

G2 and G3 Grips



MILITARY GROUND SUPPORT & FLIGHT CONTROL GRIPS

For over 50 years, OTTO has built a reputation for innovative engineering capabilities and adherence to the highest quality standards. Our switches and controls perform every day in some of the toughest applications in the world, from Military Ground Support Grips, Throttle Quadrant and Control Grips for fixed-wing aircraft, to Helicopter Cyclic and Collective Grips. OTTO houses a complete MIL-I-45208, as well as ISO 17025 (A2LA), onsite test lab facility with environmental, mechanical, electrical and audio test capabilities. Registration to ISO 9001:2008, AS9100C and FAA Part 145 Repair Station. Our experience and know-how in the design and manufacturing of precision switches and grips have made us a supplier to all flight control manufacturers. With an emphasis on sealed-switch technology and custom electromechanical switch design and development, OTTO has a solution to meet the most demanding applications.

Military Ground Support Grips

- Custom machined heads available to fit standard handles
- Backlighting options
- Custom head can be outfitted with a variety of OTTO switches

Flight Control Grips

- B8 & Cobra style grips are made in accordance with MIL-DTL-25561
- Most ergonomic version on the market
- Non-reflecting, non-hygroscopic, rugged injection molded grip
- Choice of termination styles—from integral connectors to wire harnesses
- Threaded disconnect or tube mounting
- Can be populated with MIL qualified switches, standard or custom configurations

Throttle Control Grips

- Control for fixed-wing aircraft
- Custom toggle & rocker switches can be used to meet high cycle requirements



Collective Grips



Military Ground Support Grips



Cyclic Grips



Cobra Style Grips



B8 Style Grips



Throttle Grips

HELICOPTER CYCLIC & COLLECTIVE GRIPS



Exploded View

Helicopter Cyclic & Collective Grips

- Grips have thin-wall, investment cast aluminum construction for high strength & low weight
- Modular construction
- Custom heads & switch mounting plates can be fabricated to fit standard handles
- Available with switch access panel for easy repair & maintenance
- A variety of button colors & style options available
- Transducer & electromechanical trim switch options



