OTTO®

PRODUCT BULLETIN

G3-M

Medium Sized Ergonomic Grip

The G3-M is a medium sized ergonomic, modular and customizable grip handle. This new handle offers comfort, flexibility, and robustness for a multitude of operator control applications. The design of the G3-M is slightly smaller than the G3-C and offers ruggedness, while providing essential control solutions, in a smaller package. The feel of the new design accommodates operators with and without gloves without sacrificing comfort. The G3-M also incorporates a large offering of standard faceplates that can be oriented from 0, 90 and 180 degrees. These faceplates utilize a variety of OTTO's pushbuttons, rockers and Hall effect products. The faceplate can also be custom configured with various OTTO switches based on the application requirements. In addition, the G3-M offers an optional trigger integrated in the grip handle.

The G3-M can be panel mounted as a fixed control grip or it can be mounted on an OTTO JH, JHL and JHM joystick. Combining the grip handle with a full featured OTTO joystick base results in an integrated, rugged, and reliable operator control solution. When combined with the JHL joystick, we also provide a bent shaft option to angle the grip 0, 5, 10 or 15 degrees from vertical.

G3-M grip with J2 style faceplate customized with Large FNR K1S

G3-M grip with G2 style faceplate customized with HWTS

G3-M grip with G2 style faceplate

G3-M grip with J2 style faceplate customized with Large FNR K1S

Features

- High performance ergonomic grip in a smaller package
- The grip can be used with either the left or right hand
- Numerous standard faceplate design options
- Custom faceplate designs available
- Available with or without trigger
- Various mounting and termination styles available
- Modular design provides high level of customization and reduces the need for tooling charges
- Compatible with OTTO JH, JHL and JHM series Hall effect Joysticks
- Accommodates a wide variety of OTTO pushbutton, rockers, toggles, and Hall effect switches

2 East Main Street
Carpentersville, IL, 60110
847.428.7171

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G3-M _ _ _ _ _ _ _ _ _

CONFIGURATION	FACEPLATE	TRIGGER	⚠6 K1S ROCKER STYLE - BLACK	P9 BUTTON #1	P9 BUTTON #2	P9 BUTTON #3	P9 BUTTON #4
1. GRIP WITH ADAPTOR 2. GRIP WITHOUT ADAPTER	SEE CONFIGURATION ON SHEET 2	1. NONE 2. YES	1. NONE 2. ON-OFF 3. (ON)-OFF 4. ON-OFF-ON 5. (ON)-OFF-(ON) 6. ON-ON-ON NOTE: ( ) DENOTES MOMENTARY ACTION	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

PRODUCT SPECIFICATIONS

ELECTRICAL:					
	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	(B)
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 AT 5V Vcc	2.25	2.50	2.75	
OUTPUT VOLTAGE AT FULL TRAVEL DIRECTION 1 (+ TRAVEL)	VDC AT 5V Vcc	4.25	4.50	4.75	
OUTPUT VOLTAGE AT FULL TRAVEL DIRECTION 2 (- TRAVEL)	VDC AT 5V Vcc	0.25	0.50	0.75	
SUPPLY CURRENT B=0, Vcc=5V, Iout=0	mA	NA	NA	20	(B)
	K1S SWITCHES				
ELECTRICAL RATING	LOGIC LEVEL, 10 mA @ 5VDC MAX ⚠8				
ELECTRICAL LIFE	1,000,000 CYCLES				
	P9 SWITCHES & TRIGGER				(B)
ELECTRICAL RATING	5 AMP RESISTIVE LOAD @ 28 VDC 2 AMP INDUCTIVE LOAD @ 28 VDC		10 mA RESISTIVE LOAD @ 5 VDC		(B)
ELECTRICAL LIFE	25,000 CYCLES		1,250,000 CYCLES		
MECHANICAL:					
	⚠7 HTLT4 SWITCHES				
MECHANICAL LIFE - RETURN TO CENTER FULL FORWARD TO FULL BACK	3,000,000 CYCLES				
	⚠7 HTWM SWITCHES				
MECHANICAL LIFE - RETURN TO CENTER FULL FORWARD TO FULL BACK	3,000,000 CYCLES				
	⚠7 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				(B)
MECHANICAL LIFE	1,250,000 CYCLES				

