

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

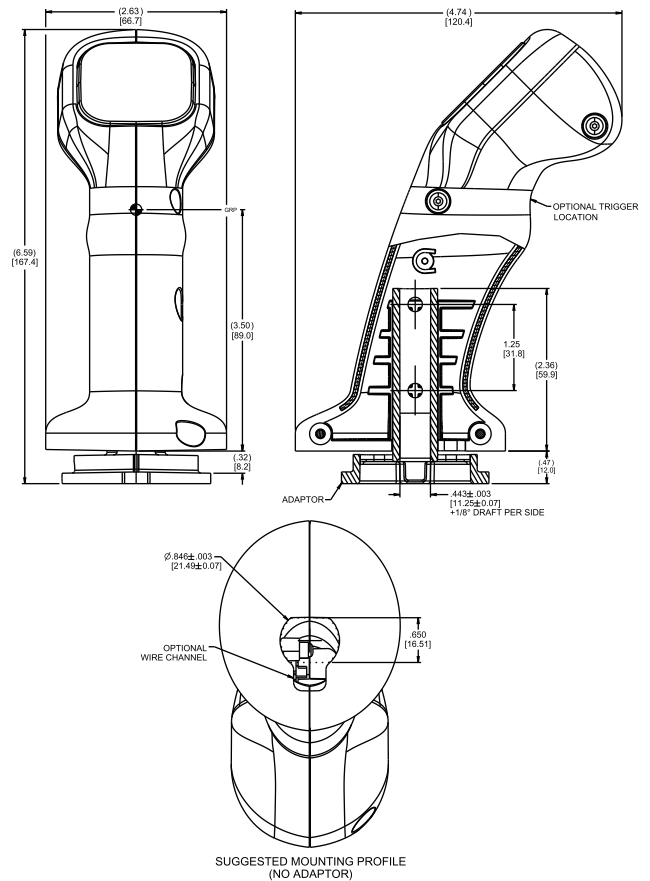


G3-M grip with
G2 style faceplate

G3-M grip with
J2 style faceplate
customized with
Large FNR KIS

G3-M grip with
G2 style faceplate
customized with
HWTS

G3-M DRAWINGS



The G3-M is medium-sized, rugged grip that offers numerous standard faceplates and hundreds more custom switch configurations in a compact package. The ergonomically designed grip fits comfortably in operators' hands for left- or right-handed operation, with or without gloves. A trigger on the back of the handle is optional.

The grip can be panel mounted as a fixed control grip or combined with a JH, JHL or JHM series joystick for an integrated control solution. When combined with the JHL joystick, a bent shaft option angles the grip 5, 10 or 15 degrees from vertical.

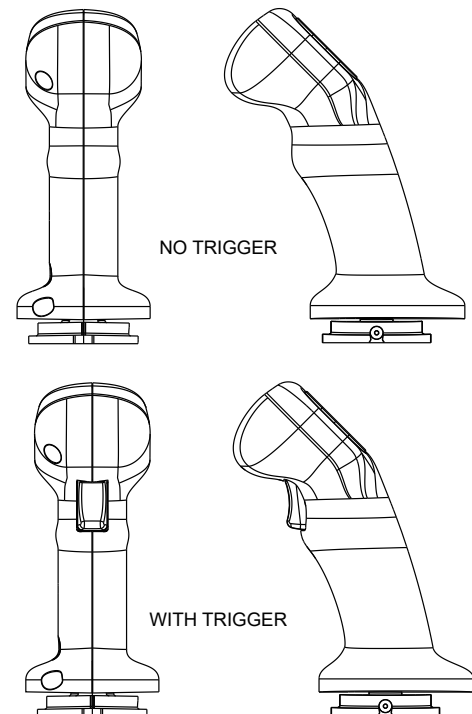
The grip's field-replaceability option enables quick and easy grip replacements later without long, costly machine downtime.

