NOTES:

1. DRAWING TO BE INTERPRETED IN ACCORDANCE WITH THE CURRENT REVISION OF ASME Y14.5.
2. THIS PART/PRODUCT IS TO BE MANUFACTURED 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. MARKING TO INCLUDE: "OTTO" P/N & DATE CODE "YYWW"

4 OUTPUTS ARE WHEN SWITCH IS IN DETENTED POSITION.
5 FOR SINGLE OUTPUT SWITCHES, WIRING OPTION 1 SHOULD BE SELECTED.
6 ONLY BUTTON COLOR BLACK IS AVAILABLE ON BACKLIT VERSIONS.
7 ONLY LEGEND COLOR WHITE IS AVAILABLE ON BACKLIT VERSIONS.

HFNR-_____			
REV	OCN #	DATE	APR
A	045980	30 OCT 08	LBG
B	054906	07 APR 10	LBG
C	071059	25 JUN 13	DCF

HFNR-

LIGHT SOURCE
A = NONE
B = 2V GREEN LED
C = 2V AMBER LED
D = 5V GREEN LED
E = 5V AMBER LED
F = 12V GREEN LED
G = 12V AMBER LED
H = 24V GREEN LED
J = 24V AMBER LED

OUTPUT(S): 4
DIRECTION 1 / CENTER / DIRECTION 2

OUTPUT 1	OUTPUT 2
A = 4.5/2.5/0.5 VDC	NONE
B = 4.5/2.5/0.5 VDC	4.5/2.5/0.5 VDC
C = 4.5/2.5/0.5 VDC	0.5/2.5/4.5 VDC
D = 4.0/2.5/1.0 VDC	NONE
E = 4.0/2.5/1.0 VDC	4.0/2.5/1.0 VDC
F = 4.0/2.5/1.0 VDC	1.0/2.5/4.0 VDC
G = 1.0/2.5/4.0 VDC	4.0/2.5/1.0 VDC
H = 1.0/1.0/4.0 VDC	4.0/1.0/1.0 VDC

WIRING OPTION 5
1 = COMMON POWER AND GROUND
2 = SEPARATE POWER AND GROUND

OPERATE FORCE: DIRECTION 1 & 2 TO CENTER / CENTER TO DIRECTION 1 & 2
1 = 2.6 / 3.6 LBS

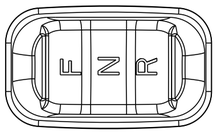
BUTTON STYLE
1 = ROCKER

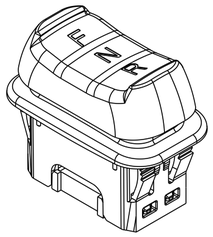
TERMINATION
A = 20 AWG WIRES 18.3" LONG, STRIPPED ENDS

BEZEL COLOR
1 = RED
2 = BLACK
4 = YELLOW
6 = BLUE
8 = GRAY

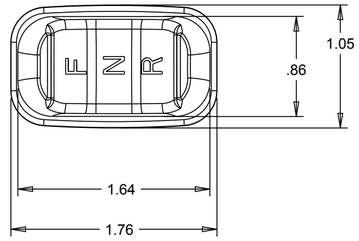
BUTTON COLOR 6
1 = RED
2 = BLACK
3 = ORANGE
4 = YELLOW
5 = GREEN
6 = BLUE
7 = VIOLET
8 = GRAY
9 = WHITE

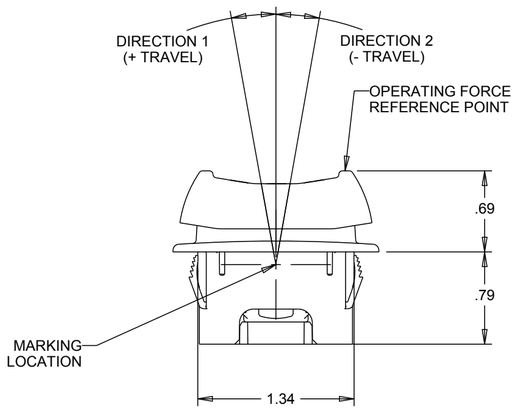
LEGEND / COLOR 7
A = NONE
B = FNR / WHITE

