

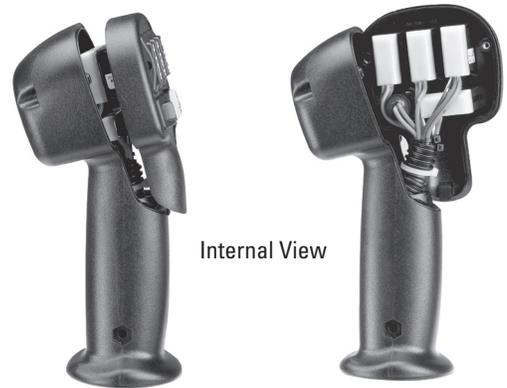
HEAVY EQUIPMENT & MATERIAL HANDLING GRIPS

The G3 Universal Grips can be customized for top-of-the-line machines requiring high switch content, or to provide only basic control functions on lower tier units. The grips are designed to be panel mounted as a fixed control grip or mounted on an OTTO JH, JHL or JHM joystick.

The OTTO G3 Universal Grips have a modular design and were developed for use with OTTO's standard pushbuttons, rockers, toggles, Hall effect switches and the JH, JHL and JHM series Hall effect joysticks. The G3 Grips are easily customized with multiple switch configurations, quickly and without tooling charges.

Features:

- **Compatible with the OTTO JH , JHL and JHM series Hall effect Joysticks**
- **Variety of sizes/shapes available**
- **Accommodates a full line of pushbutton, rocker, toggle, HP Hall effect & HPL proportional output series of switches**
- **Various mounting & termination options available**
- **Includes mounting adapter with boot ring (where applicable)**
- **Modular faceplate design reduces the need for tooling charges**

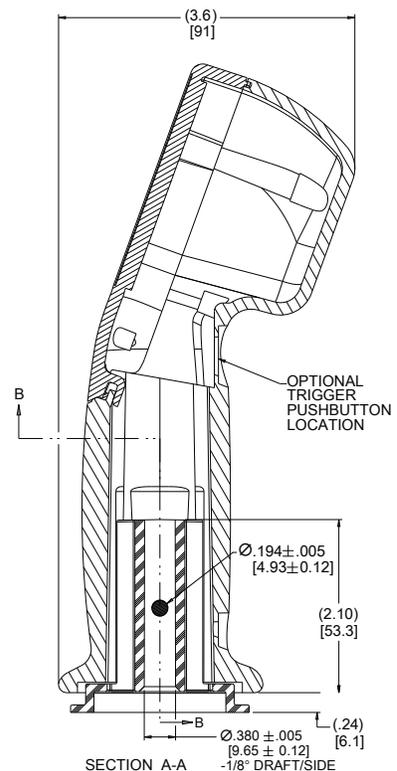
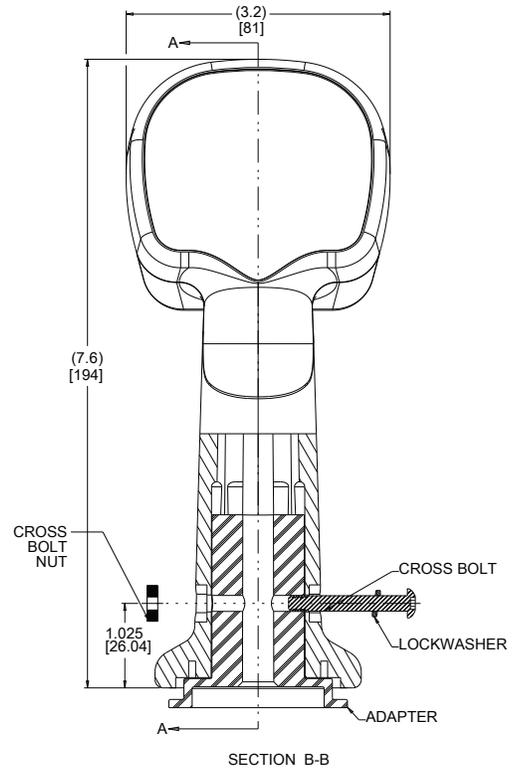