Features:

- Compatible with OTTO JH, JHL and JHM series Hall effect joysticks
- 25 standard faceplates oriented from 0, 90 and 180 degrees
- Customize with a wide variety of pushbuttons, rockers, toggles and Hall effect switches
- Grips are optionally field replaceable*
- Bent shaft option when combined with a JHL joystick*
- Modular design provides high level of customization, reduces need for tooling charges
- Various mounting and termination styles

*Contact factory for ordering information

TRIGGER CONFIGURATIONS



HIGH-PERFORMANCE, HEAVY EQUIPMENT AND MATERIAL HANDLING GRIPS

Standard Characteristics/Ratings:				
ELECTRICAL RATINGS				
HTLT4 Switches				
Rated at Vcc = 5V @ 20°C LOAD = 1ma (4.7KΩ)	Units	Min	Typ	Max
Supply Voltage	VDC	4.50	5.00	5.50
Output Voltage, +Y, -Y, +X, -X; 0° Deflection	VDC @5V Vcc	2.25	2.50	2.75
Output At Full Travel -X, -Y Direction	VDC @5V Vcc	0.25	0.50	0.75
Output At Full Travel +X, +Y Direction	VDC @5V Vcc	4.25	4.50	4.75
Supply Current B=0, Vcc=5v, Iout=0	mA	NA	10	12
Output Impedance	Ω	NA	1.0	NA
HTWM Switches				
Rated at Vcc = 5V @ 25°C LOAD = 1ma (4.7KΩ)	Units	Min	Typ	Max
Supply Voltage	VDC	4.50	5.00	5.50
Output Voltage at Center	VDC @5V Vcc	2.25	2.50	2.75
Output Voltage Full Travel Direction 1 (+ Travel)	VDC @5V Vcc	4.25	4.50	4.55
Output Voltage Full Travel Direction 1 (- Travel)	VDC @5V Vcc	0.45	0.50	0.75
Supply Current B=0, Vcc=5v, Iout=0	mA	NA	NA	10
HTWS Switches				
Rated at Vcc = 5V @ 25°C LOAD = 1ma (4.7KΩ)	Units	Min	Typ	Max
Supply Voltage	VDC	4.50	5.00	5.50
Output Voltage at Center	VDC @5V Vcc	2.25	2.50	2.75
Output Voltage Full Travel Direction 1 (+ Travel)	VDC @5V Vcc	4.25	4.50	4.75
Output Voltage Full Travel Direction 1 (- Travel)	VDC @5V Vcc	0.25	0.50	0.75
Supply Current B=0, Vcc=5v, Iout=0	mA	NA	NA	20
K1S Switches				
Electrical Rating	Logic Level, 10 mA @ 5VDC max (logic level ratings void if logic level load(s) exceeded at any time.)			
Electrical Life	1,000,000 Cycles			
P9 Switches & Trigger				
Electrical Rating	5 AMP Resistive Load @ 28 VDC 2 AMP Inductive Load @ 28 VDC		10 mA Resistive Load @ 5 VDC	
Electrical Life	25,000 Cycles		1,250,000 Cycles	

