

HEAVY EQUIPMENT & MATERIAL HANDLING GRIPS

OTTO Controls manufactures a wide range of styles in its G3 Universal Grips series. G3 grips deliver high performance and long-lasting durability and are ideal for vehicles and machinery in construction, agriculture, material handling, mining and many other commercial and industrial applications.

All grips have a modular design and accommodate OTTO JH, JHL and JHM series Hall effect joysticks. Visit the Joystick Bases

and Grips section of the website to see integrated joystick/grip assemblies.

Customize OTTO grips to meet unique requirements or choose from many standard faceplates and features. Grips come with a variety of pushbuttons, rockers, toggles and Hall effect switches. Triggers are available on most grip handles.

G3 UNIVERSAL AND CONTROL GRIP MODELS



G3-A: smaller grip with up to four switches on its faceplates and has a Z-axis option



G3-CK: medium, ergonomic grip with eight faceplate pushbuttons and an optional side keypad



G3-B: larger grip that fits as many as six faceplate switches and has a Z-axis option



G3-D: control grip that can be configured with a rocker or pushbutton at the top of the handle and an Operator Presence switch



G3-C: medium, ergonomic grip with more switch content, a Z-axis option and other advanced functions



G3-E: control grip with five or seven pushbuttons and a rocker on the handle



G3-M: medium grip that fits up to four switches on its faceplate



OTTO's multi-function, compact G3-E control grip is equipped with a proportional Hall effect rocker and either five or seven momentary pushbuttons on the handle. The rocker and pushbuttons are sealed to IP68S and last up to 3 million cycles.

Left- and right-handed orientations of the grip often work together within the same control seat. The G3-E operates standalone or mounted on a joystick with a wide selection of gating options. The JHM joystick comes standard with the G3-E as handles 61 and 62 for the 5-button models and handles 63 and 64 for the 7-button models. (Refer to the JHM product pages.)

The G3-E control grip is ideal for heavy equipment and vehicles used in forestry, construction and related markets.

Features:

- Available as a standard grip on the OTTO JHM bottom-mount Hall effect joystick
- Left- and right-handed models
- Switches sealed watertight to IP68S and have high cycle life
- Variety of rocker output options
- RoHS compliant

Standard Characteristics/Ratings:

ELECTRICAL RATINGS:

U2 Hall Effect Rocker

Rated @ Vcc = 5V @ 25°C
Load = 1ma (4-7Ω)

	Units	Min	Typ	Max
Supply Voltage	VDC	4.50	5.00	5.50
Output Voltage +Z, -Z 0° Deflection	VDC @5V Vcc	-0.25	N/A	0.25
Output at Full Travel +Z Direction	VDC @5V Vcc	-0.25	N/A	0.25
Output at Full Travel -Z Direction	VDC @5V Vcc	-0.25	N/A	0.25
Supply Current B=0, Vcc=5V, Io=0	mA	N/A	N/A	10
Output Source Current Limit B=X*, Vo=0	mA	-1.2	N/A	1.2

Pushbuttons

Electrical Rating @ 12 VDC	50mA Resistive Load
Circuit	SPST-NO

MECHANICAL RATINGS

U2 Hall Effect Rocker

Mechanical Life	2,500,000 Cycles			
Full Forward to Full Back				
Operating Force at 25° C	OZ	3.5	6.5	9.5
Maximum Allowable Radial Load	Lbs	N/A	N/A	30
Full Travel Angle (From Center)	Degree	15	17	19
Minimum Return Force	OZ	2.0	N/A	N/A

Pushbuttons

Mechanical Life	3,000,000 Cycles			
Operating Force at 25° C	OZ	4	8	12
	N	1.1	2.2	2.3

ENVIRONMENTAL:

Operating Temperature:	Units	Min	Typ	Max
	°C	-40	20	85

U2 Hall Effect Rocker

Electronics Enclosure Design	IP68S
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Pushbuttons

Electronics Enclosure Design	IP68S
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MATERIALS:

Wires	26 AWG, MIL-W-22759/33, Color Per Schematic
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G3-E PART NUMBER CODE

G3-E	X	X
Configuration		Grip Orientation
1. 5-Button		1. Right
2. 7-Button		2. Left

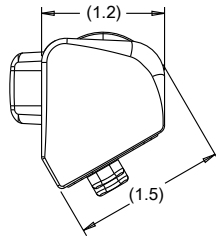
XX		
Rocker Output 1*		Rocker Output 2**
AA. 2.5 +/- 2.0 Vdc		None
BB. 2.5 +/- 2.0 Vdc		2.5 +/- 2.0 Vdc
CC. 2.5 +/- 2.0 Vdc		2.5 +/- 2.0 Vdc
DD. 2.5 +/- 1.5 Vdc		None
EE. 2.5 +/- 1.5 Vdc		2.5 +/- 1.5 Vdc
FF. 2.5 +/- 1.5 Vdc		2.5 +/- 1.5 Vdc
GG. 1.0 - 4.0 Vdc		1.0 - 4.0 Vdc
HH. 0.5 - 4.5 Vdc		0.5 - 4.5 Vdc

X	X
Operate Force	Termination
1. Standard	1. Flying Leads

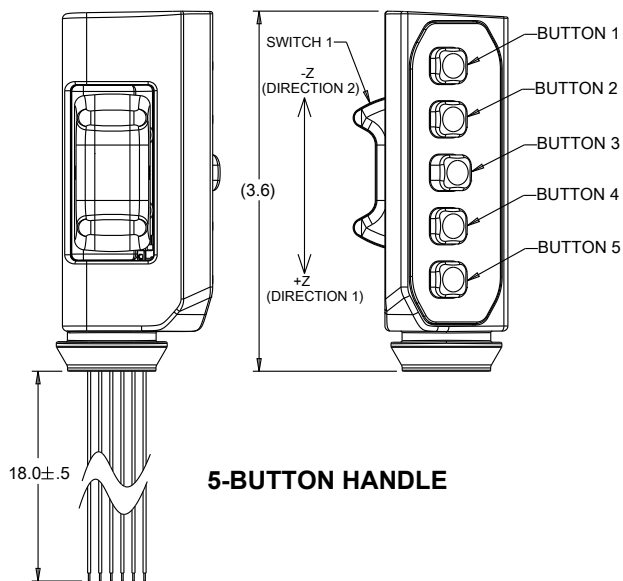
* Outputs are from the center position to the full travel position in each direction. Options "AA" "BB" "CC" "DD" "EE" "FF" provide increasing voltage in direction 1 and decreasing voltage in direction 2 from a single output. Option "GG" and "HH" provide increasing voltages in both directions from two separate outputs.