PRODUCT SPECIFICATIONS

ENVIRONMENTAL:				
	UNITS	MIN	TYP	MAX
OPERATING TEMPERATURE	°C	-40	20	85
	HTLT4 SWITCHES			
ELECTRONICS ENCLOSURE DESIGN	ISO 20653, IP6K8S - DUSTTIGHT, CONTINUOUS IMMERSION, 1 METER FOR 31 MINUTES, STATIONARY DURING TEST(S)			
	HTWM SWITCHES			
ELECTRONICS ENCLOSURE DESIGN	ISO 20653, IP6K8S - DUSTTIGHT, CONTINUOUS IMMERSION, 1 METER FOR 31 MINUTES, STATIONARY DURING TEST(S)			
	HTWS SWITCHES			
ELECTRONICS ENCLOSURE DESIGN	ISO 20653, IP6K8S - DUSTTIGHT, CONTINUOUS IMMERSION, 1 METER FOR 31 MINUTES, STATIONARY DURING TEST(S)			
	K1S SWITCHES			
ELECTRONICS ENCLOSURE DESIGN	ISO 20653, IP66/IPK8S - DUSTTIGHT, CONTINUOUS IMMERSION, 1 METER FOR 31 MINUTES, STATIONARY DURING TEST(S)			
(B)	P9 SWITCHES & TRIGGER			
(B) SWITCH SEAL INTEGRITY	ISO 20653, IP6K8S - 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	22 AWG, UL STYLE 1569, (20" LONG)			

NOTES:

1. DRAWING TO BE INTERPRETED IN ACCORDANCE WITH THE CURRENT REVISION OF ASME Y14.5
2. THIS PART IS TO BE MANUFACTURED IN ACCORDANCE WITH THE LATEST APPLICABLE REGULATIONS OF EC DIRECTIVES FOR THE RESTRICTION OF THE USE OF HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (ROHS), WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) AND REGISTRATION, EVALUATION, AUTHORIZATION AND RESTRICTION OF CHEMICALS (REACH).
3. PACKAGING:
   PLACE GRIP ASSEMBLY INTO PLASTIC BAG,
   PLACE LABEL ON BAG.
4. ID LABEL APPLIED ON INSIDE OF GRIP HEAD
   MARKING ON ID LABEL TO READ:
   OTTO
   OTTO P/N, DATE CODE.
5. NUMBER OF SWITCHES DEPENDENT ON CONFIGURATION CHOSEN, FOR ALL SWITCHES NOT PRESENT IN THE CONFIGURATION CHOOSE NONE.
6. ⚠ ON POSITION OR MOMENTARY POSITION IS UP OR TO THE RIGHT.
7. ⚠ POSITIVE TRAVEL IS UP OR TO THE RIGHT. CONTACT FACTORY FOR ADDITIONAL OPTIONS.
8. ⚠ LOGIC LEVEL RATINGS VOID IF LOGIC LEVEL LOAD(S) EXCEEDED AT ANY TIME.
9. UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCH [METRIC]. IN THE EVENT OF A CONFLICT, THE INCH NOMINAL VALUE AND TOLERANCE WILL TAKE PRECEDENCE.

