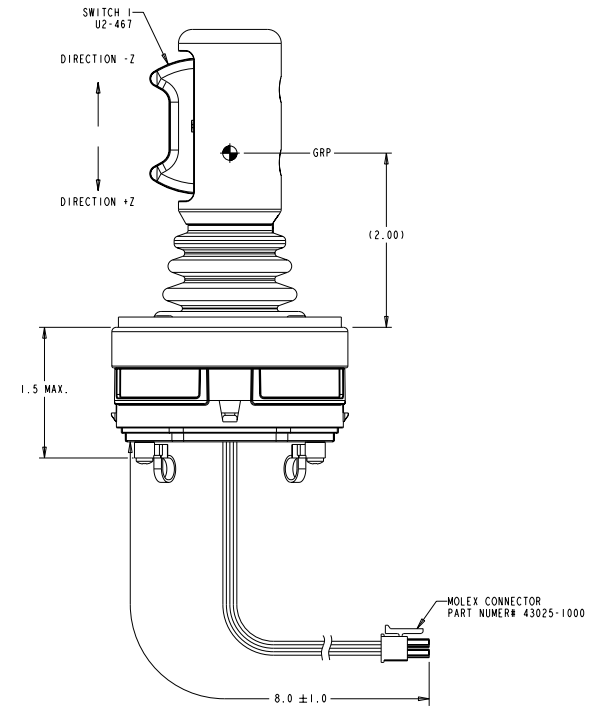
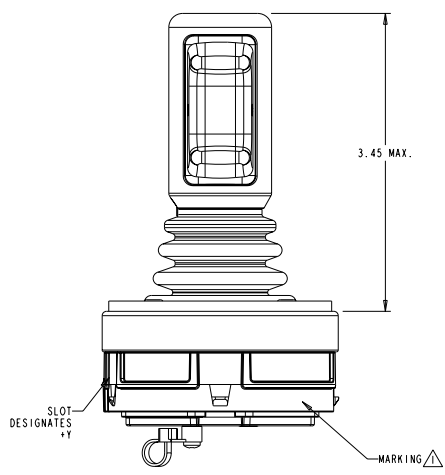
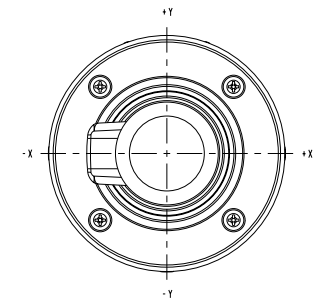
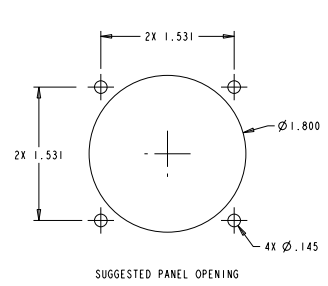



