

NOTES:

1. MARKING TO INCLUDE:

OTTO CONTROLS P/N & DATE CODE "YYWW"

△ OUTPUTS ARE FROM THE CENTER POSITION TO THE FULL TRAVEL POSITION IN EACH DIRECTION.
OPTIONS "A" "B" "C" "D" "E" "F" PROVIDE INCREASING VOLTAGE IN DIRECTION 1 AND DECREASING VOLTAGE IN DIRECTION 2 FROM A SINGLE OUTPUT.
OPTION "G" AND "H" PROVIDE INCREASING VOLTAGES IN BOTH DIRECTIONS FROM TWO SEPARATE OUTPUTS.

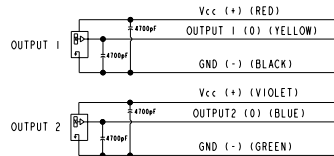
△ OPTION "B" AND "E" PROVIDE REDUNDANT OUTPUT 2 WHICH DUPLICATES OUTPUT 1.
OPTION "C" AND "F" PROVIDE REDUNDANT OUTPUT 2 WHICH IS INVERSE OF OUTPUT 1.
4. THIS PART/PRODUCT IS TO BE MANUFACTURED WITH THE APPLICABLE REGULATIONS OF EC DIRECTIVES 2002/95/EC AND 2002/96/EC, RESTRICTION OF THE USE OF HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (RoHS) AND WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE).

5. ALL OPTIONS REACH FULL OUTPUT APPROX. 1" FROM TRAVEL.

△ OUTPUT OPTIONS A, B, C, D, E AND F, DO NOT HAVE A TOLERANCE ON THE CENTER OUTPUT UNLESS A CENTER DETENT IS SELECTED.

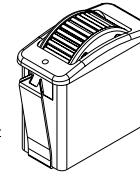
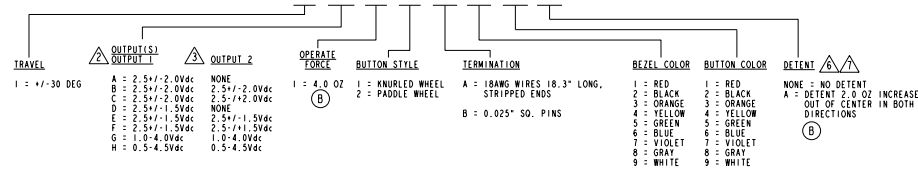
△ OUTPUT OPTIONS G AND H ARE ONLY AVAILABLE WITH A CENTER DETENT.

SWITCH CHARACTERISTICS				
ELECTRICAL				
RATED AT V _{CC} = 5V ± 25°C LOAD = 1mA (4-7KΩ)	UNITS	MIN	TYP	MAX
SUPPLY VOLTAGE	VDC	4.50	5.00	5.50
OUTPUT VOLTAGE, TOLERANCE AT CENTER (SEE APPROPRIATE GRAPH FOR OUTPUT VALUES)	VDC AT 5V V _{CC}	-.15		+.15
OUTPUT VOLTAGE, TOLERANCE FULL TRAVEL (SEE APPROPRIATE GRAPH FOR OUTPUT VALUES)	VDC AT 5V V _{CC}	-.25		+.25
SUPPLY CURRENT OPTIONS A & D B=0, V _{CC} >5V, I ₀ =0	mA			25
SUPPLY CURRENT FOR ALL OTHER OPTIONS B=0, V _{CC} >5V, I ₀ =0	mA			50
MECHANICAL				
MECHANICAL LIFE FULL FORWARD TO FULL BACK		1,000,000		
INITIAL OPERATING FORCE 25°C AT TOP OF ROLLER	OZ	2	4	6
MAXIMUM ALLOWABLE RADIAL LOAD	LBS			30
ENVIRONMENTAL				
OPERATING TEMPERATURE	°C	-40	20	85
HUMIDITY		96% RH, 70°C, 96 HRS		
DROP		3 FT. MAXIMUM TO CONCRETE		
VIBRATION		PER MIL-810F MINIMUM INTEGRITY		
SEAL INTEGRITY		IP68S		
SAND AND DUST		PER SAE J1455 (PORTLAND CEMENT)		
RFI WITHSTAND		100V/m 14Hz TO 1GHz		
EMI WITHSTAND		PER MIL-STD-461D/SAE J1113-22		
MATERIAL				
BUTTON TOP		THERMOPLASTIC		
BEZEL		THERMOPLASTIC		
SNAP ARMS		STAINLESS STEEL		



