

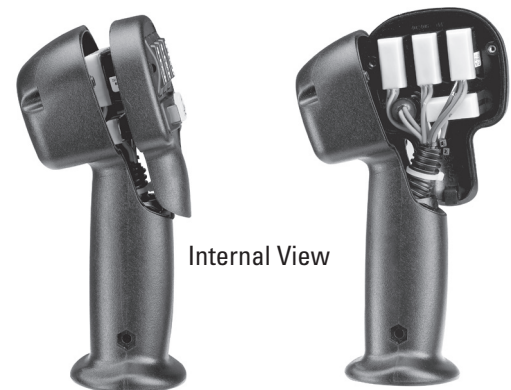
HEAVY EQUIPMENT & MATERIAL HANDLING GRIPS

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 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 and JHM series Hall effect joystick. The G3 Grips are easily customized with multiple switch configurations, quickly and without tooling charges.

Features:

- **Compatible with the OTTO JH and JHM series Hall effect Joysticks**
- **Small & medium sizes 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

UNIVERSAL CONTOUR GRIPS

Standard Characteristics/Ratings:

ELECTRICAL RATINGS:

K1 Switches

Electrical Rating @ 28 VDC	16 AMP Resistive Load; 7 AMP Inductive Load
Electrical Life	25,000 Cycles at Full Load

P9 Switches

Electrical Rating @ 28 VDC	5 AMP Resistive Load; 3 AMP Inductive Load
Electrical Life	25,000 Cycles at Full Load

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 - Return to Center	VDC	-.15	N/A	+.15
Tolerance at Center	@ 5V Vcc			
Output Voltage - Return to End	VDC	-.25	N/A	+.25
Tolerance at Rest	@ 5V Vcc			
Output Voltage	VDC	-.25	N/A	+.25
Tolerance Full Travel	@ 5V Vcc			
Supply Current	mA	N/A	N/A	10
B=0, Vcc=5V, Iout=0				

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	VDC	-.25	N/A	+.25
Tolerance at Center	@ 5V Vcc			
Output Voltage	VDC	-.25	N/A	+.25
Tolerance Full Travel	@ 5V Vcc			
Supply Current	mA	N/A	N/A	20
B=0, Vcc=5V, Iout=0				

MECHANICAL RATINGS

K1 Switches

Mechanical Life	100,000 Cycles
-----------------	----------------

P9 Switches

Mechanical Life	1,000,000 Cycles
-----------------	------------------

HTWM and HTWS Switches

Mechanical Life	3,000,000 Cycles (Return to Center)
(Full Forward to Full Back)	1,000,000 Cycles (Return to End)

ENVIRONMENTAL:

	Units	Min	Typ	Max
Operating Temperature:	° 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
-----------------------	--

HTWM and HTWS Switches

Electronics Seal Integrity	Watertight per IP68S (1 meter) and IP69K
----------------------------	--

Grip

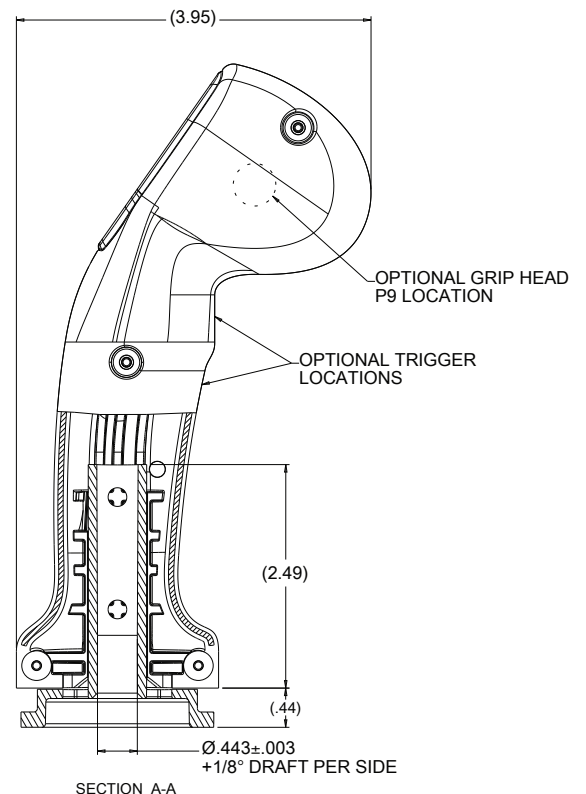
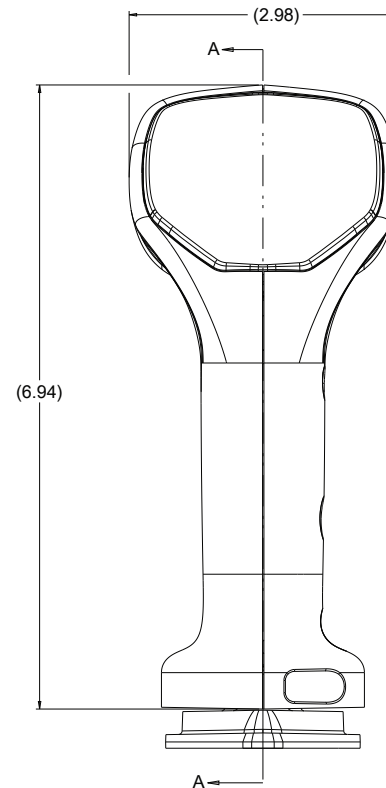
Seal Integrity	Unsealed
----------------	----------

