trigger Pushbutton

1. None
2. P9 - Black
3. P9 - Red

Faceplate

AA AB AC AD AE AF AG AH AJ AK AL AM AN AP AQ AR AS

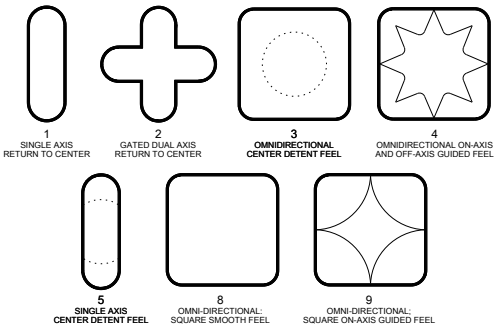
K1 Rocker #1 Style - Black***

1. None
2. On-Off
3. (On)-Off
4. On-Off-On
5. (On)-Off-(On)

K1 Rocker #2 Style - Black***

1. None
2. On-Off
3. (On)-Off
4. On-Off-On
5. (On)-Off-(On)

HJLG3 GATING ICONS



HJLG3-A PART NUMBER CODE CONTINUED

Cont. X X X X

P9 #1 Button Color / P9 #2 Button Color / P9 #3 Button Color / P9 #4 Button Color

1. Red
2. Black
3. Orange
4. Yellow
5. Green
6. Blue
7. Violet
8. Gray
9. White
N. None

*Outputs are from the center to the full travel position in each direction. Options "AA", "BB", "CC", "DD", "EE", "FF" provide increased voltage in +x, +y; and decreasing voltage in -x, -y direction from 1 output per axis. Options "GG" and "HH" provide increasing voltages in all directions (+x, +y, -x, -y) from 2 outputs per axis.

**Options "BB"and "EE" provide redundant output 2 which duplicates output 1. Options "CC"and "FF"provide redundant output 2 which is inverse of output 1.

*** K1 Rocker Switches: on position or momentary position is up or to the right and ( ) denotes momentary action.
Contact factory for rocker legends and additional color options.

For reference only. Refer to catalog for more details and notations.

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HJLG3-B

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

HJLG3-B

Combine a high performance, sealed, cost-effective JHL joystick with an OTTO G3-B series grip to create an HJLG3-B joystick with grip – a complete solution to fit your application.

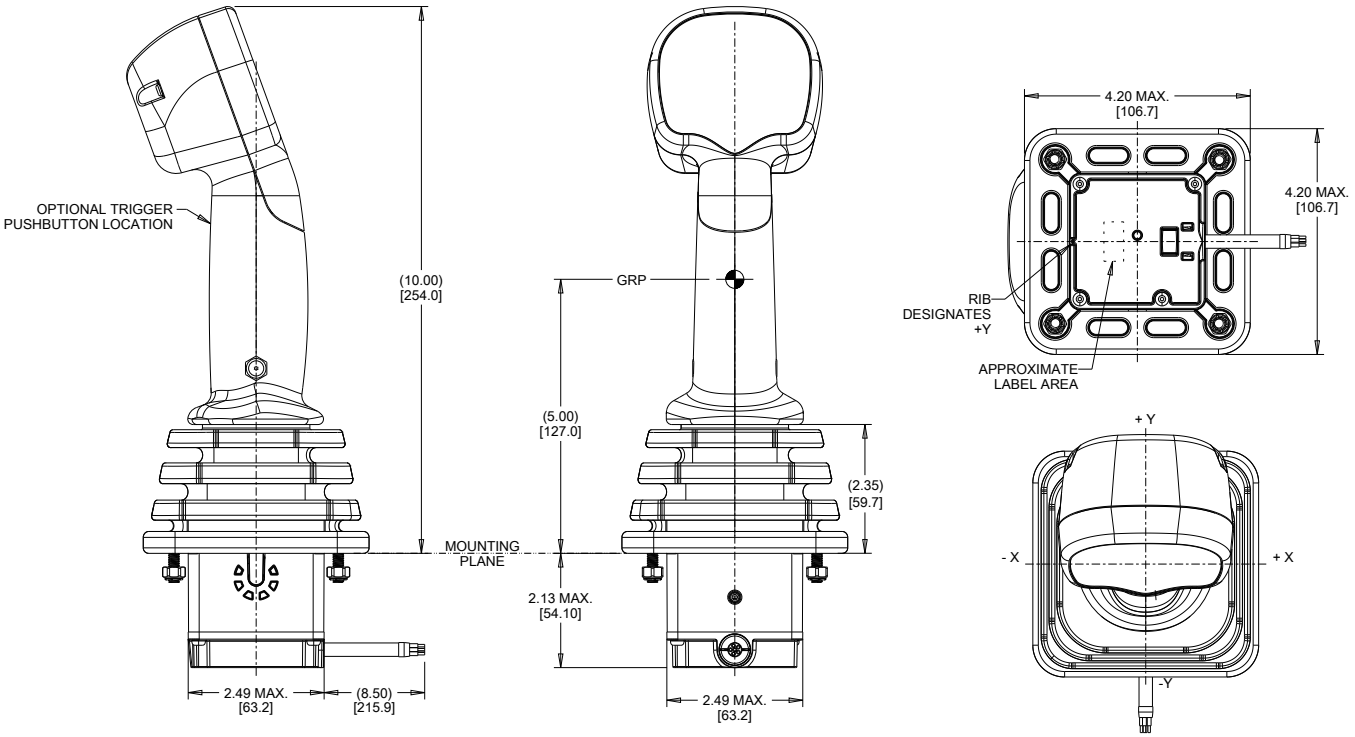
Features:

- **Contactless analog output Hall effect technology**
- **Multiple output options, both analog and digital**
- **Redundant sensors available**
- **Variety of gating options**
- **Modular design**
- **Left or right handed**
- **RoHS compliant**

Benefits:

- **Cost-effective joystick with grip solution**
- **Compact design made for armrest and panel mounting**
- **Mechanical life up to 6 million cycles**
- **Up to 250 lbs. static load strength at grip reference point (GRP)**
- **Electronics sealed to IP68S**
- **Excellent EMI/RFI immunity**

HJLG3-B DRAWINGS



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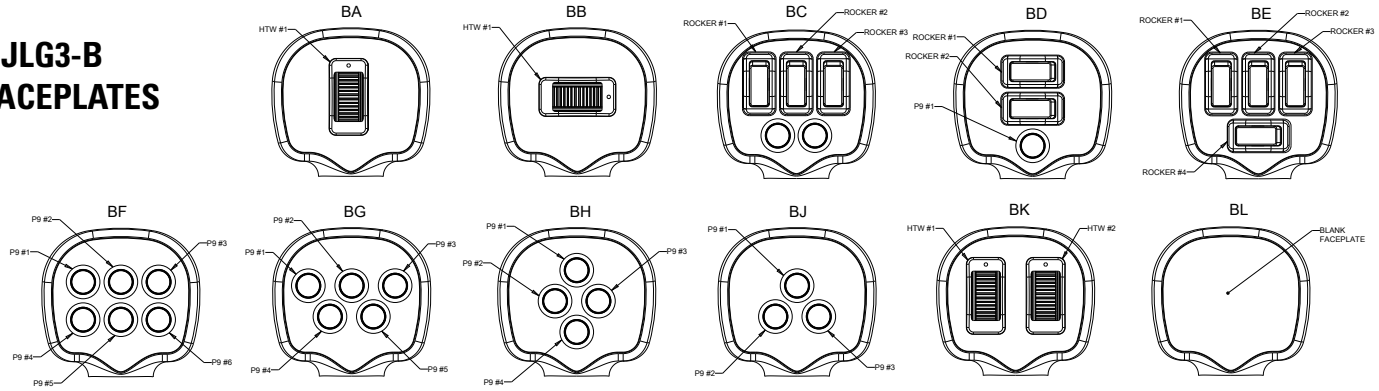
HJLG3-B

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

HJLG3-B FACEPLATES



HJLG3-B PART NUMBER CODE

HJLG3-B – X XX X X XX X X X X Continued Below

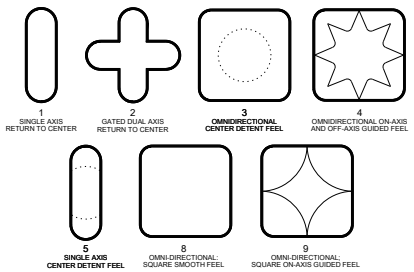
Gating	Joystick Output 1*	Joystick Output 2**	Force	Trigger Pushbutton	Faceplate	K1 Rocker #1 Style - Black***	K1 Rocker #2 Style - Black***	K1 Rocker #3 Style - Black***	K1 Rocker #4 Style - Black***
1. Gated Single Y-Axis; Return to Center	**AA.** 2.5 +/- 2.0VDC	NONE	**2.** Medium	**1.** None	**BA**	**1.** None	**1.** None	**1.** None	**1.** None
2. Gated Dual Axis; Return to Center	**BB.** 2.5 +/- 2.0VDC	2.5 +/- 2.0VDC	**3.** High	**2.** P9 - Black	**BB**	**2.** On-Off	**2.** On-Off	**2.** On-Off	**2.** On-Off
3. Omni-directional; Center Detent Feel	**CC.** 2.5 +/- 2.0VDC	2.5 -/+ 2.0VDC		**3.** P9 - Red	**BC**	**3.** (On)-Off	**3.** (On)-Off	**3.** (On)-Off	**3.** (On)-Off
4. Omni-directional; On-Axis and Off-Axis Guided Feel	**DD.** 2.5 +/- 1.5VDC	NONE			**BD**	**4.** On-Off-On	**4.** On-Off-On	**4.** On-Off-On	**4.** On-Off-On
5. Gated Single Y-Axis; Center Detent Feel	**EE.** 2.5 +/- 1.5VDC	2.5 +/- 1.5VDC			**BE**	**5.** (On)-Off-(On)	**5.** (On)-Off-(On)	**5.** (On)-Off-(On)	**5.** (On)-Off-(On)
8. Omni-directional; Square Smooth Feel	**FF.** 2.5 +/- 1.5VDC	2.5 -/+ 1.5VDC			**BF**				
9. Omni-directional; Square On-Axis Guided Feel	**GG.** 0.5 - 4.5VDC	0.5 - 4.5VDC			**BG**				
	HH. 1.0 - 4.0VDC	1.0 - 4.0VDC			**BH**				
	JJ. CANbus J1939	NONE			**BJ**				
	KK. CANopen	NONE			**BK**				
					BL				