Standard Characteristics/Ratings:					
MECHANICAL RATINGS					
HTLT4 Switches*					
Mechanical Life - Return to Center; Full Forward To Full Back		3,000,000 Cycles			
HTWM Switches*					
Mechanical Life - Return to Center; Full Forward To Full Back		3,000,000 Cycles			
HTWS Switches*					
Mechanical Life - Full Forward To Full Back		3,000,000 Cycles			
Maximum Allowable Radial Load	LBS	NA	NA	15	
K1S Switches					
Mechanical Life		1,000,000 Cycles			
P9 Switches & Trigger					
Mechanical Life		1,250,000 Cycles			
ENVIRONMENTAL		Units	Min	Typ	Max
Operating Temperature		°C	-40	20	85
HTLT4 Switches					
Electronic Enclosure Design	ISO 20653, IP6K8S - Dusttight, continuous immersion, 1 meter for 31 minutes, stationary during test(s)				
HTWM Switches					
Electronic Enclosure Design	ISO 20653, IP6K8S - Dusttight, continuous immersion, 1 meter for 31 minutes, stationary during test(s)				
HTWS Switches					
Electronic Enclosure Design	ISO 20653, IP6K8S - Dusttight, continuous immersion, 1 meter for 31 minutes, stationary during test(s)				
K1S Switches					
Electronic Enclosure Design	ISO 20653, IP66/IPK8S - Dusttight, continuous immersion, 1 meter for 31 minutes, stationary during test(s)				
P9 Switches & Trigger					
Switch Seal Integrity	ISO 20653, IP6K8S, IP69K - Dusttight, continuous immersion, 1 meter for 31 minutes, stationary during test(s)				
Grip					
Seal Integrity	Unsealed				
MATERIAL					
Handle	Thermoplastic, Glass Reinforced, Black				
Faceplate	Thermoplastic, Glass Reinforced, Black				
Adaptor	Thermoplastic, Glass Reinforced, Black				
Wires	22AWG, UL style 1569, (20" long)				
* Positive travel is up or to the right. Contact factory for additional options.					

* Positive travel is up or to the right. Contact factory for additional options.