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

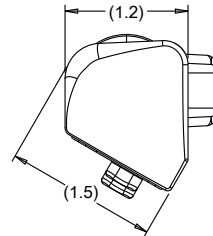
G3-E ORIENTATIONS



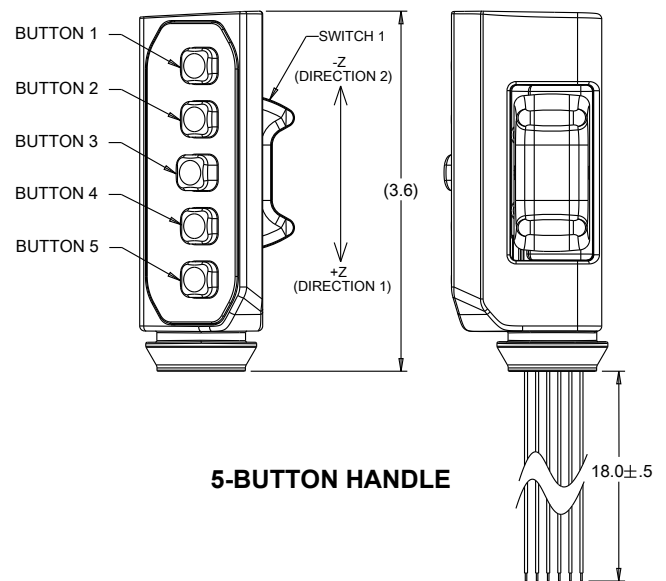
GRIP ORIENTATION LEFT



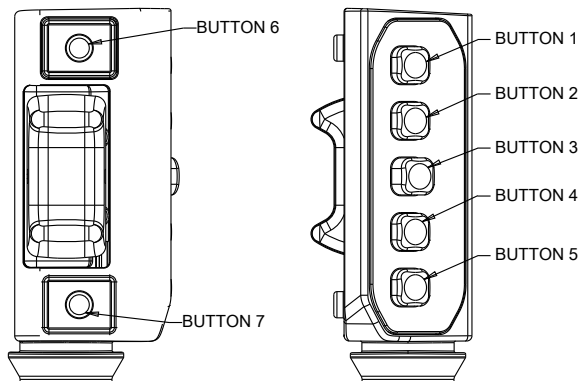
5-BUTTON HANDLE



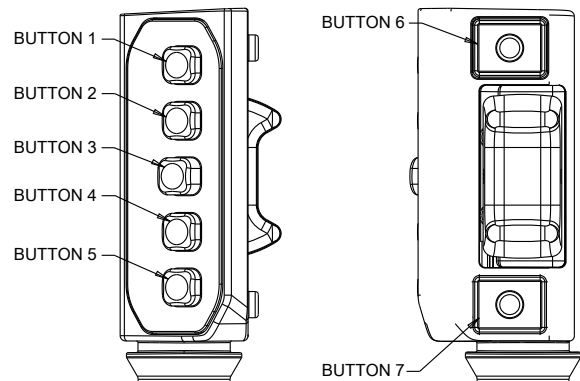
GRIP ORIENTATION RIGHT



5-BUTTON HANDLE



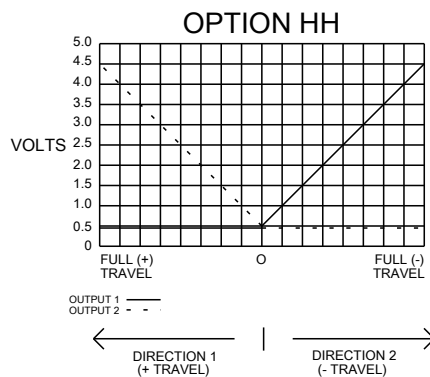
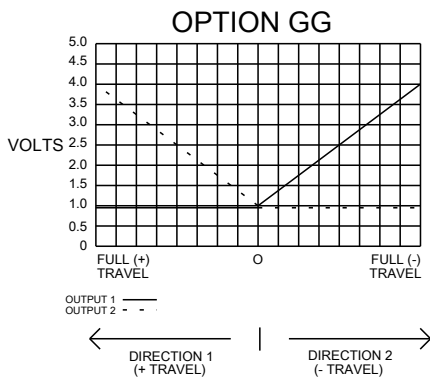
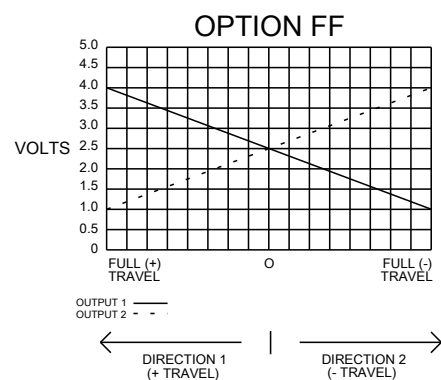
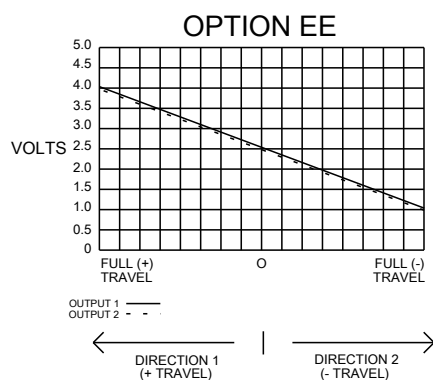