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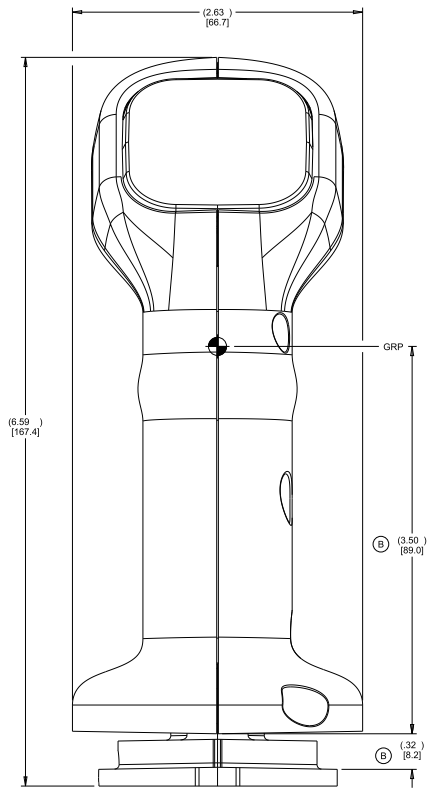
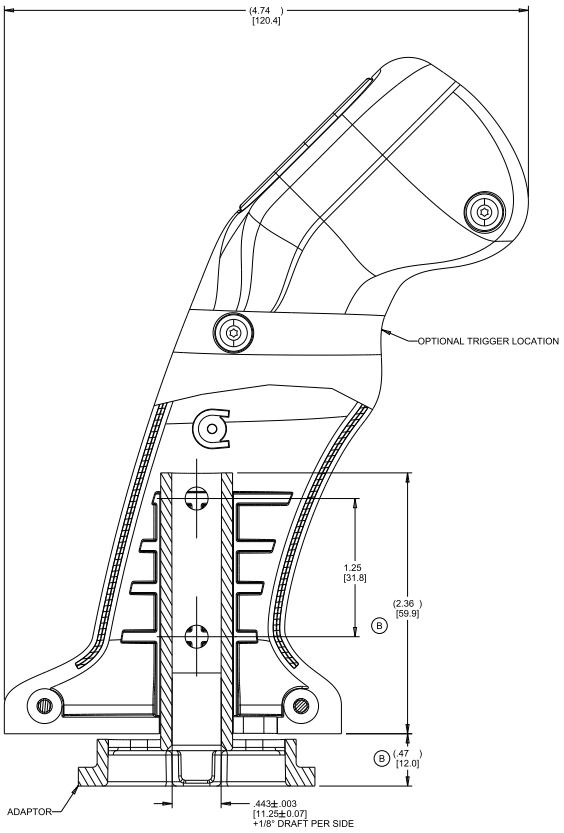
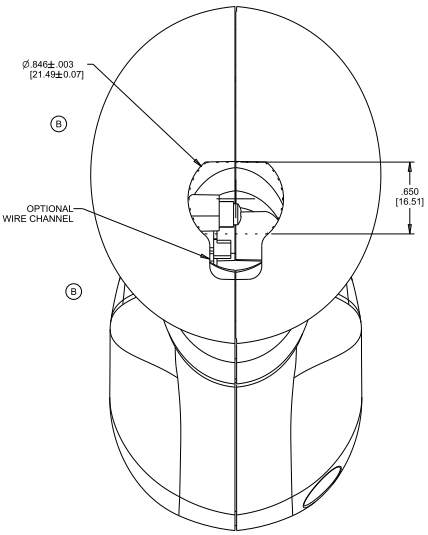




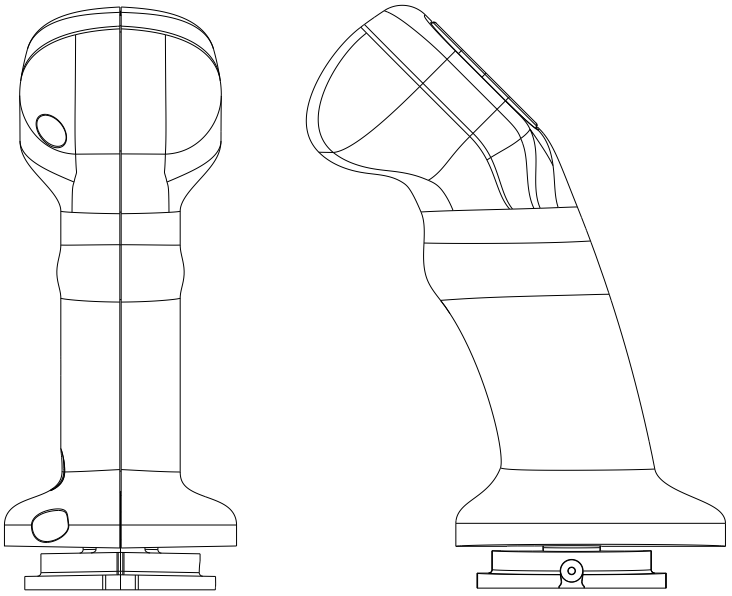
SECTION A-A



SUGGESTED MOUNTING PROFILE
(NO ADAPTOR)