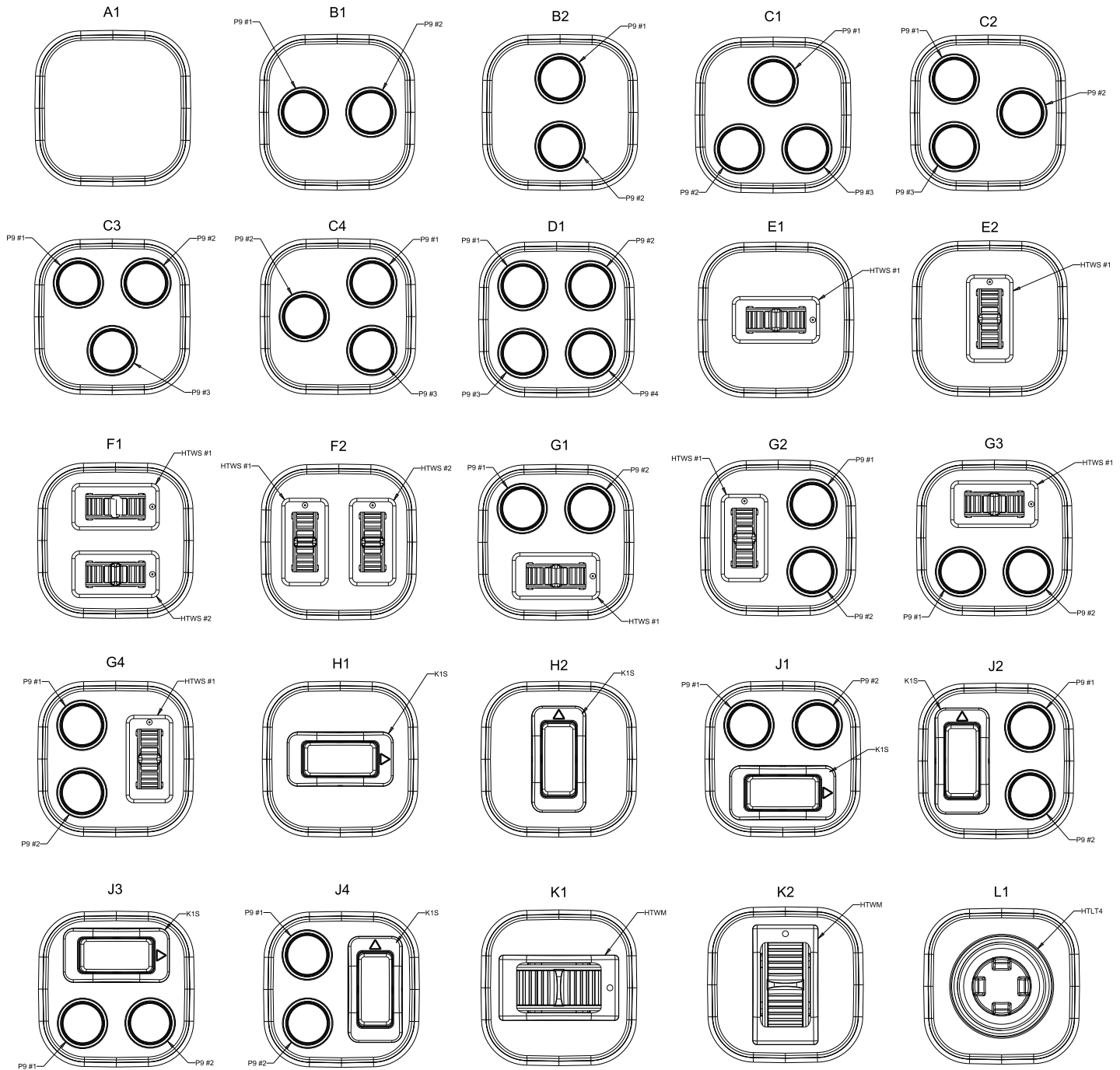
G3-M PART NUMBER CODE

G3-M	X	XX	X	X	X	X	X	
	Configuration	Faceplate	Trigger	K1S Rocker Style-Black*	P9 Button #1 Color	P9 Button #2 Color	P9 Button #3 Color	P9 Button #4 Color
	1. Grip with Adaptor	See Switch Configuration on next page	1. None	1. None	1. Red	1. Red	1. Red	1. Red
	2. Grip without Adaptor		2. Yes	2. ON-OFF	2. Black	2. Black	2. Black	2. Black
				3. (ON)-OFF	3. Orange	3. Orange	3. Orange	3. Orange
				4. ON-OFF-ON	4. Yellow	4. Yellow	4. Yellow	4. Yellow
				5. (ON)-OFF-(ON)	5. Green	5. Green	5. Green	5. Green
				6. ON-ON-ON	6. Blue	6. Blue	6. Blue	6. Blue
				7. Violet	7. Violet	7. Violet	7. Violet	
				8. Gray	8. Gray	8. Gray	8. Gray	8. Gray
				9. White	9. White	9. White	9. White	9. White
				N. None	N. None	N. None	N. None	N. None

* () Denotes Momentary Action. ON Position or Momentary Position is up or to the right.

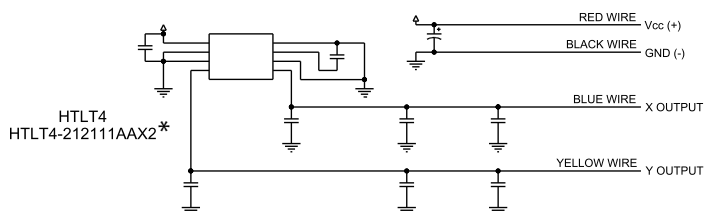
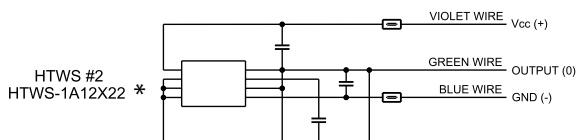
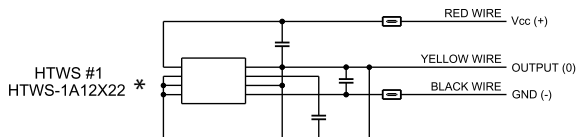
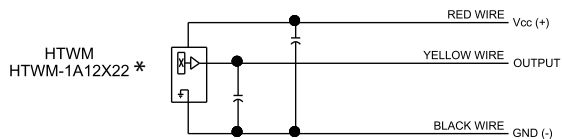
HIGH-PERFORMANCE, HEAVY EQUIPMENT AND MATERIAL HANDLING GRIPS