Collective Grip with
Thumbwheel Switch
and NVG Backlighting



Helicopter
Cyclic Grips



Cyclic Grip with
Custom Switch
Guards

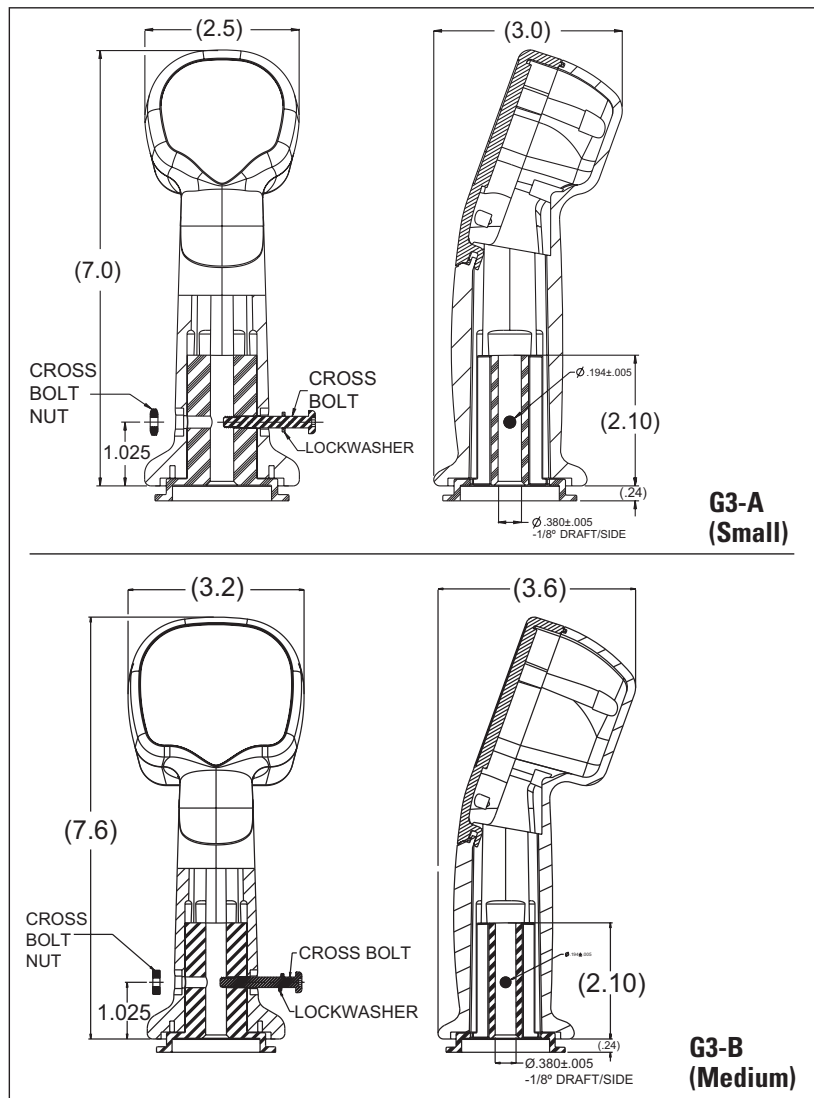


Systems Grip

MODULAR DESIGN

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 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. Both the Small Universal