HJLG3-B PART NUMBER CODE CONTINUED

Cont. X X X X X X X X

HTW #1 Roller - Black****	HTW #2 Roller - Black****	P9 #1 Button Color	P9 #2 Button Color	P9 #3 Button Color	P9 #4 Button Color	P9 #5 Button Color	P9 #6 Button Color
1. None	**1.** None	**1.** Red	**1.** Red	**1.** Red	**1.** Red	**1.** Red	**1.** Red
2. Return to Center[1]	**2.** Return to Center	**2.** Black	**2.** Black	**2.** Black	**2.** Black	**2.** Black	**2.** Black
3. Friction[2]	**3.** Friction	**3.** Orange	**3.** Orange	**3.** Orange	**3.** Orange	**3.** Orange	**3.** Orange
4. Return to End[3]	**4.** Return to End	**4.** Yellow	**4.** Yellow	**4.** Yellow	**4.** Yellow	**4.** Yellow	**4.** Yellow
		5. Green	**5.** Green	**5.** Green	**5.** Green	**5.** Green	**5.** Green
1 = HTW-1J12X22		**6.** Blue	**6.** Blue	**6.** Blue	**6.** Blue	**6.** Blue	**6.** Blue
2 = HTWF-1A12X22		**7.** Violet	**7.** Violet	**7.** Violet	**7.** Violet	**7.** Violet	**7.** Violet
3 = HTWE-1A12X22		**8.** Gray	**8.** Gray	**8.** Gray	**8.** Gray	**8.** Gray	**8.** Gray
Contact factory for additional options.		**9.** White	**9.** White	**9.** White	**9.** White	**9.** White	**9.** White
		N. None	**N.** None	**N.** None	**N.** None	**N.** None	**N.** None

HJLG3 GATING ICONS



*Outputs are from the center to the full travel position in each direction. Options "AA", "BB", "CC", "DD", "EE", "FF" provide increased voltage in +x, +y; and decreasing voltage in -x, -y from 1 output per axis. Options "GG" and "HH" provide increasing voltages in all directions (+x, +y, -x, -y) from 2 outputs per axis.

**Options "BB" and "EE" provide redundant output 2 which duplicates output 1.
Options "CC" and "FF" provide redundant output 2 which is inverse of output 1.

*** K1 Rocker Switches: on position or momentary position is up or to the right and ( ) denotes momentary action. Contact factory for rocker legends and additional color options.

**** HTW Roller Switches: positive travel is up or to the right. Contact factory for additional options.

For reference only. Refer to catalog for more details and notations.

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HJLG3-C

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

HJLG3-C

Combine a high performance, sealed, cost-effective JHL joystick with an OTTO G3-C series grip to create an HJLG3-C joystick with grip – a complete solution to fit your application.

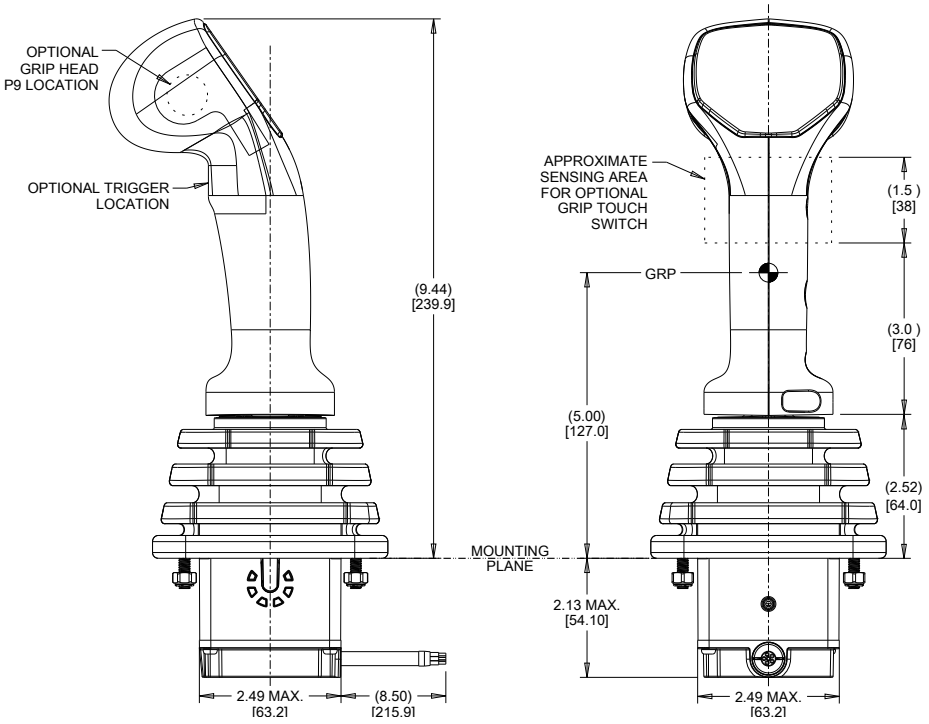
Features:

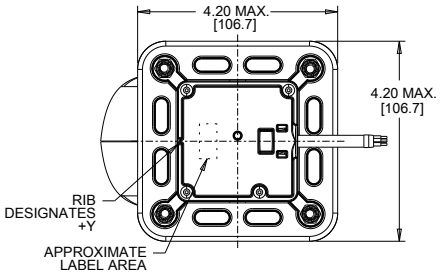
- **Contactless analog output Hall effect technology**
- **Multiple output options, both analog and digital**
- **Z-Axis option**
- **Grip Touch Switch option**
- **Redundant sensors available**
- **Variety of gating options**
- **Modular design**
- **Left or right handed**
- **RoHS compliant**

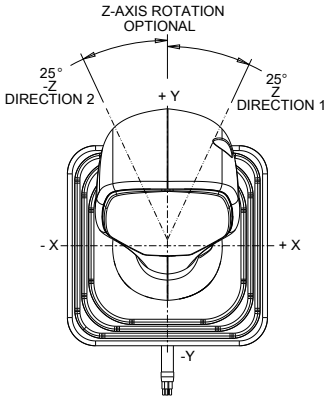
Benefits:

- **Cost-effective joystick with grip solution**
- **Compact design made for armrest and panel mounting**
- **Mechanical life up to 6 million cycles**
- **Up to 250 lbs. static load strength at grip reference point (GRP)**
- **Electronics sealed to IP68S**
- **Excellent EMI/RFI immunity**

HJLG3-C DRAWINGS







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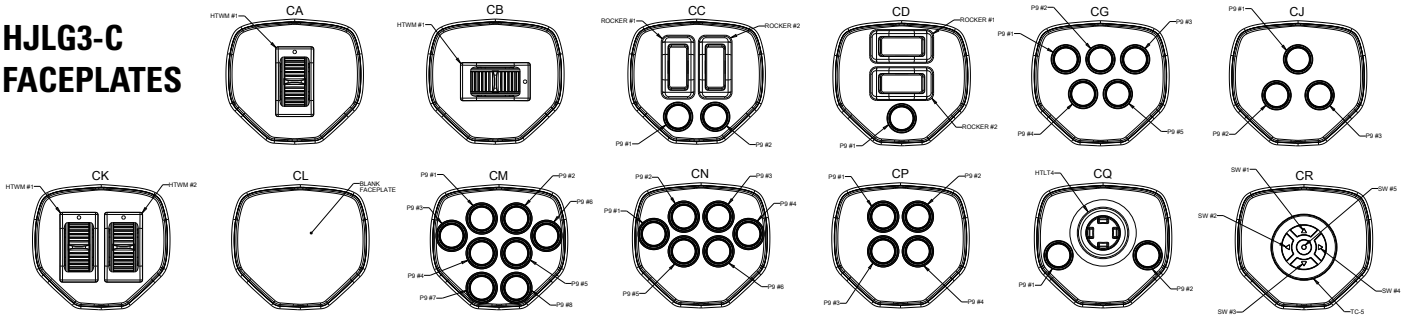
HJLG3-C

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

HJLG3-C FACEPLATES



HJLG3-C PART NUMBER CODE

HJLG3-C – X X XX X X X XX Continued Below

Z-Axis/Grip Touch Switch

1. No Z-Axis with No Grip Touch Switch
2. No Z-Axis with Grip Touch Switch* ① ②
3. Z-Axis (Single Output) with No Grip Touch Switch
4. Z-Axis (Dual Output) with No Grip Touch Switch
5. Z-Axis (Single Output) with Grip Touch Switch* ① ②
6. Z-Axis (Dual Output) with Grip Touch Switch* ① ②

Gating

1. Gated Single Y-Axis; Return to Center
2. Gated Dual Axis; Return to Center
3. Omni-directional; Center Detent Feel
4. Omni-directional; On-Axis and Off-Axis Guided Feel
5. Gated Single Y-Axis; Center Detent Feel
8. Omni-directional; Square Smooth Feel
9. Omni-directional; Square On-Axis Guided Feel

Joystick Output 1** / Joystick Output 2***

	Joystick Output 1**	Joystick Output 2***
AA.	2.5 +/- 2.0VDC	NONE
BB.	2.5 +/- 2.0VDC	2.5 +/- 2.0VDC
CC.	2.5 +/- 2.0VDC	2.5 -/+ 2.0VDC
DD.	2.5 +/- 1.5VDC	NONE
EE.	2.5 +/- 1.5VDC	2.5 +/- 1.5VDC
FF.	2.5 +/- 1.5VDC	2.5 -/+ 1.5VDC
GG.	0.5 - 4.5VDC	0.5 - 4.5VDC
HH.	1.0 - 4.0VDC	1.0 - 4.0VDC
JJ.	CANbus J1939	NONE
KK.	CANopen	NONE

Operate Force

2. Medium
3. High

Trigger in Handle

1. None
2. P9 - Black
3. P9 - Red
4. Single
5. Dual Momentary*
6. Dual Maintained*
7. 2 P9s - Black
8. 2 P9s - Red
9. HTWS - Black③

Grip Head Pushbutton

1. None
2. Left (Black)
3. Left (Red)
4. Right (Black)
5. Right (Red)
6. Left and Right (Black)
7. Left and Right (Red)

Faceplate

CA **CB** **CC** **CD** **CG** **CJ** **CK** **CL** **CM** **CN** **CP** **CQ** **CR**

HJLG3-C PART NUMBER CODE CONTINUED

Cont. X X X X X

K1 Rocker #1 Style - Black④

1. None
2. On-Off
3. (On)-Off
4. On-Off-On
5. (On)-Off-(On)

K1 Rocker #2 Style - Black④

1. None
2. On-Off
3. (On)-Off
4. On-Off-On
5. (On)-Off-(On)

HTWM #1 Roller - Black⑤

1. None
2. Return to Center[1]
3. Return to End[2]

1= HTWM-1J12X22
2= HTWME-1A12X22

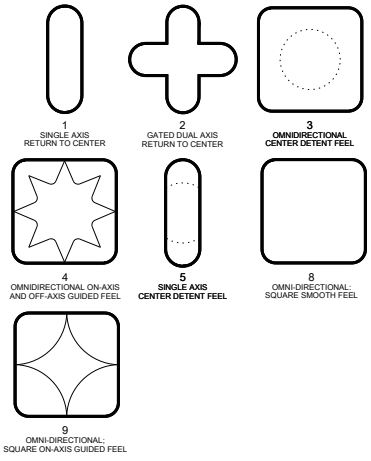
HTWM #2 Roller - Black⑤

1. None
2. Return to Center
3. Return to End

P9 Faceplate Button Color

1. Red
2. Black
3. Orange
4. Yellow
5. Green
6. Blue
7. Violet
8. Gray
9. White
N. None
A. No Button

HJLG3 GATING ICONS



*Grip Touch is not available with trigger option 5 or 6.