G3-M SWITCH CONFIGURATIONS

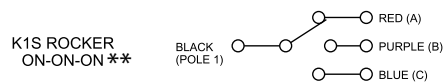
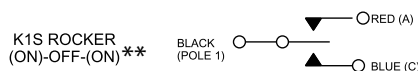
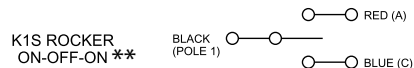
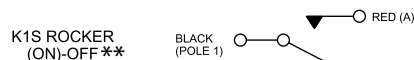
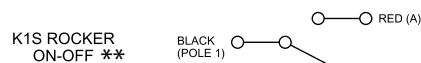
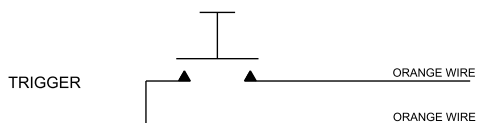
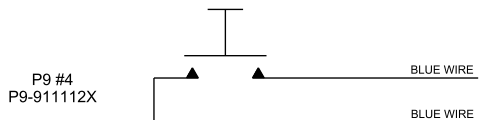
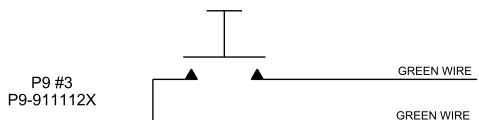
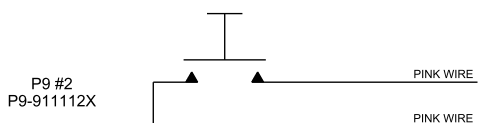
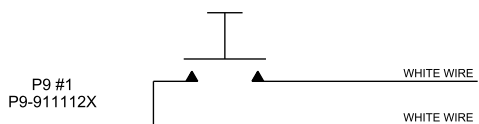


HIGH-PERFORMANCE, HEAVY EQUIPMENT AND MATERIAL HANDLING GRIPS

G3-M SCHEMATICS

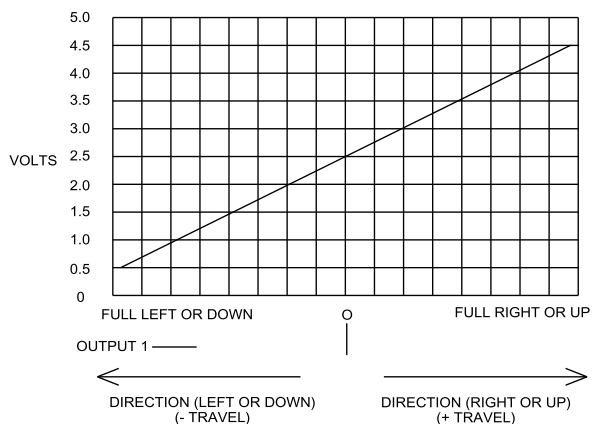


*POSITIVE TRAVEL IS UP OR TO THE RIGHT. CONTACT FACTORY FOR ADDITIONAL OPTIONS.

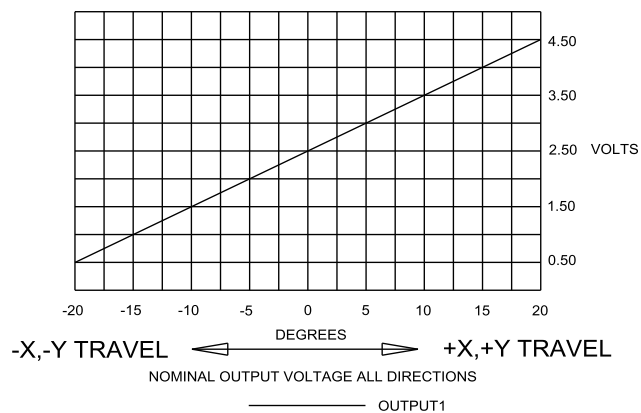


**ON POSITION OR MOMENTARY POSITION IS UP OR TO THE RIGHT.

HTWM & HTWS OUTPUT



HTLT4 OUTPUT



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[OTTO:](#)

[G3-M1H216NNNN](#)