Grip and the Medium Universal Grip are easily customized with multiple switch configurations, quickly and without tooling charges.

- **Modular design eliminates the need for tooling charges**
- **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**



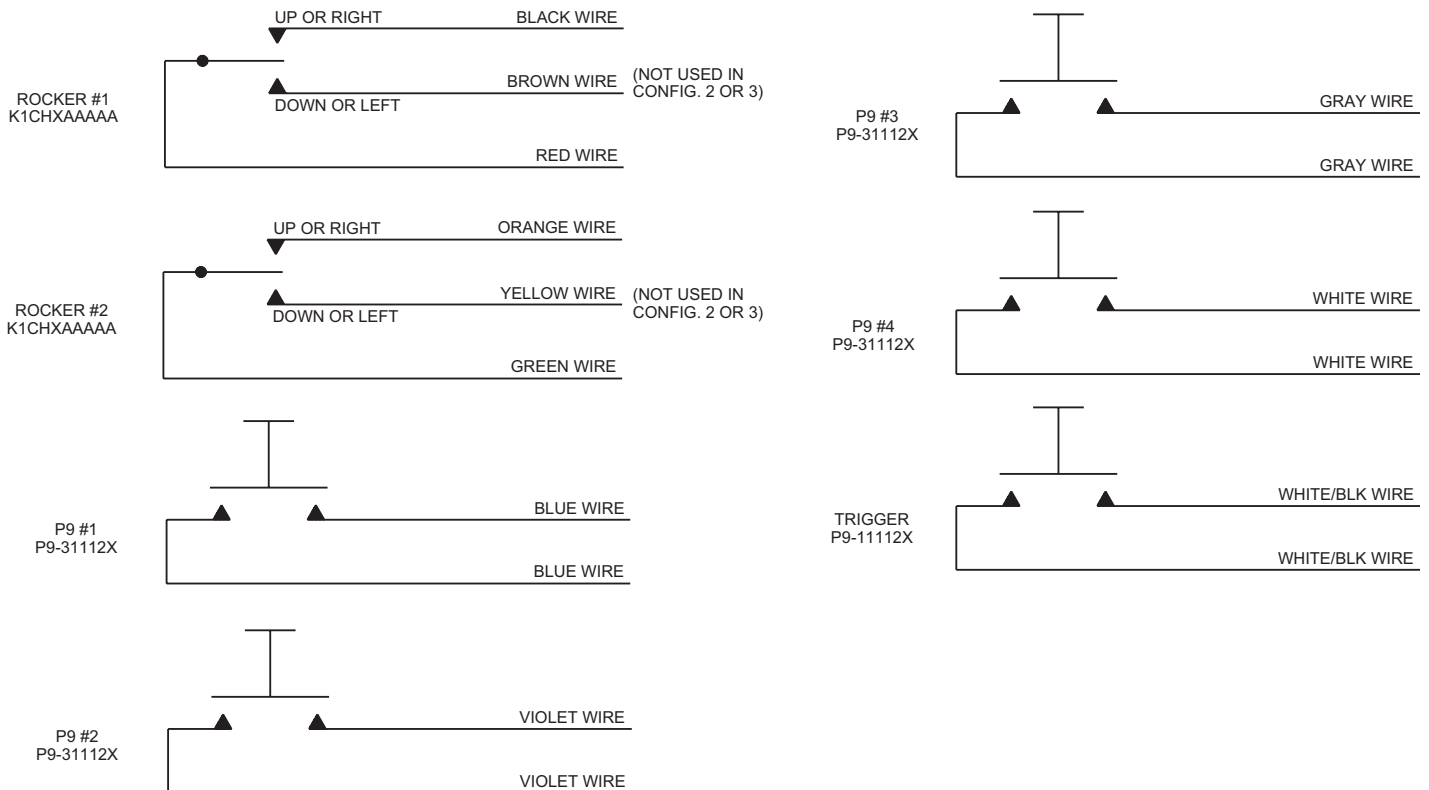
HEAVY EQUIPMENT & MATERIAL HANDLING GRIPS