TRIGGER
CONFIGURATIONS
SCALE 6:5

1



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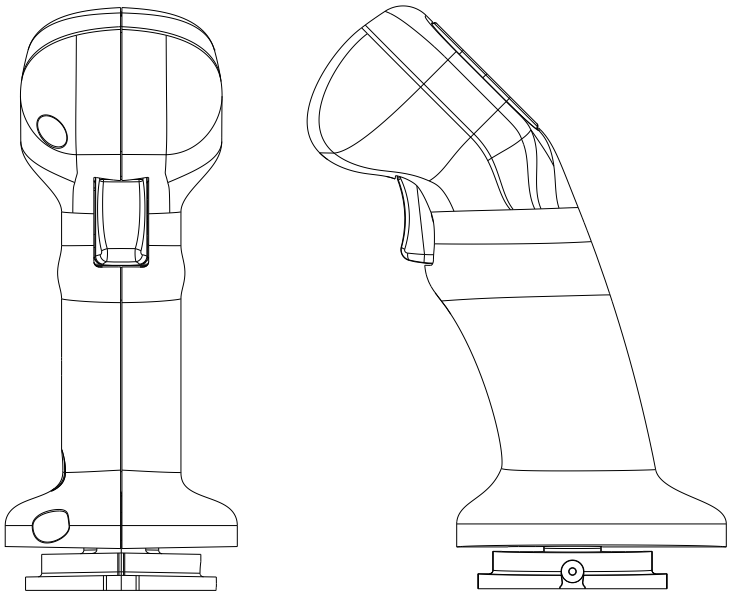

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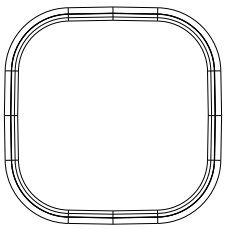
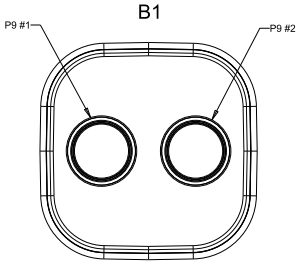
SWITCH CONFIGURATIONS

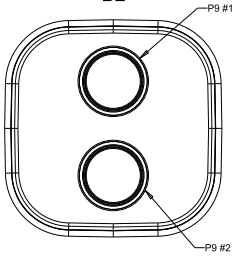
A1



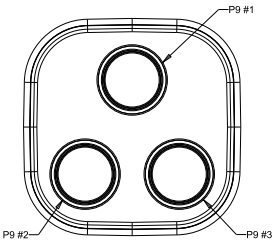
B1



B2



C1



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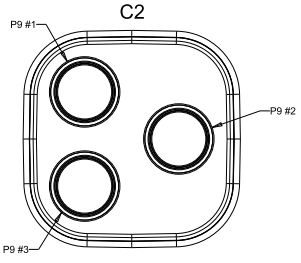

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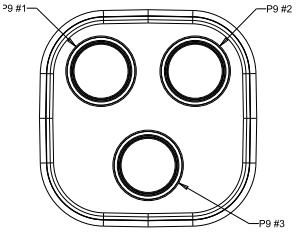

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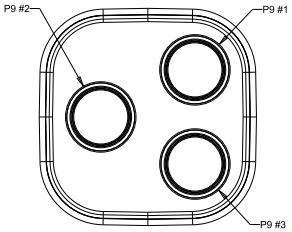
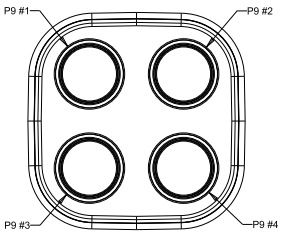
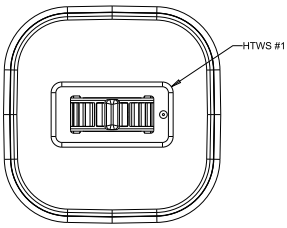