HEAVY EQUIPMENT AND MATERIAL HANDLING GRIPS

G3-B UNIVERSAL GRIP

Standard Characteristics/Ratings:					
ELECTRICAL RATINGS:	Full Load	Logic Level			
K1 Switches	@ 28VDC	@5VDC			
Electrical Rating @ 28 VDC	16 AMP Resistive Load 10 AMP Inductive Load	10mA Resistive Load			
Electrical Life	25,000 Cycles	100,000 Cycles			
P9 Switches	@ 28VDC	@5VDC			
Electrical Rating	5 AMP Resistive Load 3 AMP Inductive Load	10mA Resistive Load			
Electrical Life	25,000 Cycles	1,250,000 Cycles			
Thumbwheels					
Rated at $V_{cc}=5V@20^{\circ}C$; Load = 1ma (4-7K)					
	Units	M	In	Typ	Max
Supply Voltage	VDC		4.50	5.00	5.50
Output Voltage – Return to Center Tolerance at Center	VDC @ 5V Vcc		-.10	N/A	+.10
Output Voltage – Return to End Tolerance at Rest	VDC @ 5V Vcc		-.25	N/A	+.25
Output Voltage Tolerance Full Travel	VDC @ 5V Vcc		-.25	N/A	+.25
Supply Current B=0, Vcc=5V, Io=0	mA		N/A	N/A	10
MECHANICAL RATINGS					
K1 Switches					
Mechanical Life	100,000 Cycles				
P9 Switches					
Mechanical Life	1,250,000 Cycles				
Thumbwheels					
Mechanical Life (Full Forward to Full Back)	3,000,000 Cycles (Return to Center) 1,000,000 Cycles (Return to End) 250,000 Cycles (Friction)				
	Units	Min	Typ	Max	
Operating Force (25°C at the Top of Roller)	OZ	8	12	16	
Initial Operating Force - Friction (25°C at the Top of Roller)	OZ	2	4	6	
Max Allowable Radial Load	LBS	N/A	N/A	30.0	
Travel	± 40 Degrees				
ENVIRONMENTAL:					
Operating Temperature:	Units	Min	Typ	Max	
	° C	-40*	20	85	
K1 Switches					
Switch Seal Integrity	Watertight per IP68S (1 meter) and IP69K				
P9 Switches					
Switch Seal Integrity	Watertight per IP68S (1 meter) and IP69K				
Thumbwheels					
Electronics Seal Integrity	Watertight per IP68S (1 meter)				
Mechanical Seal Integrity	Unsealed				
Grip					
Seal Integrity	Unsealed				
MATERIALS:					
Handle	Thermoplastic, Glass Reinforced, Black				
Faceplate	Thermoplastic, Glass Reinforced, Black				
Mounting Hardware	#10 Crossbolt with Nut and Lockwasher				
Wires	22 AWG, UL Style 1569, (20" Long)				

* Minimum operating temperature is -30°C when a K1 Switch is installed.