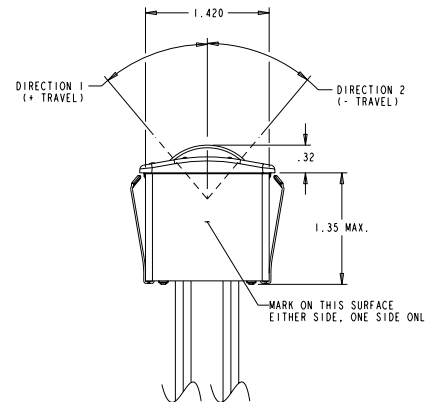
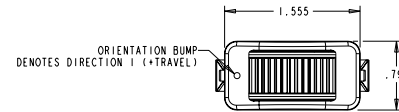
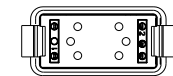
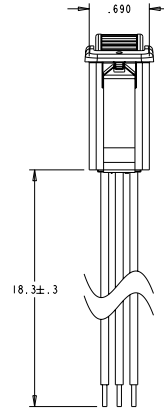
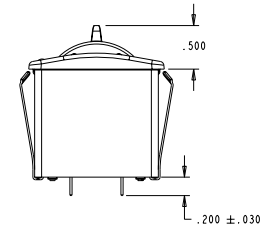
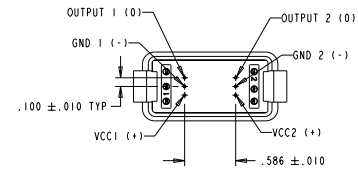
OUTPUT 2 IS NOT PRESENT IN ALL CONFIGURATIONS

HTWF -

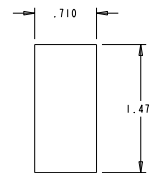


SCALE 1:1

REV	OCN	#	DATE	APR
A	037937	25	JUN 07	LBG
B	038241	16	JUL 07	LBG

PADDLE WHEEL
BUTTON STYLENOT ALL WIRES ARE PRESENT
IN ALL OUTPUT CONFIGURATIONSPINNED
TERMINATION
NOT ALL PINS ARE PRESENT
IN ALL OUTPUT CONFIGURATIONS

MOUNTING:

RECOMMENDED PANEL THICKNESS: 0.100 OPTIMUM THICKNESS
(0.050 MIN. - 0.120 MAX.)RECOMMENDED PANEL OPENING: 0.710 X 1.470 OPTIMUM
(0.710/0.720 - 1.460/1.480)UNLESS OTHERWISE
SPECIFIED:
DIMENSIONS ARE
IN INCHES.
TOLERANCES:
.XX ± .03
.XXX ± .010
ANGLES ± 2°
DO NOT SCALE**OTTO**
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DESCRIPTION