SMALL UNIVERSAL GRIPS

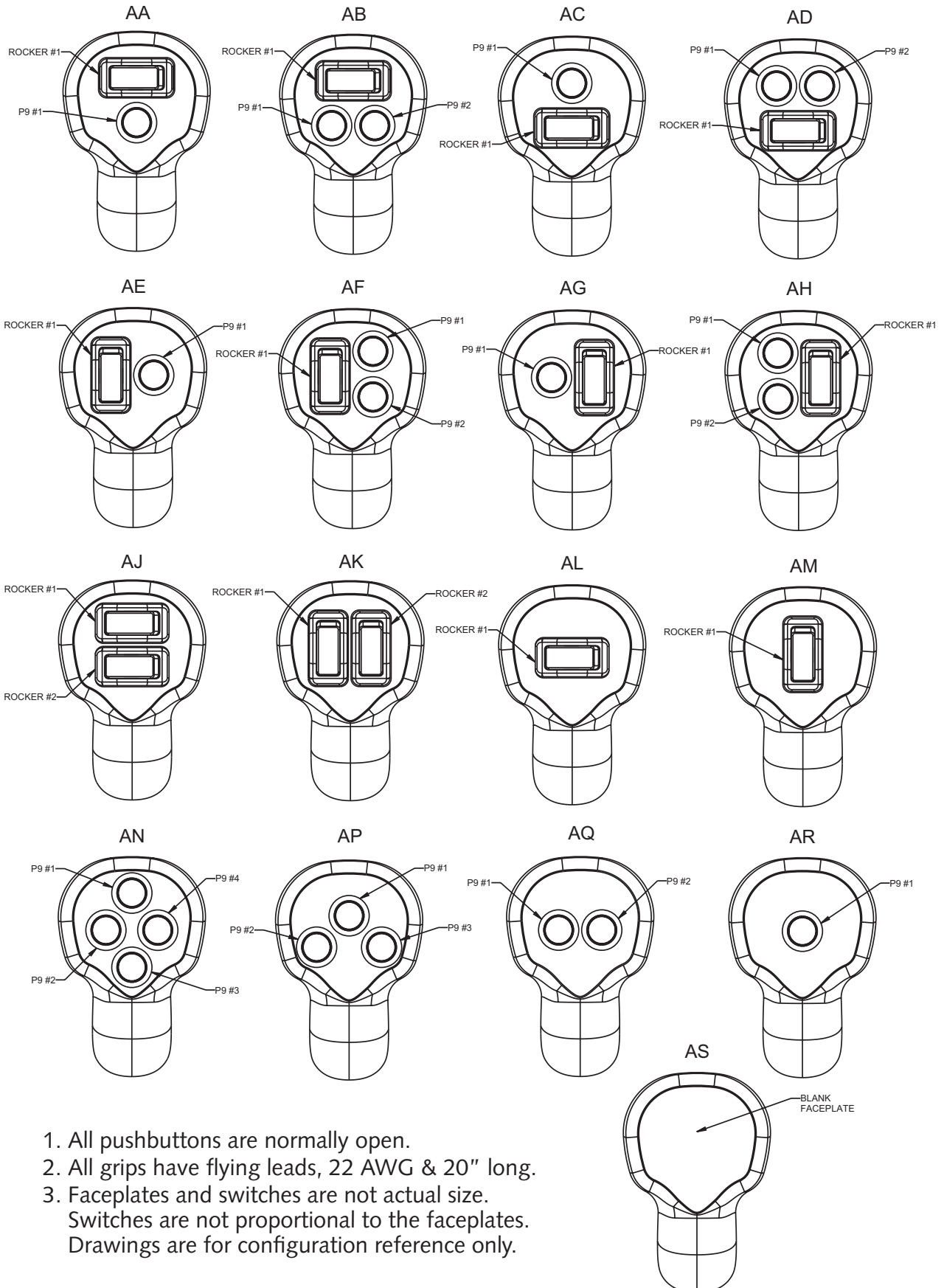
G3-A PART NUMBER CODE									
G3-A	X	XX	X	X	X	X	X	X	X
Configuration	Switches	Trigger Pushbutton in Handle	K1 Rocker #1 Style - Black *	K1 Rocker #2 Style - Black *	P9 Button #1 Color	P9 Button #2 Color	P9 Button #3 Color	P9 Button #4 Color	P9 Button #4 Color
1. Grip Only	See Configuration Sheet on page 20	1. None 2. Black 3. Red	1. None 2. On-Off 3. On (Mom)-Off 4. On-Off-On 5. On-Off-On (Mom)	1. None 2. On-Off 3. On (Mom)-Off 4. On-Off-On 5. On-Off-On (Mom)	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