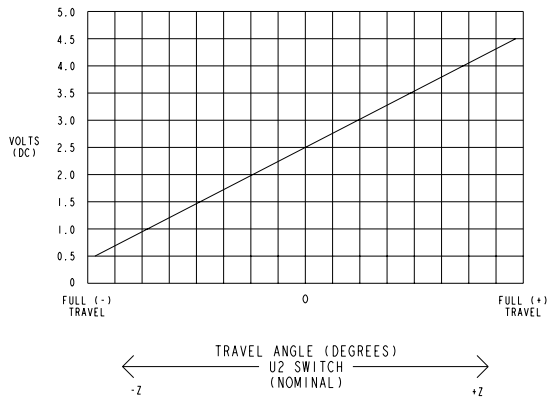
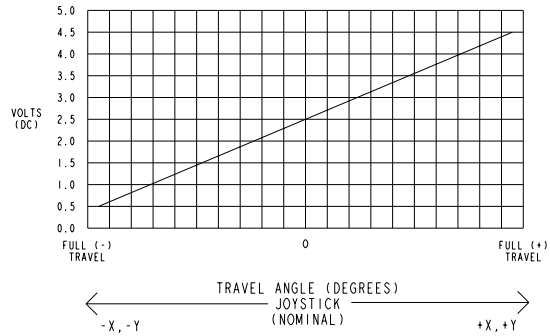
PRODUCT SPECIFICATIONS				
ELECTRICAL:				
JOYSTICK				
RATED AT V _{cc} = 5V @ 20°C LOAD = 1ma (4.7kΩ)	UNITS	MIN	TYP	MAX
SUPPLY VOLTAGE	VDC	4.50	5.00	5.50
OUTPUT VOLTAGE, +Y, -Y, +X, -X 0° DEFLECTION	VDC @ 5V V _{cc}	2.25	2.50	2.75
OUTPUT AT FULL TRAVEL +Y, +X DIRECTION	VDC @ 5V V _{cc}	4.25	4.50	4.55
OUTPUT AT FULL TRAVEL -Y, -X DIRECTION	VDC @ 5V V _{cc}	0.45	0.50	0.75
SUPPLY CURRENT B=0, V _{cc} =5V, I _o =0	mA			100
OUTPUT SOURCE CURRENT LIMIT B=-X+, V _o =0	mA	-1.0	-1.5	1.0
OUTPUT RESISTANCE I _o ≤ -2 mA	Ω		1.0	10
U2-467				
RATED @ V _{cc} = 5V @ 25°C LOAD = 1ma (4.7kΩ)	UNITS	MIN	TYP	MAX
SUPPLY VOLTAGE	VDC	4.50	5.00	5.50
OUTPUT VOLTAGE +Z, -Z 0° DEFLECTION	VDC AT 5V V _{cc}	2.25	2.50	2.75
OUTPUT AT FULL TRAVEL +Z DIRECTION	VDC AT 5V V _{cc}	4.25	4.50	4.55
OUTPUT AT FULL TRAVEL -Z DIRECTION	VDC AT 5V V _{cc}	0.45	0.50	0.75
SUPPLY CURRENT B=0, V _{cc} =5V, I _o =0	mA			10
MECHANICAL:				
JOYSTICK				
MECHANICAL LIFE ALL DIRECTIONS		10,000,000 CYCLES		
TRAVEL ANGLE	DEGREES	19	20	21
OVER TRAVEL ANGLE	DEGREES	0.5	1.0	1.5
OPERATING FORCE (W/BELLOWS) 20-85°C @ GRP	OZ	3.0	6.0	9.0
MAX ALLOWABLE RADIAL FORCE ON TOP OF KNOB	LBS			30
U2-467				
MECHANICAL LIFE FULL FORWARD TO FULL BACK		2,500,000 CYCLES		
OPERATING FORCE 25°C	OZ	3.5	6.5	9.5
MAXIMUM ALLOWABLE RADIAL LOAD	LBS			30
FULL TRAVEL ANGLE (FROM CENTER)	DEGREE	15	17	19
MINIMUM RETURN FORCE	OZ	2.0		
ENVIRONMENTAL:				
OPERATING TEMPERATURE	°C	-20	20	85
JOYSTICK				
ELECTRONICS SEAL INTEGRITY	WATERTIGHT PER IP68S, 1 METER			
U2-467				
ELECTRONICS SEAL INTEGRITY	WATERTIGHT PER IP68S, 1 METER			
MATERIAL:				
WIRES	26 AWG, UL 1007/26			
MOUNTING HARDWARE	STAINLESS STEEL M3 x 0.5 X 14 MM SCREWS			

NOTES:
 1. MARKING TO INCLUDE:
 "OTTO" P/N & DATE CODE (YYWW)
 2. 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).

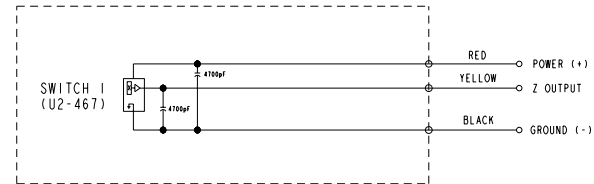


WIRES NOT SHOWN IN ALL VIEWS
 FOR CLARITY

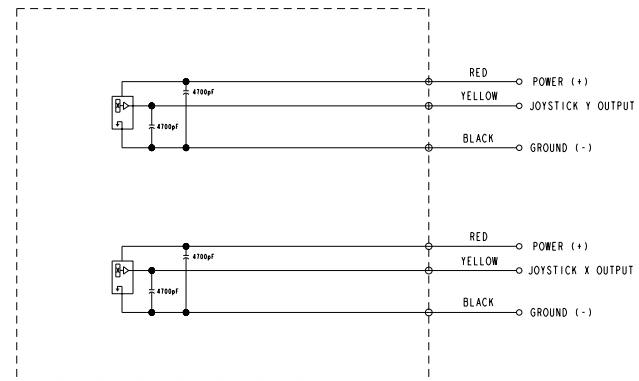
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES. TOLERANCES: .XX ±.03 .XXX ±.010 ANGLES 8±° DO NOT SCALE	 CARPENTERSVILLE, ILLINOIS USA		DESCRIPTION		
	THIS DOCUMENT IS THE CONFIDENTIAL PROPERTY OF OTTO ENGINEERING, INC. IT IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTERESTS OF OTTO ENGINEERING, INC.		JHM, MEDIUM HALLEFFECT JOYSTICK W/ HALL ROCKER		
MANUFACTURING SPC	DRWN. KS CHKD. DCF APP'D. AH WT.	SIZE C	FSCM NO 21649	DRAWING NO. JHM-00005	REV. 2
			THIRD ANGLE PROJECTION	Scale 1:1	Sheet 1 OF 2



HANDLE SCHEMATIC



JOYSTICK SCHEMATIC



PIN	SIGNAL	WIRE COLOR
1	X POWER	RED
2	X OUTPUT JOYSTICK	YELLOW
3	X GROUND	BLACK
4	Y POWER	RED
5	Y OUTPUT JOYSTICK	YELLOW
6	Y GROUND	BLACK
7	Z POWER	RED
8	Z OUTPUT	YELLOW
9	Z GROUND	BLACK
10	OPEN	NONE