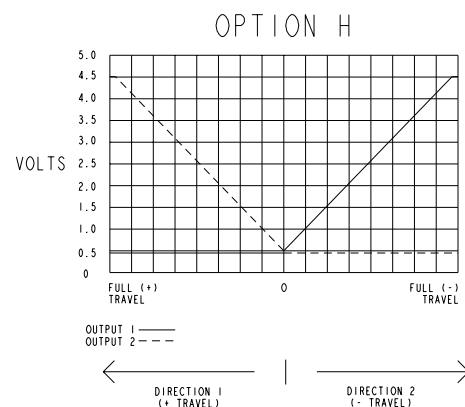
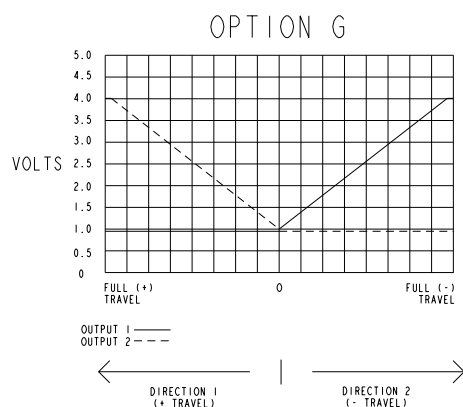
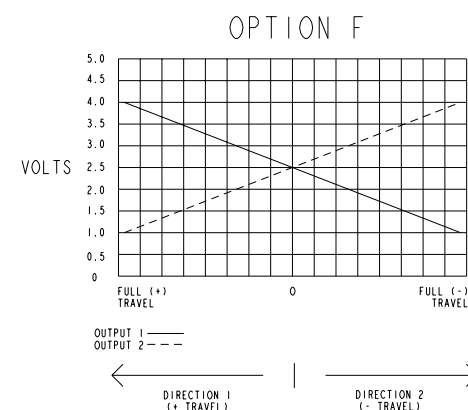
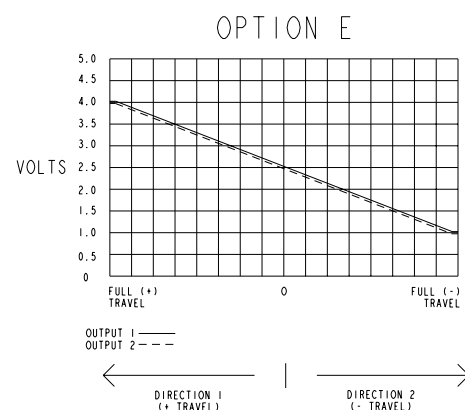
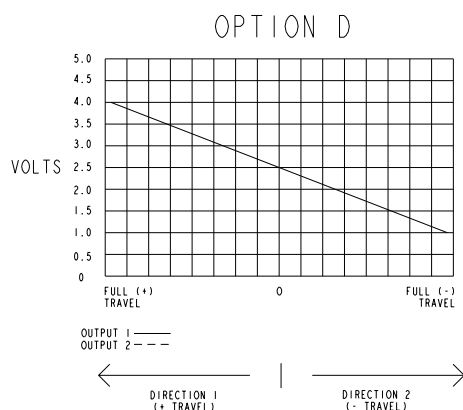
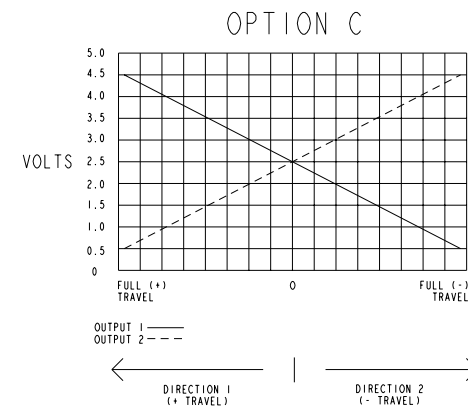
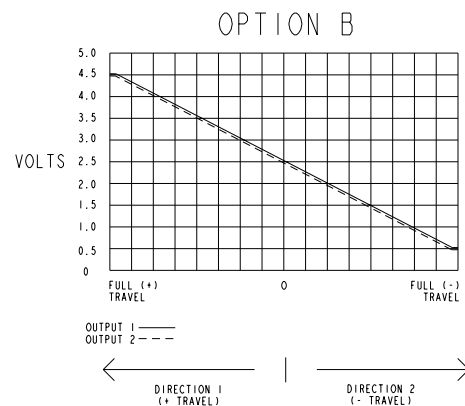
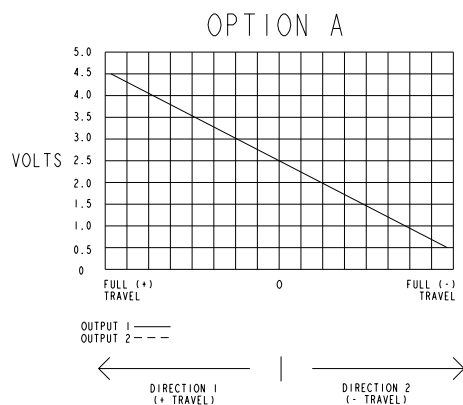
HTW, PROPORTIONAL THUMBWHEEL,
FRICTION

DRWN.	DCP	SIZE	FSCM NO	DRAWING NO.	REV.
CHKD.	DCP	C	21649	HTWF -	B
APPD.	AH				
WT.					

Scale 1:1

Sheet 1 OF 2

REV	OCN #	DATE	APR
A	037937	25 JUN 07	LBG
B	038241	16 JUL 07	LBG



UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES.
TOLERANCES ARE AS LISTED.
MUST BE FREE FROM BURRS
AND SHARP EDGES

TOLERANCES
XX ±.03
.XX ±.010
ANGLES ±°
DO NOT SCALE DRAWING

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DRWN: DCF
CHKD: DCF
APPD: AH
WT.

SIZE
C
FSCM NO
21649
TWO-ANGLE
PROJECTION

DRAWING NO.
HTWF - - - - -

REV.
B
Scale 1:1 Sheet 2 OF 2