* Contact factory for rocker legends and additional color options.

G3-A SMALL UNIVERSAL GRIPS SCHEMATICS



SMALL UNIVERSAL GRIPS SWITCH CONFIGURATIONS



1. All pushbuttons are normally open.
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 AND MATERIAL HANDLING GRIPS

MEDIUM UNIVERSAL GRIPS

G3-B PART NUMBER CODE							Part Number Code Continued Below
G3-B	X	XX	X	X	X	X	
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 Only	See Configuration Sheet on page 22	1. None 2. Black 3. Red	1. None 2. On-Off 3. On (Mom)-Off 4. On-Off-On 5. On-Off-On (Mom)	1. None 2. On-Off 3. On (Mom)-Off 4. On-Off-On 5. On-Off-On (Mom)	1. None 2. On-Off 3. On (Mom)-Off 4. On-Off-On 5. On-Off-On (Mom)	1. None 2. On-Off 3. On (Mom)-Off 4. On-Off-On 5. On-Off-On (Mom)	

* Contact factory for rocker legends and additional color options.

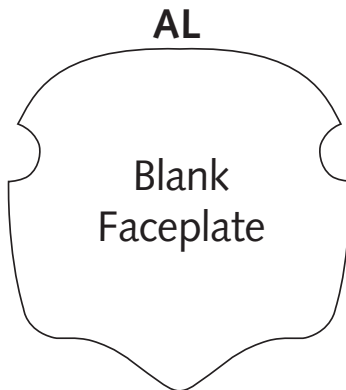
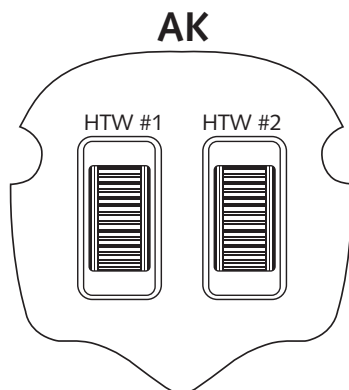
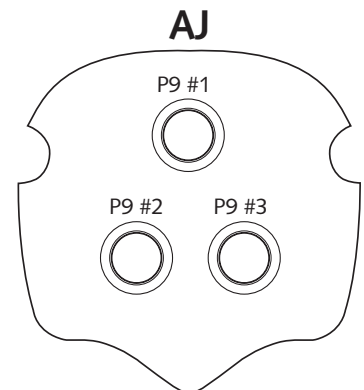
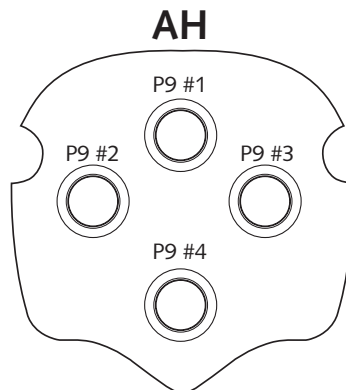
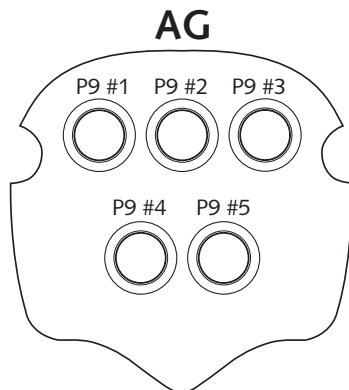
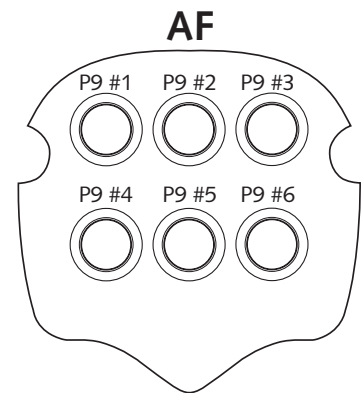
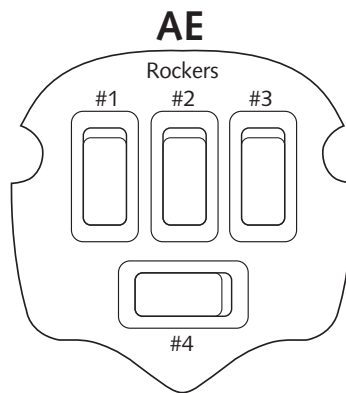
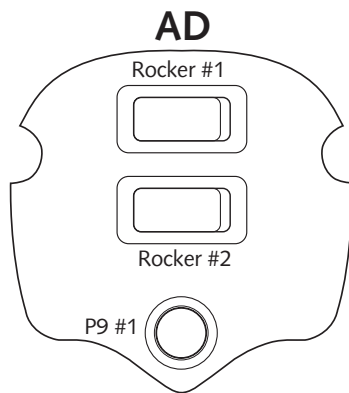
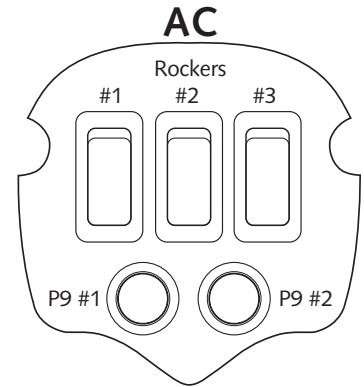
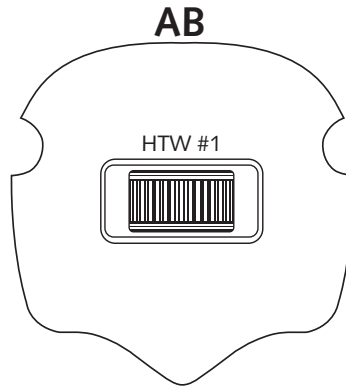
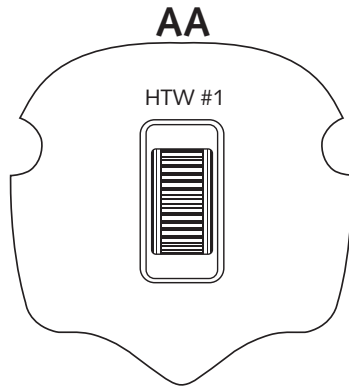
G3-B PART NUMBER CODE CONTINUED							
Cont.	X	X	X	X	X	X	X
HTW #1	HTW #2	P9 Button #1 Color	P9 Button #2 Color	P9 Button #3 Color	P9 Button #4 Color	P9 Button #5 Color	P9 Button #6 Color
1. None 2. Return to Center ¹ 3. Friction ² 4. Return to End ³	1. None 2. Return to Center ¹ 3. Friction ² 4. Return to End ³	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 = HTW-1A12X22**
2 = HTWF-1A12X22**
3 = HTWE-1A12X22**