**Outputs are from the center to the full travel position in each direction. Options "AA", "BB", "CC", "DD", "EE", "FF" provide increased voltage in +x, +y; and decreasing voltage in -x, -y direction from 1 output per axis. Options "GG" and "HH" provide increasing voltages in all directions (+x, +y, -x, -y) from 2 outputs per axis.

***Options "BB"and "EE" provide redundant output 2 which duplicates output 1. Options "CC"and "FF"provide redundant output 2 which is inverse of output 1.

① Warning On Personal Injury And Any Use As Safety Related: Do not use these products as safety or emergency stop devices or in any application where failure of the product could result in personal injury. Failure to comply with these instructions could result in death or serious injury. OTTO Engineering Inc. makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does OTTO Engineering Inc. assume any liability whatsoever arising out of the application or use of any product. The product sold hereunder by OTTO has been subject to limited testing and should not be used in conjunction with detection of the presence of an operator on or with any equipment that is in any way safety related. OTTO does not accept any liability for incidental, consequential damages, personal injury or loss of life for any claims against the use of this product.

② User Caution: To guarantee the intended operating characteristics of the capacitive switches, the zone around the switch must be free from materials which can affect switch performance. Those materials include but are not limited to water, cleaning solutions, and other conductive materials. Failure to maintain this contaminant free zone may result in unintended actuation of the capacitive switch.

③ HTWS Trigger Switches: positive travel is to the right. Contact factory for additional options.

④ K1 Rocker Switches: on position or momentary position is up or to the right and ( ) denotes momentary action. Contact factory for rocker legends and additional color options.

⑤ HTWM Roller Switches: positive travel is up or to the right. Contact factory for additional options.

For reference only. Refer to catalog for more details and notations.

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HJLG3-CK

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

HJLG3-CK

Combine a high performance, sealed, cost-effective JHL joystick with an OTTO G3-CK series grip to create an HJLG3-CK joystick with grip – a complete solution to fit your application.

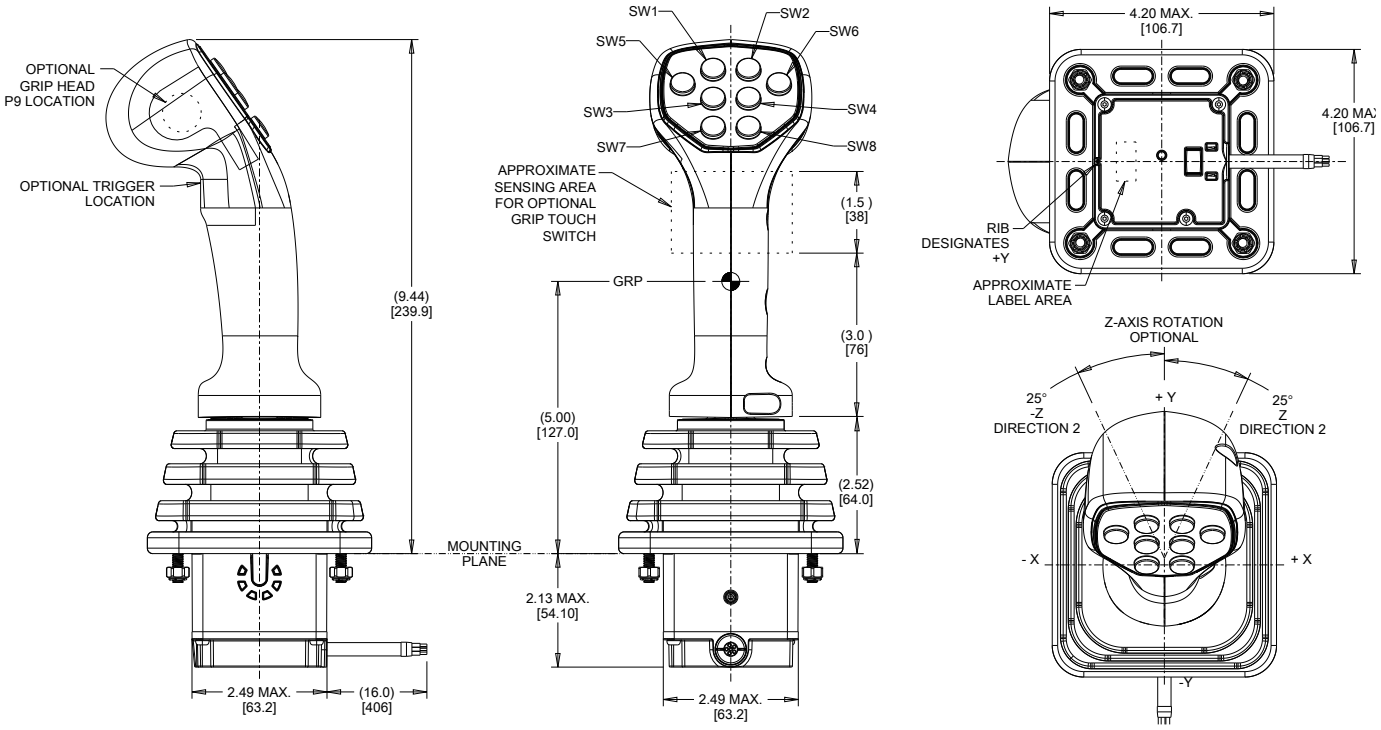
Features:

- Contactless analog output Hall effect technology
- Multiple output options, both analog and digital
- Z-Axis option
- Grip Touch Switch option
- Redundant sensors available
- Variety of gating options
- Modular design
- Left or right handed
- RoHS compliant