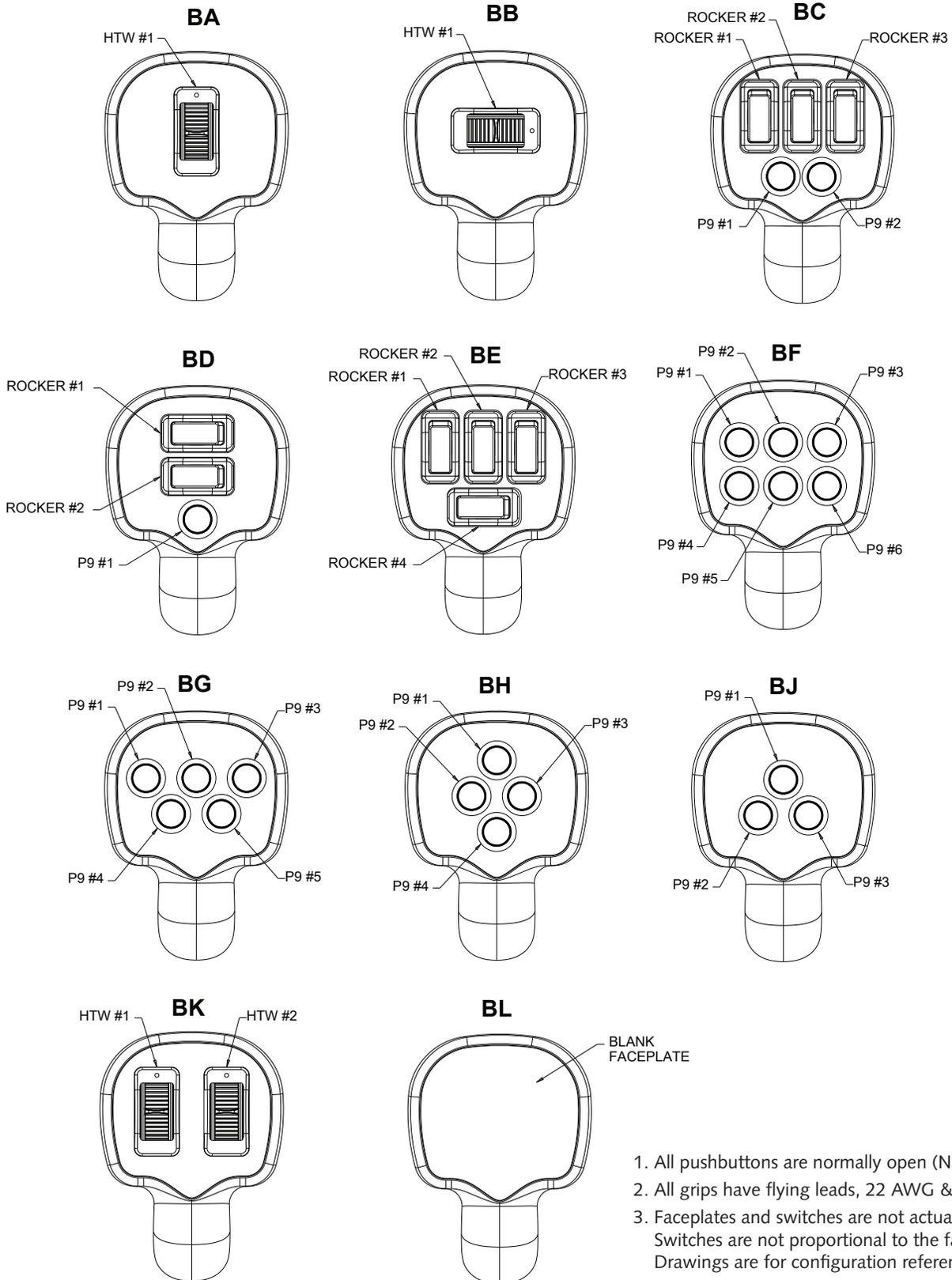


Note: All dimensions are for reference only.

Specifications Subject To Change Without Notice

STANDARD FACEPLATES

G3-B UNIVERSAL GRIP SWITCH CONFIGURATIONS



1. All pushbuttons are normally open (NO).
2. All grips have flying leads, 22 AWG & 20" long.
3. Faceplates and switches are not actual size. Switches are not proportional to the faceplates. Drawings are for configuration reference only.

HEAVY EQUIPMENT & MATERIAL HANDLING GRIPS

G3-B UNIVERSAL GRIP PART NUMBER CODE

	G3-B	X	XX	X	X	X	X	X	Part Number Code Continued Below
Configuration	Switches	Trigger Pushbutton in Handle	K1 Rocker #1 Style - Black *	K1 Rocker #2 Style - Black *	K1 Rocker #3 Style - Black *	K1 Rocker #4 Style - Black *			
1. Grip With Adapter	See Configuration Sheet on next page	1. None 2. Black	1. None 2. On-Off 3. (On)-Off 4. On-Off-On 5. (On)-Off-(On)						
2. Grip Without Adapter									

* () denotes momentary. On position or momentary position is up or to the right. Contact factory for rocker legends and additional color options.