** Contact factory for additional options

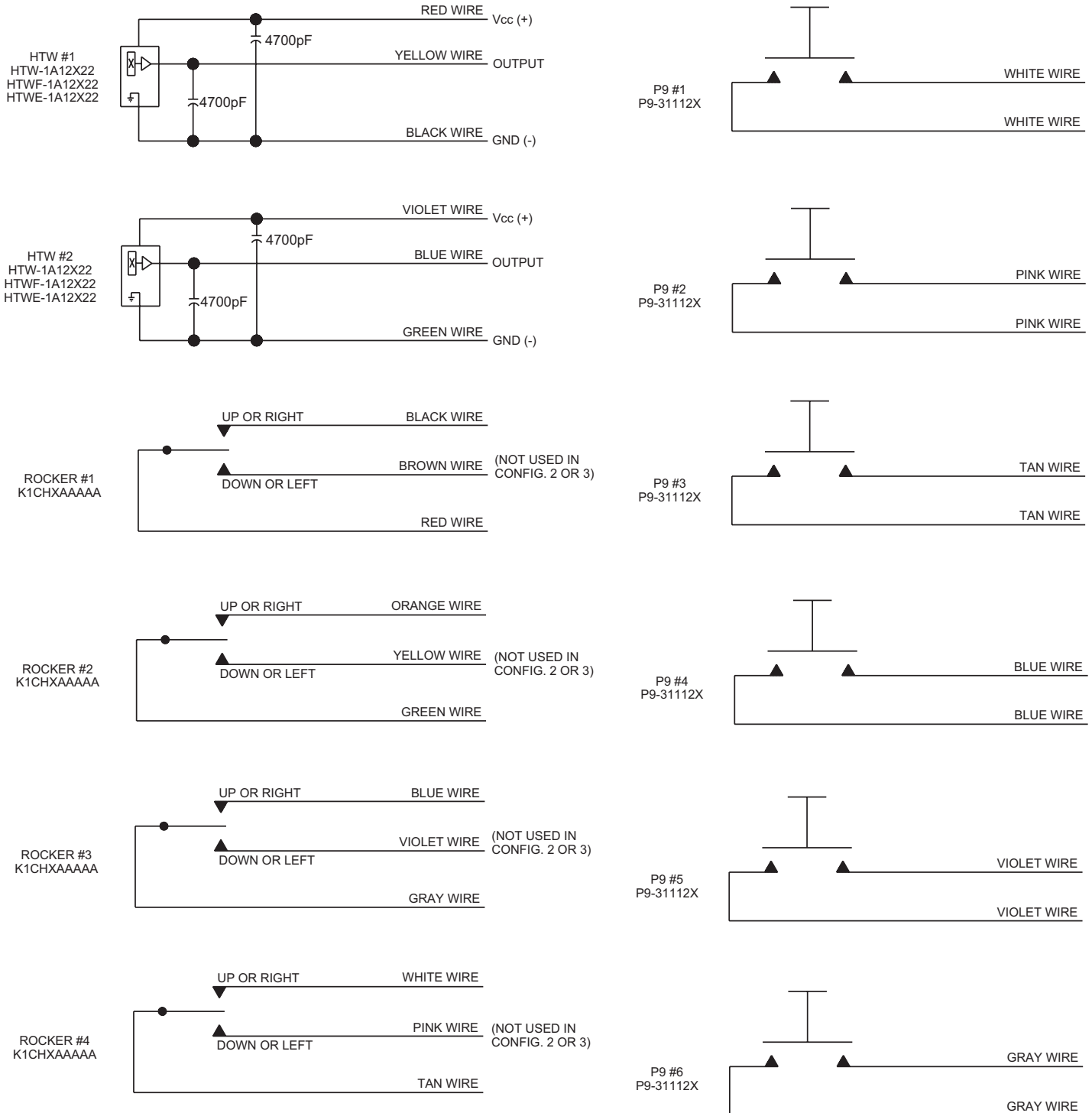
MODULAR DESIGN

MEDIUM UNIVERSAL GRIPS SWITCH CONFIGURATIONS



Note: Faceplates and switches are not actual size. Switches are not proportional to the faceplates. Drawings are for configuration reference only.