Benefits:

- Cost-effective joystick with grip solution
- Compact design made for armrest and panel mounting
- Mechanical life up to 6 million cycles
- Up to 250 lbs. static load strength at grip reference point (GRP)
- Electronics sealed to IP68S
- Excellent EMI/RFI immunity

HJLG3-CK DRAWINGS



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HJLG3-CK

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

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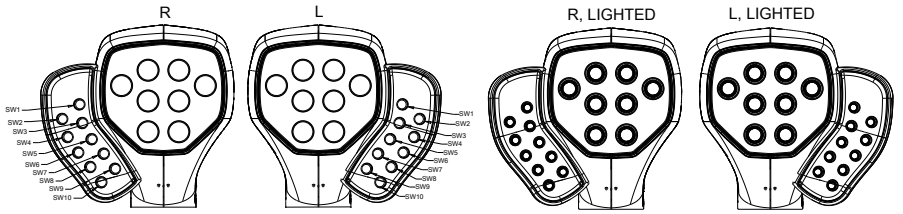
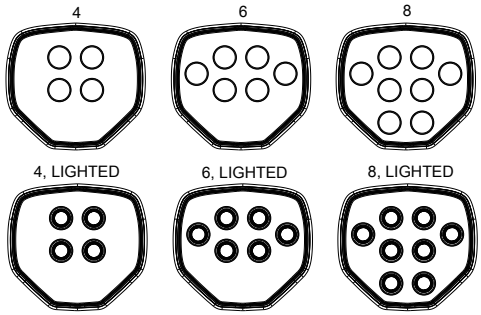
HJLG3-CK KEYPAD CONFIGURATIONS



SIDE KEYPAD CONFIGURATIONS



CENTER KEYPAD CONFIGURATIONS

HJLG3-CK PART NUMBER CODE

HJLG3-CK – X X XX X X X Continued Below

Z-Axis/Grip Touch Switch*

1. No Z-Axis with No Grip Touch Switch
2. No Z-Axis with Grip Touch Switch** ① ②
3. Z-Axis (Single Output) with No Grip Touch Switch
4. Z-Axis (Dual Output) with No Grip Touch Switch
5. Z-Axis (Single Output) with Grip Touch Switch** ① ②
6. Z-Axis (Dual Output) with Grip Touch Switch** ① ②

Gating

1. Gated Single Y-Axis; Return to Center
2. Gated Dual Axis; Return to Center
3. Omni-directional; Center Detent Feel
4. Omni-directional; On-Axis and Off-Axis Guided Feel
5. Gated Single Y-Axis; Center Detent Feel
8. Omni-directional; Square Smooth Feel
9. Omni-directional; Square On-Axis Guided Feel

Joystick Output 1* / Joystick Output 2****

	Output 1***	Output 2****
AA.	2.5 +/- 2.0VDC	NONE
BB.	2.5 +/- 2.0VDC	2.5 +/- 2.0VDC
CC.	2.5 +/- 2.0VDC	2.5 -/+ 2.0VDC
DD.	2.5 +/- 1.5VDC	NONE
EE.	2.5 +/- 1.5VDC	2.5 +/- 1.5VDC
FF.	2.5 +/- 1.5VDC	2.5 -/+ 1.5VDC
GG.	0.5 - 4.5VDC	0.5 - 4.5VDC
HH.	1.0 - 4.0VDC	1.0 - 4.0VDC
JJ.	CANbus J1939	NONE
KK.	CANopen	NONE

Operate Force

2. Medium
3. High

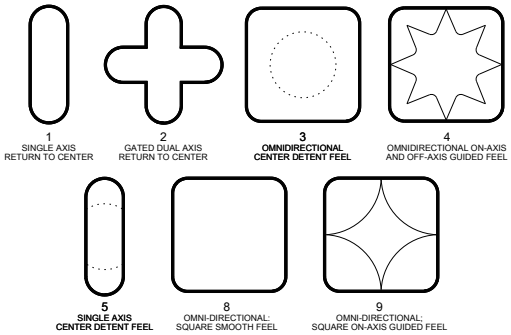
Trigger in Handle*

1. None
2. P9 - Black
3. P9 - Red
4. Single
5. Dual Momentary
6. Dual Maintained
7. 2 P9s - Black
8. 2 P9s - Red
9. HTWS - Black③

Grip Head Pushbutton*

1. None
2. Left (Black)
3. Right (Black)
4. Left and Right (Black)
5. Left (Red)
6. Right (Red)
7. Left and Right (Red)

HJLG3 GATING ICONS



HJLG3-CK PART NUMBER CODE CONTINUED

Cont. X X X

Faceplate Keypad Configuration

4. 4 Buttons
6. 6 Buttons
8. 8 Buttons

Side Keypad Configuration

1. None
L. Left Hand
R. Right Hand

Back Lighting ④

N. None
L. Lighted Faceplate Keypad & Side Keypad
F. Lighted Faceplate Keypad Only
S. Lighted Side Keypad Only

*Wires from Z-Axis, Trigger, Head Position and Grip Touch Switch will be bundled in a shrink tube.

**Grip Touch Switch is not available with trigger option 5 or 6.

***Outputs are from the center to the full travel position in each direction. Options "AA", "BB", "CC", "DD", "EE", "FF" provide increased voltage in +x, +y; and decreasing voltage in -x, -y direction from 1 output per axis. Options "GG" and "HH" provide increasing voltages in all directions (+x, +y, -x, -y) from 2 outputs per axis.

