
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

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G3-B is a larger industrial grip that accommodates up to six switches on its faceplate. The G3-B can be panel mounted as a fixed control grip or combined with a JH, JHL or JHM series joystick for a complete assembly.

Ordering the optional field-replaceable faceplate configuration enables customers to later change out the faceplate in the field quickly and easily. Use only a screwdriver to swap out the faceplate; no need to uninstall the grip.

Features:

- Compatible with OTTO JH, JHL and JHM series Hall effect joysticks
- Choose from 11 standard faceplates with a mix of rockers, thumbwheels and pushbuttons, or customize with hundreds of switch combinations
- Trigger pushbutton option in the handle
- Field-replaceable faceplate configuration available
- Z-axis option with +/-25° rotation
- Modular design provides high level of customization and reduces the need for tooling charges
- Various mounting and termination styles
- Includes mounting adapter with boot ring



G3-B Universal Grip with BC Faceplate



G3-B Universal Grip with Custom Faceplate

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 Vcc=5V@20°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 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) 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.

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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	1. None	1. None	1. None	1. None	1. None	1. None	
2. Grip Without Adapter	Configuration Sheet on following page	2. Black	2. On-Off	2. On-Off	2. On-Off	2. On-Off	2. On-Off	
3. Replaceable Faceplate With Adapter*		3. Red	3. (On)-Off	3. (On)-Off	3. (On)-Off	3. (On)-Off	3. (On)-Off	
4. Replaceable Faceplate Without Adapter*			4. On-Off-On	4. On-Off-On	4. On-Off-On	4. On-Off-On	4. On-Off-On	
			5. (On)-Off-(On)	5. (On)-Off-(On)	5. (On)-Off-(On)	5. (On)-Off-(On)	5. (On)-Off-(On)	

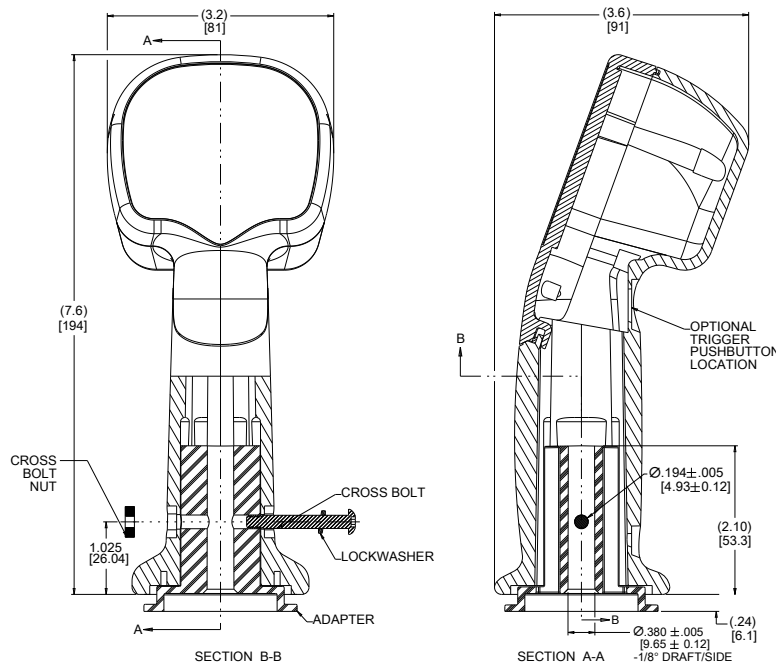
* Allows the grip faceplate to be removed and replaced or changed with out uninstalling the grip. The faceplate switches are connectorized for easy removal.
 ** () denotes momentary. On position or momentary position is up or to the right. Contact factory for rocker legends and additional color options.