MATERIALS:

Handle	Thermoplastic, Glass Reinforced, Black
--------	--

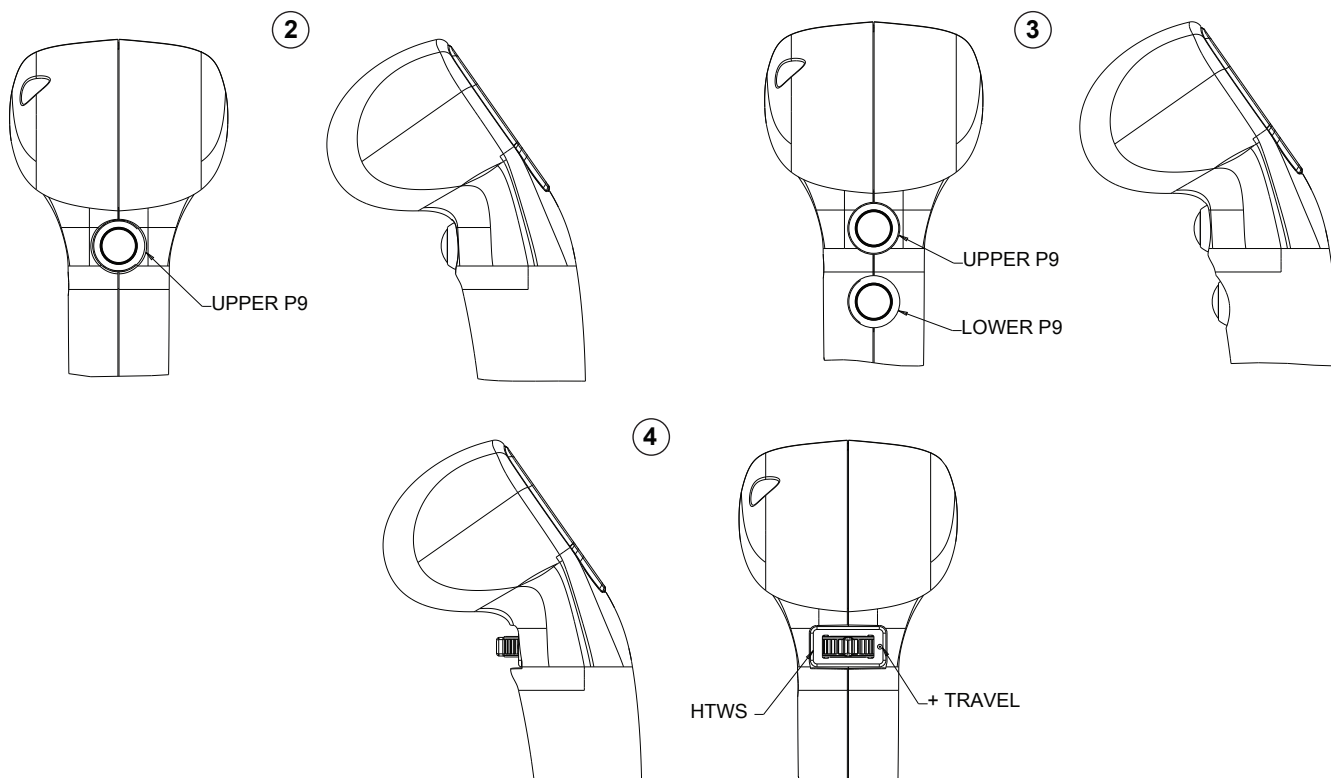
Faceplate	Thermoplastic, Glass Reinforced, Black
-----------	--