****Options "BB" and "EE" provide redundant output 2 which duplicates output 1. Options "CC" and "FF" provide redundant output 2 which is inverse of output 1.

① Warning On Personal Injury And Any Use As Safety Related: Do not use these products as safety or emergency stop devices or in any application where failure of the product could result in personal injury. Failure to comply with these instructions could result in death or serious injury. OTTO Engineering Inc. makes no warranty, representation, or guarantee regarding the information contained herein or the suitability of its products and services for any particular purpose, nor does OTTO Engineering Inc. assume any liability whatsoever arising out of the application or use of any product. The product sold hereunder by OTTO has been subject to limited testing and should not be used in conjunction with detection of the presence of an operator on or with any equipment that is in any way safety related. OTTO does not accept any liability for incidental, consequential damages, personal injury or loss of life for any claims against the use of this product.

② User Caution: To guarantee the intended operating characteristics of the capacitive switches, the zone around the switch must be free from materials which can affect switch performance. Those materials include but are not limited to water, cleaning solutions, and other conductive materials. Failure to maintain this contaminant free zone may result in unintended actuation of the capacitive switch.

③ HTWS Trigger Switches: positive travel is to the right. Contact factory for additional options.

④ White LED's

For reference only. Refer to catalog for more details and notations.

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847-428-7171

HJLG3-D

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

PRODUCT BULLETIN

HJLG3-D

Combine a high performance, sealed, cost-effective JHL joystick with an OTTO G3-D series grip to create an HJLG3-D joystick with grip – a complete solution to fit your application.

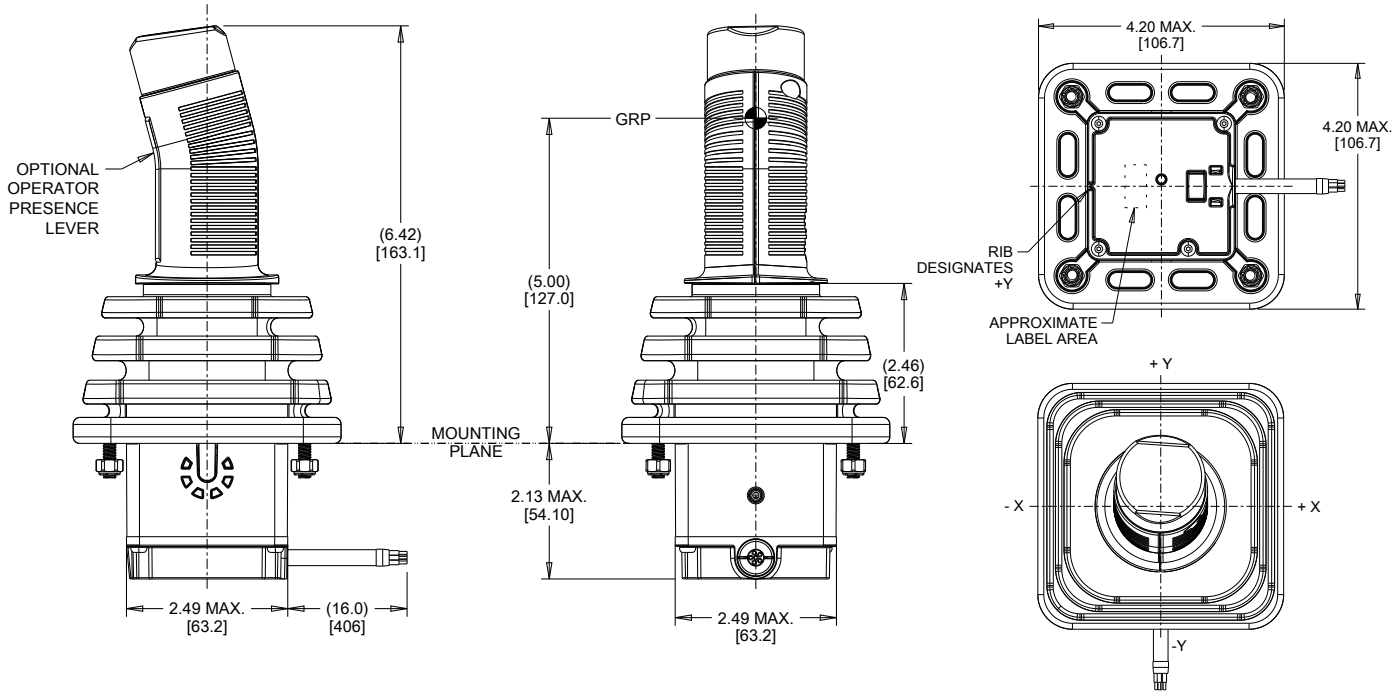
Features:

- **Contactless analog output Hall effect technology**
- **Multiple output options, both analog and digital**
- **Redundant sensors available**
- **Variety of gating options**
- **RoHS compliant**

Benefits:

- **Cost-effective joystick with grip solution**
- **Compact design made for armrest and panel mounting**
- **Mechanical life up to 6 million cycles**
- **Up to 250 lbs. static load strength at grip reference point (GRP)**
- **Electronics sealed to IP68S**
- **Excellent EMI/RFI immunity**

HJLG3-D DRAWINGS



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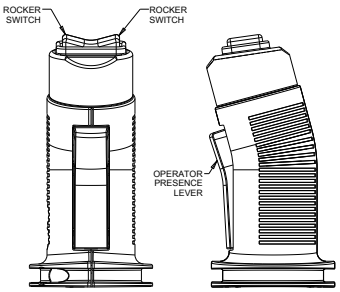
HJLG3-D