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

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

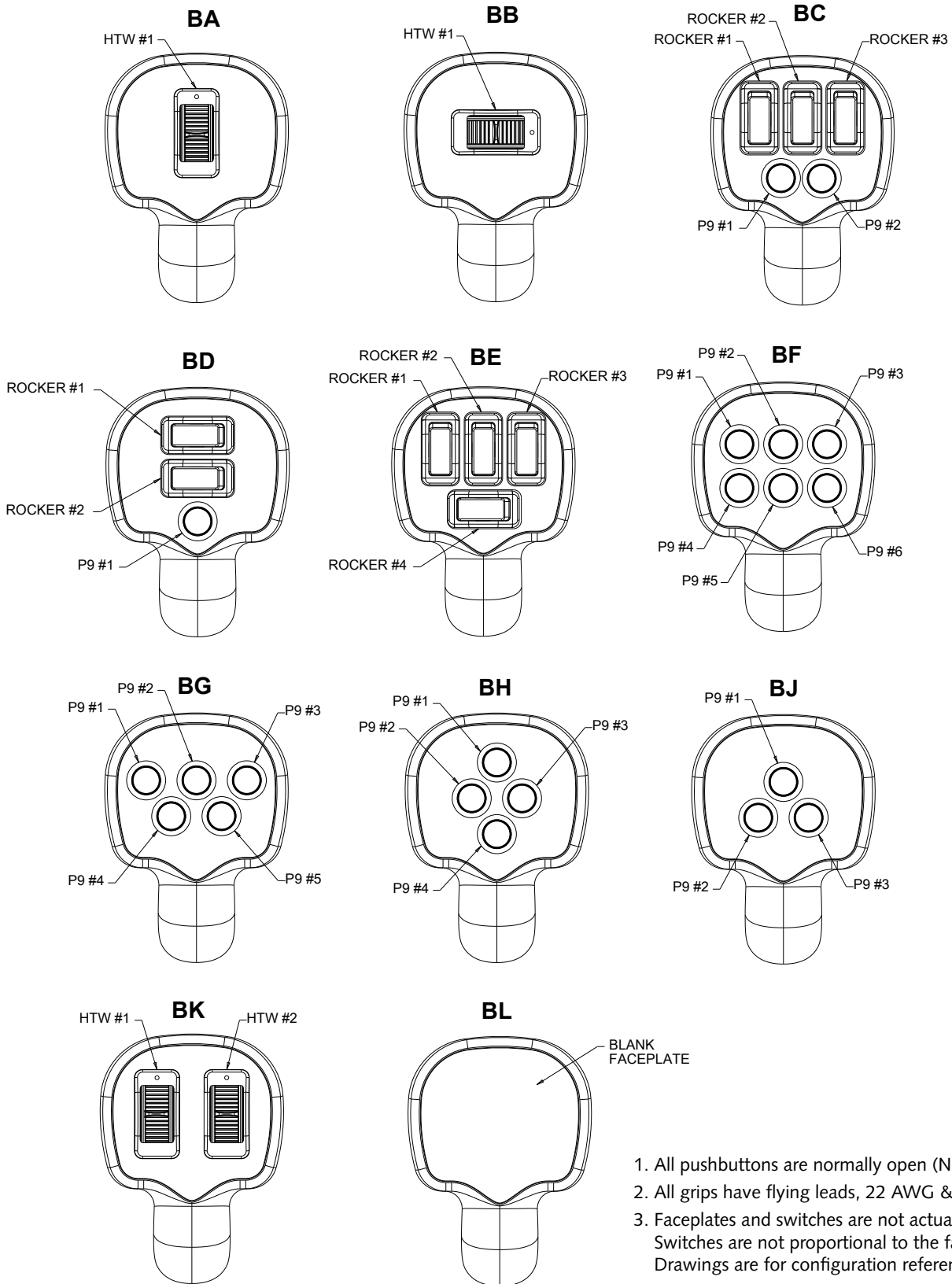
** Positive travel is up or to the right. Contact factory for additional options.
 ***Contact factory for additional options.



Note: All dimensions are for reference only.

STANDARD FACEPLATES

G3-B 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.

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G3-B GRIP SCHEMATICS