D1



E1



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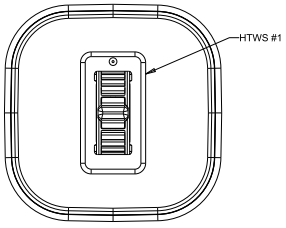
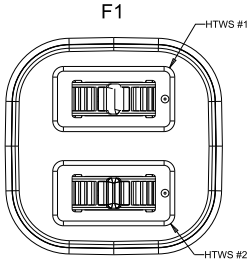


F1



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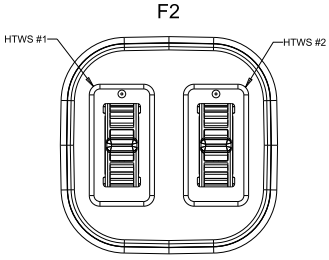
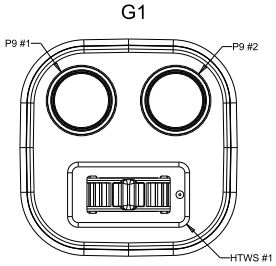
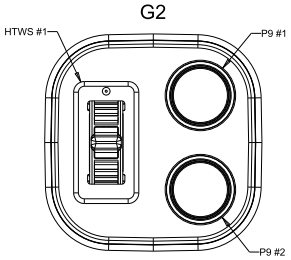


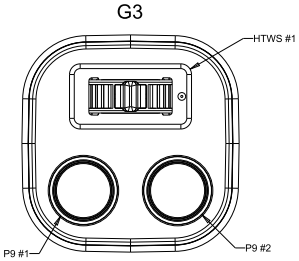
G1



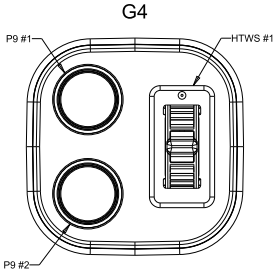
G2



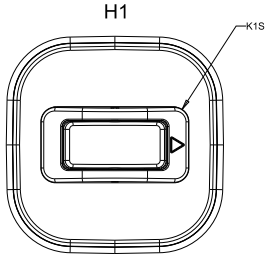
G3



G4



H1



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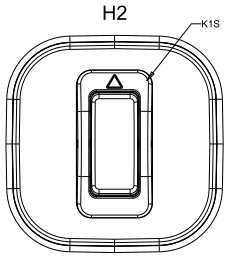
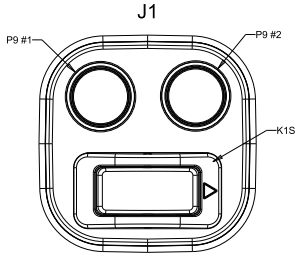
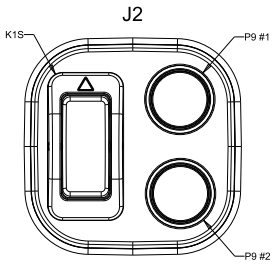