MEDIUM HALL EFFECT JOYSTICK WITH GRIP OPTIONS

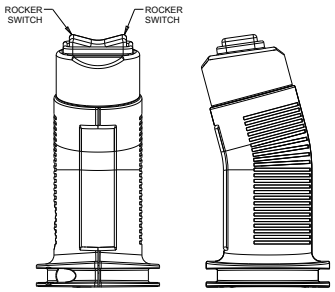
PRODUCT BULLETIN

HJLG3-D FACEPLATE OPTIONS

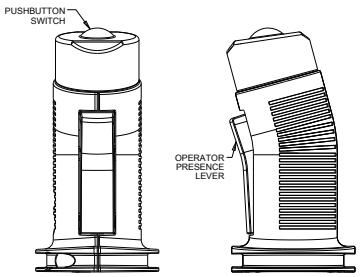
ROCKER AND OPERATOR PRESENCE



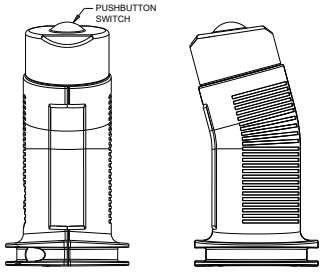
ROCKER



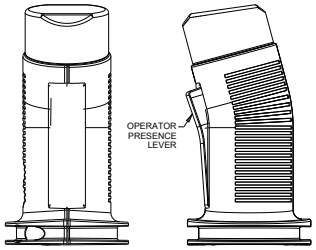
ONE PUSHBUTTON AND OPERATOR PRESENCE



ONE PUSHBUTTON



NO PUSHBUTTON AND OPERATOR PRESENCE



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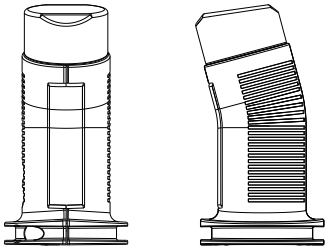


HJLG3-D PART NUMBER CODE

HJLG3-D – X XX X XX X

Gating

1. Gated Single Y-Axis; Return to Center
2. Gated Dual Axis; Return to Center
3. Omni-directional; Center Detent Feel
4. Omni-directional; On-Axis and Off-Axis Guided Feel
5. Gated Single Y-Axis; Center Detent Feel
8. Omni-directional; Square Smooth Feel
9. Omni-directional; Square On-Axis Guided Feel

Joystick Output 1* / Joystick Output 2**

	Joystick Output 1*	Joystick Output 2**
AA.	2.5 +/- 2.0VDC	NONE
BB.	2.5 +/- 2.0VDC	2.5 +/- 2.0VDC
CC.	2.5 +/- 2.0VDC	2.5 -/+ 2.0VDC
DD.	2.5 +/- 1.5VDC	NONE
EE.	2.5 +/- 1.5VDC	2.5 +/- 1.5VDC
FF.	2.5 +/- 1.5VDC	2.5 -/+ 1.5VDC
GG.	0.5 - 4.5VDC	0.5 - 4.5VDC
HH.	1.0 - 4.0VDC	1.0 - 4.0VDC
JJ.	CANbus J1939	NONE
KK.	CANopen	NONE

Operate Force

1. Low
2. Medium
3. High

Faceplate Options

11. Rocker (On)-Off-(On) and Operator Presence
22. Rocker (On)-Off-(On) and No Operator Presence
33. One Pushbutton and Operator Presence
44. One Pushbutton and No Operator Presence
55. No Pushbutton, No Rocker and Operator Presence
66. No Pushbutton, No Rocker and No Operator Presence

OP & PB Configuration

1. None①
2. Normally Open (NO)
3. 2 Circuit (NO/NC)②
4. 2 Circuit (NO/NC)③

① Can only be used with configurations 22 and 66.

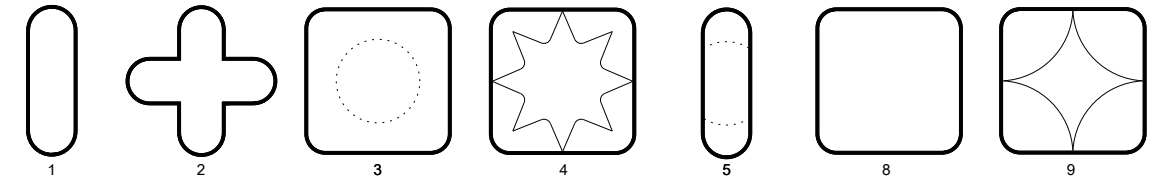
② For options 11 (Operator Presence), 44, 55.

③ For option 33.

*Outputs are from the center to the full travel position in each direction. Options "AA", "BB", "CC", "DD", "EE", "FF" provide increased voltage in +x, +y; and decreasing voltage in -x, -y direction from 1 output per axis. Options "GG" and "HH" provide increasing voltages in all directions (+x, +y, -x, -y) from 2 outputs per axis.

**Options "BB" and "EE" provide redundant output 2 which duplicates output 1. Options "CC" and "FF" provide redundant output 2 which is inverse of output 1.

HJLG3 GATING ICONS



1 — SINGLE AXIS ETURN TO CENTER

2 — GATED DUAL AXIS RETURN TO CENTER

3 — **OMNIDIRECTIONAL CENTER DETENT FEEL**

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

5 — **SINGLE AXIS CENTER DETENT FEEL**

8 — OMNI-DIRECTIONAL: SQUARE SMOOTH FEEL

9 — OMNI-DIRECTIONAL; SQUARE ON-AXIS GUIDED FEEL

For reference only. Refer to catalog for more details and notations.

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