Wires	22 AWG, UL Style 1569, (20" Long)
-------	-----------------------------------



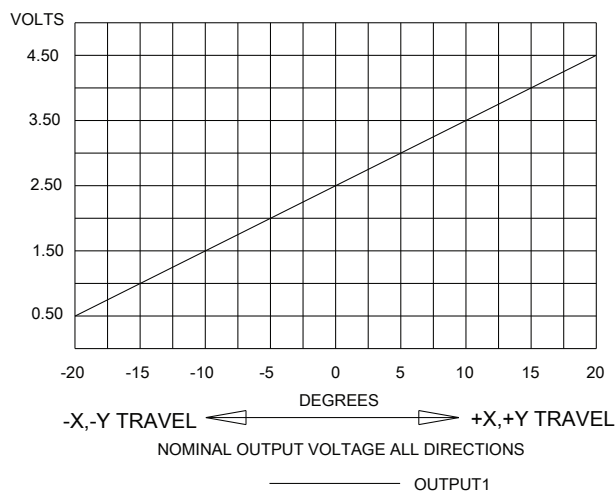
SECTION A-A

UNIVERSAL CONTOUR TRIGGER CONFIGURATIONS

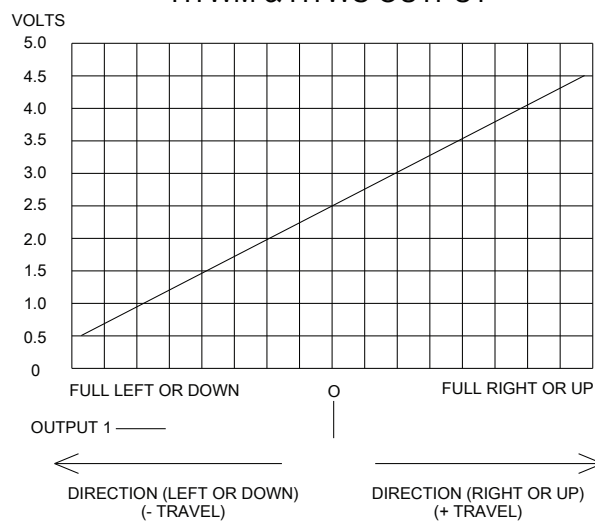


UNIVERSAL CONTOUR GRIP OUTPUT

HTLT4 OUTPUT

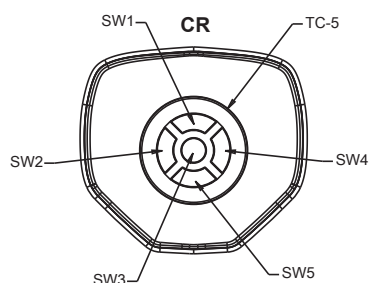
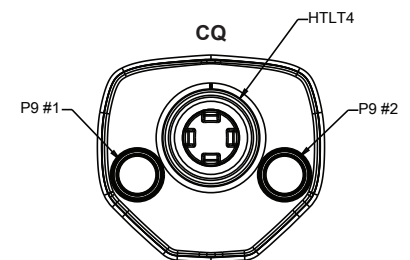
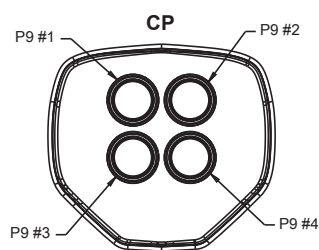
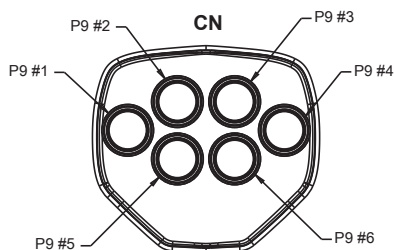
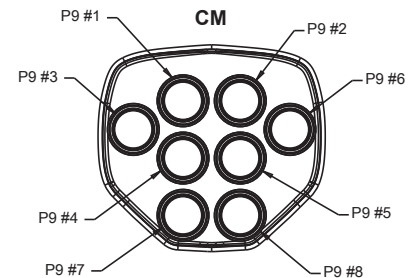
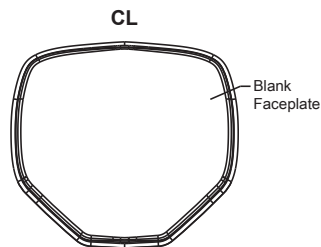
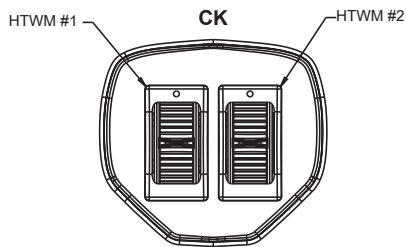
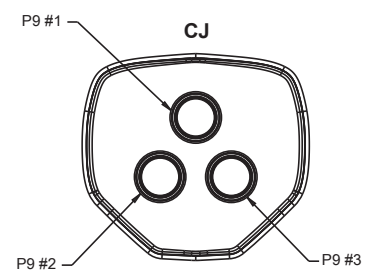
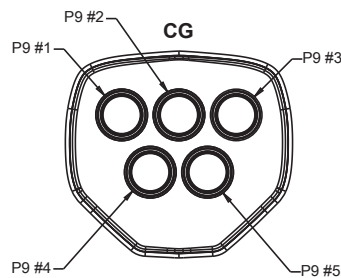
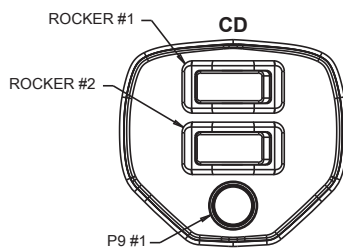
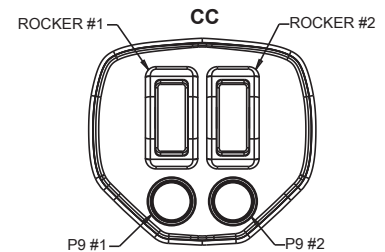
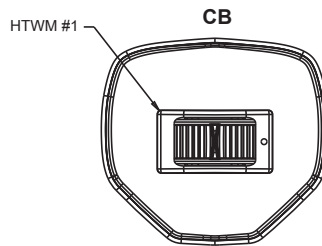
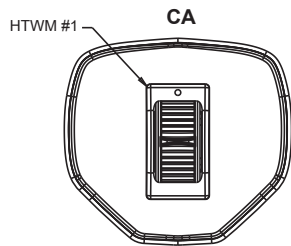


HTWM & HTWS OUTPUT



STANDARD FACEPLATES

UNIVERSAL CONTOUR GRIP FACEPLATES



1. All pushbutton switches are normally open (NO).
2. Faceplates and switches are not actual size. Switches are not proportional to the faceplates. Drawings are for configuration reference only.

UNIVERSAL CONTOUR GRIPS

G3-C PART NUMBER CODE

G3-C	X	X X	X	X	X	X	Part Number Code Continues Below
Configuration	Faceplate	Trigger in Handle	PB in Grip Head - Black	K1 Rocker #1 Style - Black **	K1 Rocker #2 Style - Black **		
1. Grip Only	See Configuration Sheet	1. None 2. One Pushbutton, Black 3. Two Pushbuttons, Black 4. HTWS*	1. None 2. Left 3. Right 4. Left & Right	1. None 2. On-Off 3. (On)-Off 4. On-Off-On 5. (On)-Off-(On)	1. None 2. On-Off 3. (On)-Off 4. On-Off-On 5. (On)-Off-(On)		