MEDIUM UNIVERSAL GRIPS SCHEMATICS



G3 DUAL GRIP REMOTE

G3
DUAL
GRIP

ERGONOMIC DESIGN

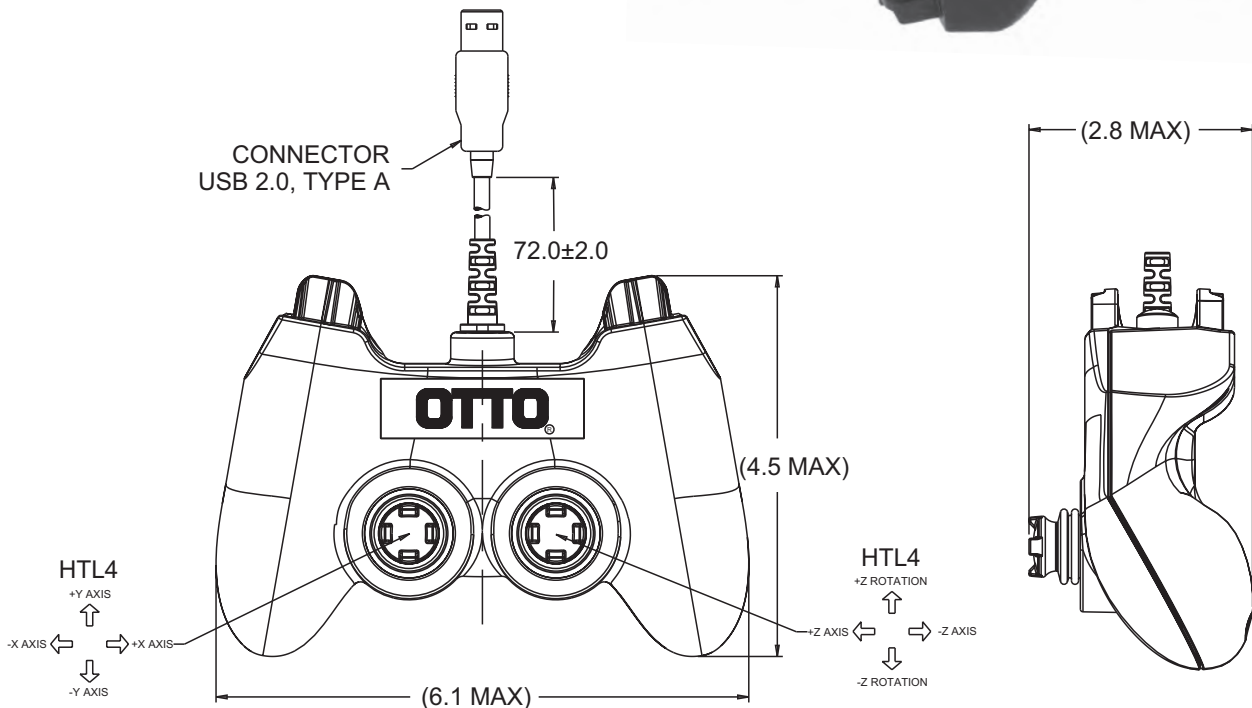
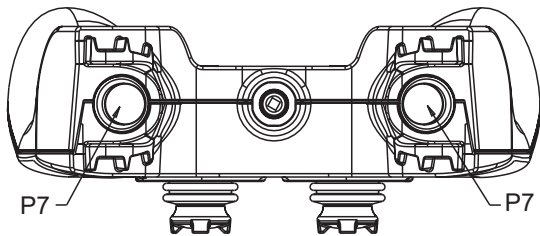
The G3-0360 is a durable, lightweight game style grip. Its ergonomic design allows for comfortable extended use and its molded body eliminates the need for tooling charges. The G3 dual grip remote accommodates OTTO's standard HTL and P7 series switches, with your choice of button styles and colors. Ideal for controlling unmanned vehicles, unattended ground sensors and other remote controlled applications.

Features:

- Standard USB interface
- Readily available options include HTL series and P7/P9 switches
- Lightweight, ergonomic design for comfortable use
- Excellent proportional control
- Switches sealed to IP68S
- Switches provide excellent EMI/RFI shielding
- RoHS/WEEE/ Reach compliant



Standard Configuration Shown (G3-0360)



HEAVY EQUIPMENT & MATERIAL HANDLING GRIPS

OTTO serves agriculture, off-highway, material handling and specialized industrial equipment markets. If your application cannot be met with one of our standard grips, OTTO can help design and build a truly custom made solution, utilizing state-of-the-art 3-D solid modeling work stations. Our grips can be manufactured with an almost unlimited variety of switches, custom termination and custom mounting options. OTTO is a vertically integrated facility offering SLS and SLA compatible outputs for in-house rapid prototyping using FDM (fused deposition model); in-house precision machining; progressive die stamping; injection, insert and compression molding; cable and over-molding assembly capabilities. All OTTO products are manufactured under an ISO 9001:2008 approved quality system, ensuring the greatest value and the highest performance for our customers.

Heavy Equipment & Material Handling Grips

- Rugged injection molded grip can be outfitted with a variety of OTTO switches
- Ergonomic design for extended use
- Custom designs
- Left or right hand orientation available
- Comfortable Soft Touch Grip available

Tractor Grips

- Rugged thermoplastic
- Can be outfitted with a variety of OTTO switches

Agricultural Grips

- Powder-coat, cast aluminum grip & steel mounting bracket
- Can be outfitted with a variety of OTTO switches



Ergonomically designed Contour Grips reduce muscle strain allowing for extended use with minimal fatigue.



Tractor Grips

G3 Soft Touch Grips



Palm Grips