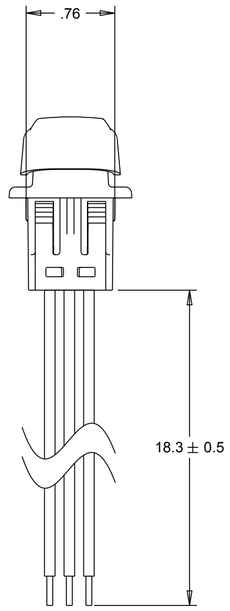




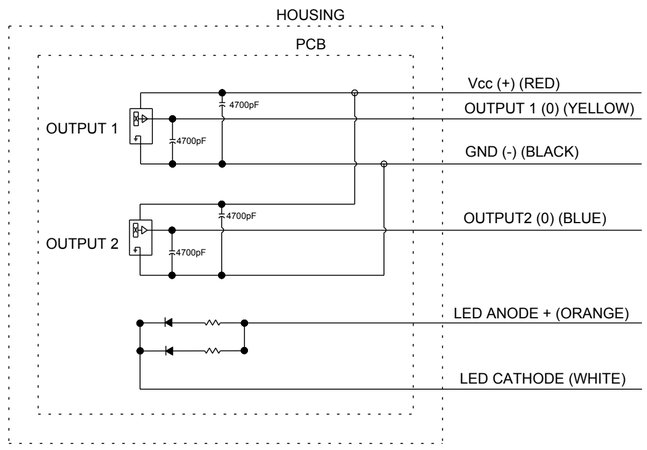
SWITCH CHARACTERISTICS				
ELECTRICAL				
RATED AT Vcc = 5V @ 25° C LOAD = 1ma (4.7KΩ)	UNITS	MIN	TYP	MAX
SUPPLY VOLTAGE	VDC	4.50	5.00	5.50
OUTPUT VOLTAGE, TOLERANCE AT CENTER	VDC AT 5V Vcc	-.35	NA	+.35
OUTPUT VOLTAGE, TOLERANCE AT FULL TRAVEL	VDC AT 5V Vcc	-.35	NA	+.35
SUPPLY CURRENT PER SENSOR B=0, Vcc=5V, Iout=0	mA	NA	NA	10
MECHANICAL				
MECHANICAL LIFE FULL FORWARD TO FULL BACK	3,000,000			
ANGLE OF THROW BETWEEN ADJACENT POSITIONS	°	8	10	12
MAXIMUM ALLOWABLE RADIAL LOAD	LBS	NA	NA	30
ENVIRONMENTAL				
OPERATING TEMPERATURE	°C	-40	20	85
HUMIDITY	96% RH, 70° C, 96 HRS			
VIBRATION	PER MIL-810F MINIMUM INTEGRITY			
ELECTRONICS SEAL INTEGRITY	WATERTIGHT PER IP68S, 1 METER			
MECHANICAL SEAL INTEGRITY	UNSEALED			
EMI/RFI WITHSTAND	PER SAE J1113 CONTACT FACTORY FOR DETAILS			
MATERIAL				
BUTTON TOP	THERMOPLASTIC			
BEZEL	THERMOPLASTIC			





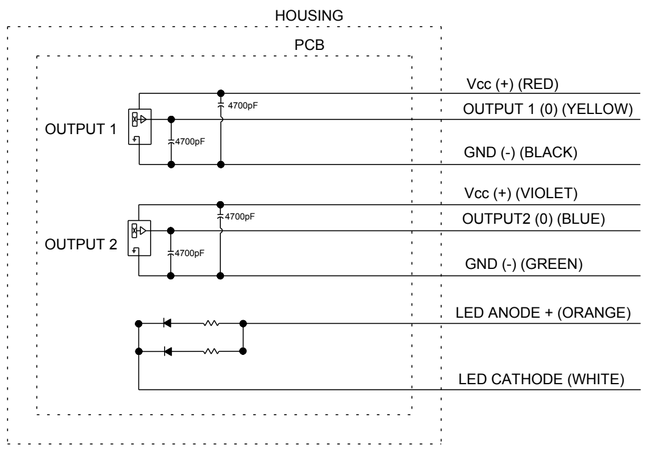


WIRING OPTION 1
COMMON POWER AND GROUND



OUTPUT 2 AND LED ARE NOT PRESENT IN ALL CONFIGURATIONS

WIRING OPTION 2
SEPARATE POWER AND GROUND



OUTPUT 2 AND LED ARE NOT PRESENT IN ALL CONFIGURATIONS

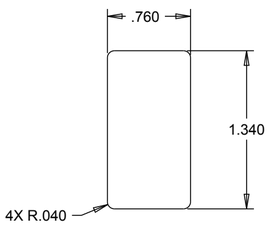
LEGEND OPTION B SHOWN

MOUNTING:

RECOMMENDED PANEL THICKNESS: 0.112 OPTIMUM THICKNESS
(0.040 MIN. - 0.205 MAX.)

RECOMMENDED PANEL OPENING: 0.760 X 1.340 OPTIMUM
(0.760/.770 X 1.335/1.345}

RECOMMENDED PANEL RADII: 0.040 OPTIMUM
(0.070 MAX.)



MANUFACTURING
SPC
SR SPECIAL REQUIREMENT

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES.
TOLERANCES:
.XX ±.03
.XXX ±.010
ANGLES ±2°
DO NOT SCALE

OTTO
CARPENTERSVILLE, ILLINOIS USA

DESCRIPTION
HFNR, HALL EFFECT, 3 POSITION ANALOG OUTPUT ROCKER WITH BACKLIGHTING OPTION

DRWN. DCF	SIZE	FSCM NO	DRAWING NO.	REV.
CHKD. DCF	C	21649	HFNR-_____	C
APPD. AH				
THIRD ANGLE PROJECTION		Scale 1:1	Sheet 1 OF 1	