* HTWS-1A12X22

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

G3-C PART NUMBER CODE CONTINUED

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

1 = HTWM-1J12X22****

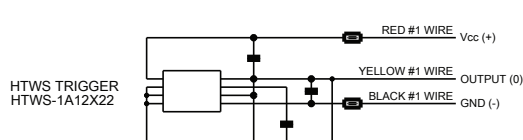
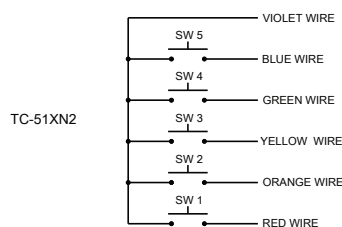
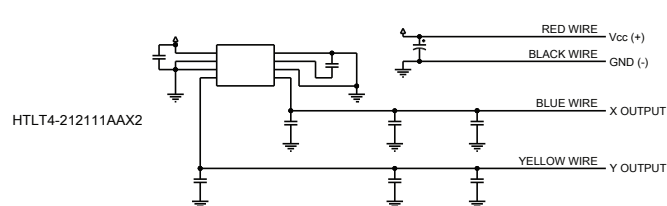
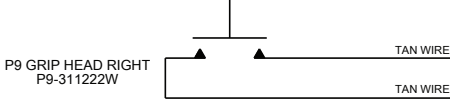
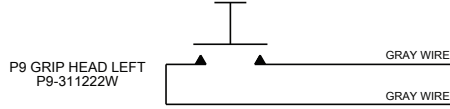
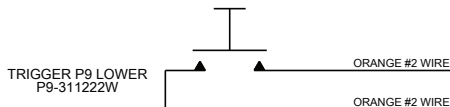
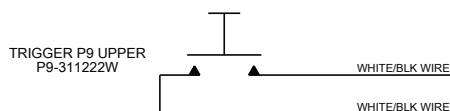
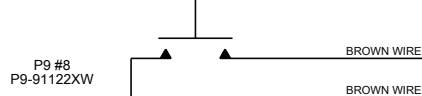
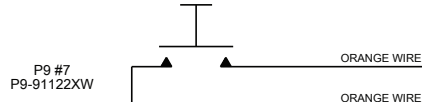
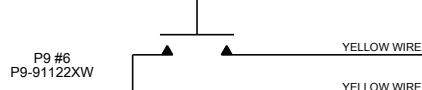
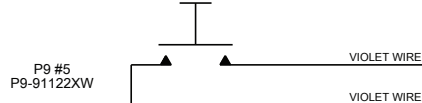
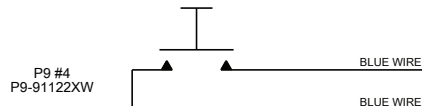
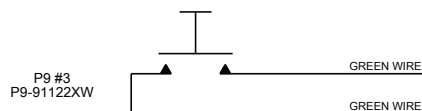
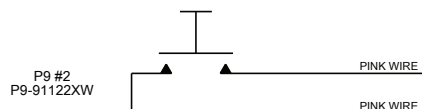
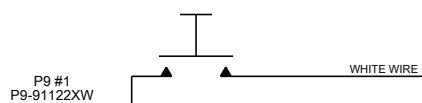
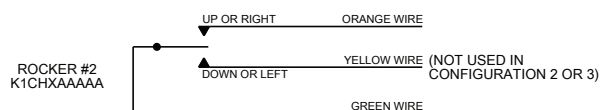
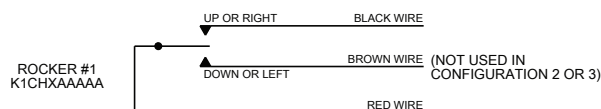
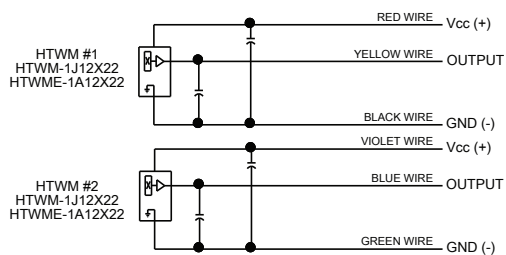
2 = HTWME-1A12X22****

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

**** Contact factory for additional options.

HEAVY EQUIPMENT AND MATERIAL HANDLING GRIPS

UNIVERSAL CONTOUR GRIP SCHEMATICS



Mouser Electronics

Authorized Distributor

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

OTTO:

[G3-C1CG211111111111NNN](#) [G3-C1CL111111111111NNNNNNNNN](#) [G3-C1CL211111111111NNNNNNNNN](#) [G3-](#)
[C1CQ211111163NNNNNNN](#) [G3-C1CR231111111111NNNNNNNNN](#) [G3-C1CC214411111111NNNNNNN](#) [G3-C1CC21441136NNNNNNN](#)