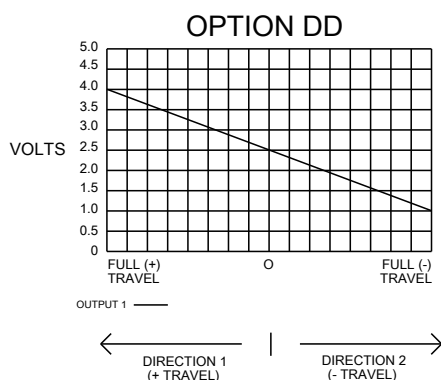
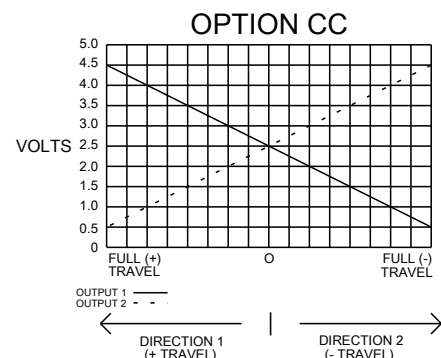
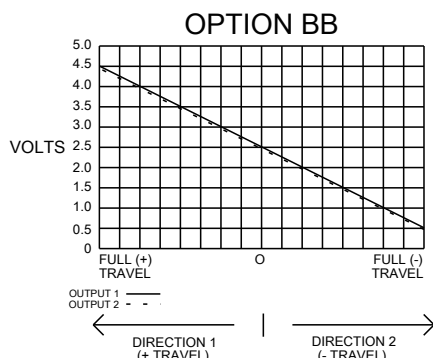
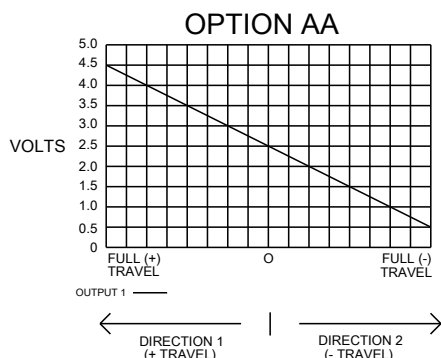
7-BUTTON HANDLE



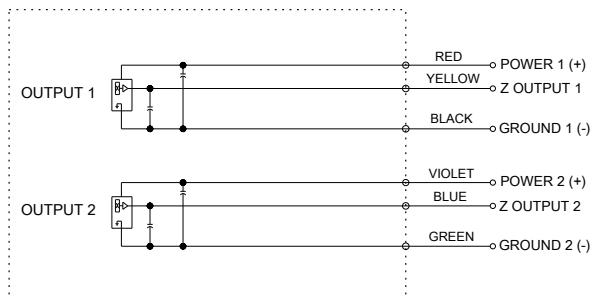
7-BUTTON HANDLE

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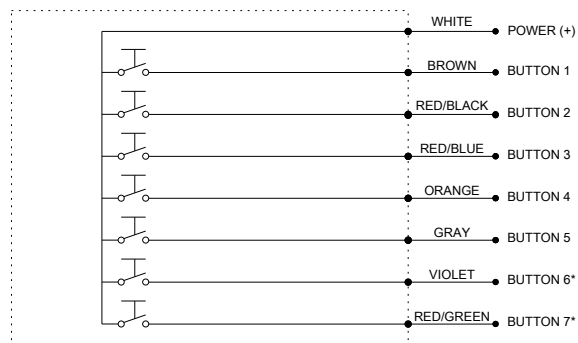
ROCKER OUTPUT



G3-E CONTROL GRIP SCHEMATICS



SWITCH 1 SCHEMATIC
OUTPUT 2 IS NOT PRESENT IN ALL CONFIGURATIONS



PUSHBUTTON SCHEMATIC
*(BUTTONS 6 AND 7 NOT PRESENT IN THE 5-BUTTON HANDLE)