G3-B PART NUMBER CODE CONTINUED

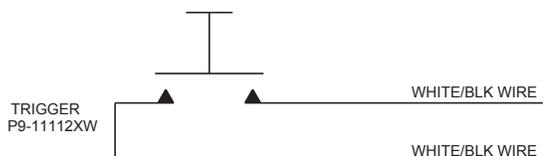
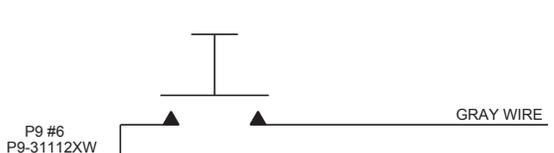
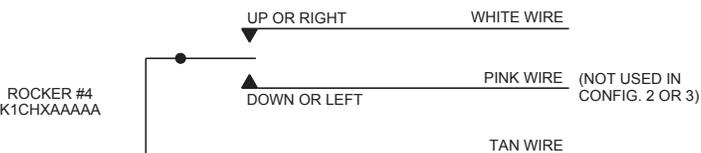
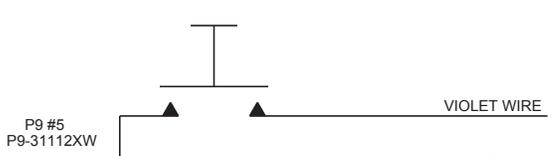
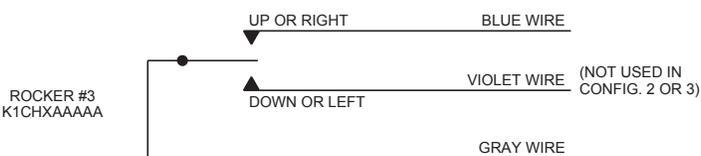
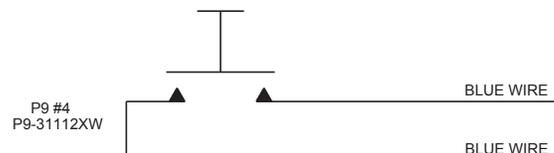
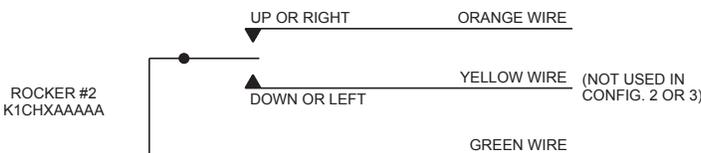
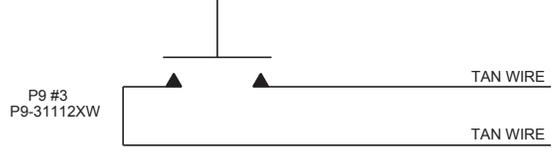
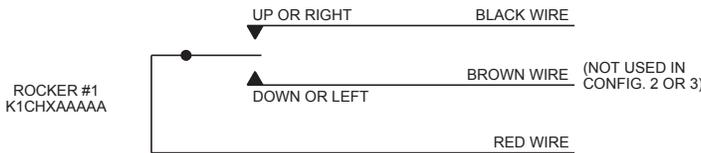
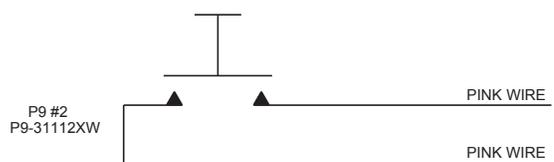
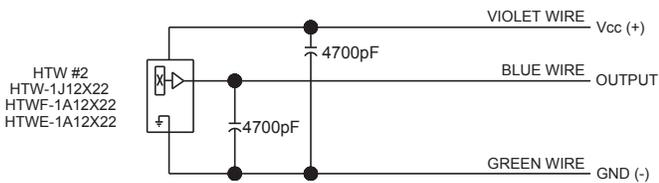
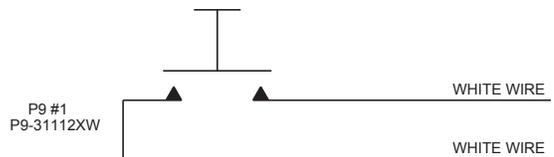
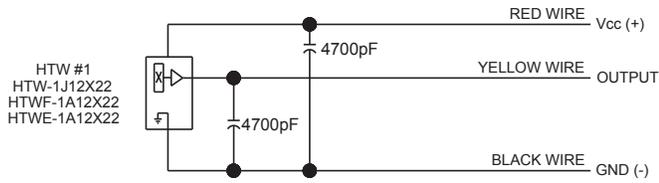
Cont.	X	X	X	X	X	X	X	X
HTW #1**	HTW #2**	P9 Button #1 Color	P9 Button #2 Color	P9 Button #3 Color	P9 Button #4 Color	P9 Button #5 Color	P9 Button #6 Color	
1. None	1. None	1. Red	1. Red					
2. Return to Center ¹	2. Return to Center ¹	2. Black	2. Black					
3. Friction ²	3. Friction ²	3. Orange	3. Orange					
4. Return to End ³	4. Return to End ³	4. Yellow	4. Yellow					
		5. Green	5. Green					
		6. Blue	6. Blue					
		7. Violet	7. Violet					
		8. Gray	8. Gray					
		9. White	9. White					
		N. None	N. None					

1 = HTW-1J12X22***
2 = HTWF-1A12X22***
3 = HTWE-1A12X22***

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

HEAVY EQUIPMENT & MATERIAL HANDLING GRIPS

G3-B UNIVERSAL GRIP SCHEMATICS



Mouser Electronics

Authorized Distributor

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

OTTO:

[G3-B1BC155511122NNNN](#)