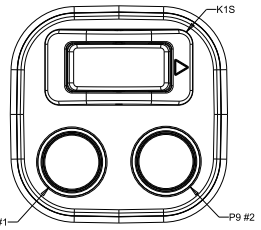
J1



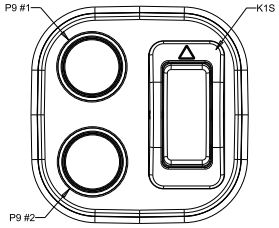
J2



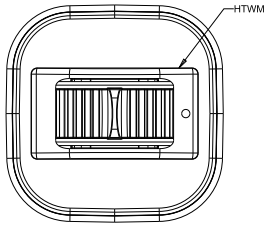
J3



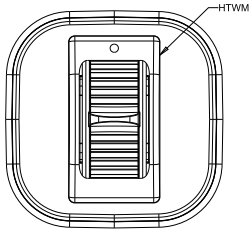
J4



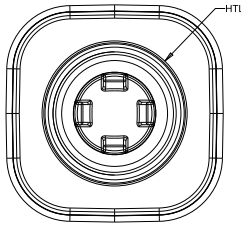
K1



K2

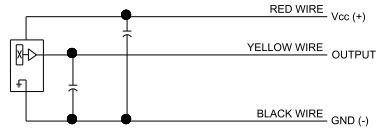


L1

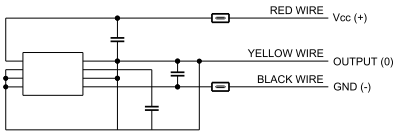


SCHEMATIC

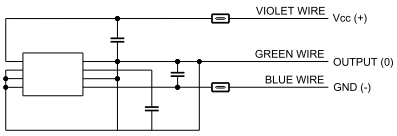
HTWM
HTWM-1A12X22



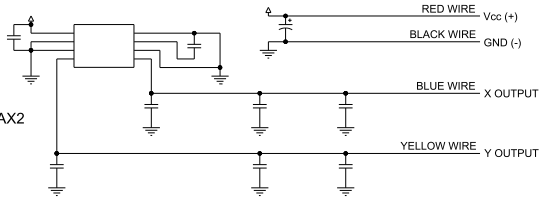
HTWS #1
HTWS-1A12X22



HTWS #2
HTWS-1A12X22

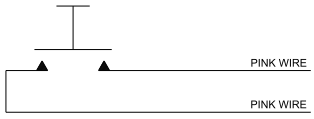


HTLT4
HTLT4-212111AAX2

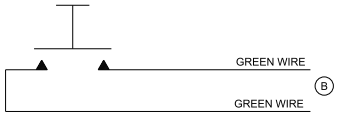


P9 #1
P9-911112X

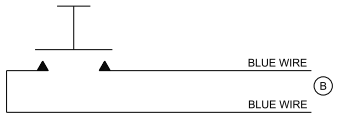
P9 #2
P9-911112X



P9 #3
P9-911112X

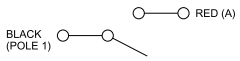


P9 #4
P9-911112X

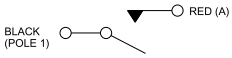


TRIGGER

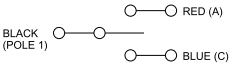
K1S ROCKER
ON-OFF



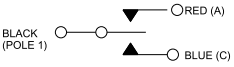
K1S ROCKER
(ON)-OFF



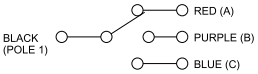
K1S ROCKER
ON-OFF-ON



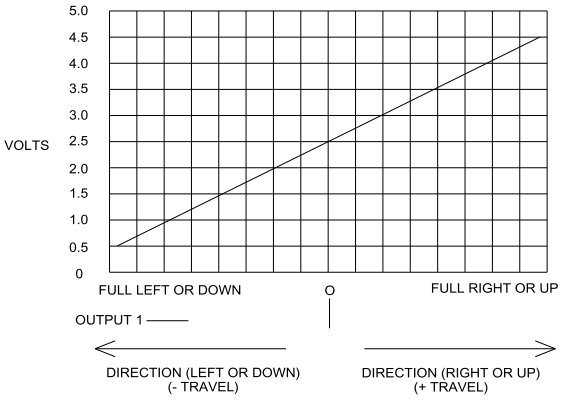
K1S ROCKER
(ON)-OFF-(ON)



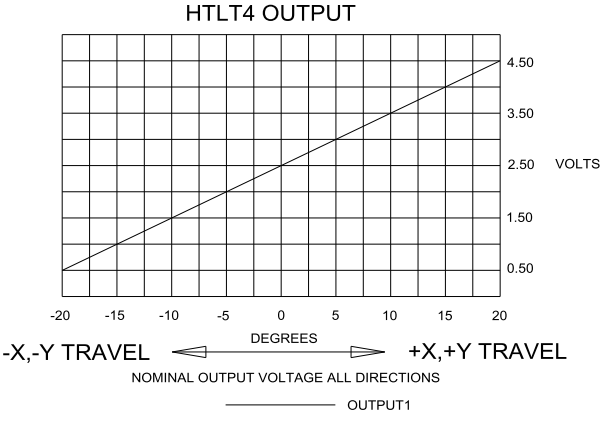
K1S ROCKER
ON-ON-ON



HTWM & HTWS OUTPUT



HTLT4 OUTPUT



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