

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), AND WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE).

3. LABEL TO INCLUDE:
PART NUMBER
"OTTO 21649"
DATE CODE (YYWW)

| | | | |
|-----------|-------|-----------|-----|
| JHT-00028 | | | |
| REV | ECN # | DATE | APR |
| A | B6628 | 20 AUG 18 | KLW |

PRODUCT SPECIFICATIONS

| ELECTRICAL: | | | | |
|---|----------------------------|------|------|------|
| JOYSTICK | | | | |
| RATED AT V _{cc} = 5V LOAD = 1ma (4.7KΩ) | UNITS | MIN | TYP | MAX |
| SUPPLY VOLTAGE | VDC | 4.50 | 5.00 | 5.50 |
| OUTPUT VOLTAGE, +Y1,-Y1,+Y2,-Y2 0° DEFLECTION | VDC @5V V _{cc} | 2.25 | 2.50 | 2.75 |
| OUTPUT AT DETENT -Y1, +Y2 DIRECTION | VDC @5V V _{cc} | 1.15 | 1.50 | 1.85 |
| OUTPUT AT DETENT +Y1, -Y2 DIRECTION | VDC @5V V _{cc} | 3.15 | 3.50 | 3.85 |
| OUTPUT AT FULL TRAVEL -Y1, +Y2 DIRECTION | VDC @5V V _{cc} | 0.25 | 0.50 | 0.75 |
| OUTPUT AT FULL TRAVEL +Y1, -Y2 DIRECTION | VDC @5V V _{cc} | 4.25 | 4.50 | 4.75 |
| SUPPLY CURRENT B=0, V _{cc} =5V, I _o =0 | mA | N/A | 20 | 24 |
| OUTPUT IMPEDANCE | kΩ | N/A | 1.0 | N/A |

MECHANICAL:

| JOYSTICK | | | | |
|---|---|-----|-----|-----|
| MECHANICAL LIFE ALL DIRECTIONS | 250,000 CYCLES | | | |
| MECHANICAL OPERATION | GATED, SINGLE AXIS, DETENT AT 50% TRAVEL | | | |
| TRAVEL ANGLE | DEGREES | 18 | 20 | 22 |
| DETENT TRAVEL ANGLE | DEGREES | 9 | 10 | 11 |
| OVER TRAVEL ANGLE | DEGREES | 0.5 | 1.0 | 1.5 |
| OPERATING FORCE (W/BELLOWS) @ GRP THRU OPERATING RANGE | LBS | 0.5 | 0.8 | 1.1 |
| MAX ALLOWABLE RADIAL FORCE @ GRP | LBS | N/A | N/A | 50 |

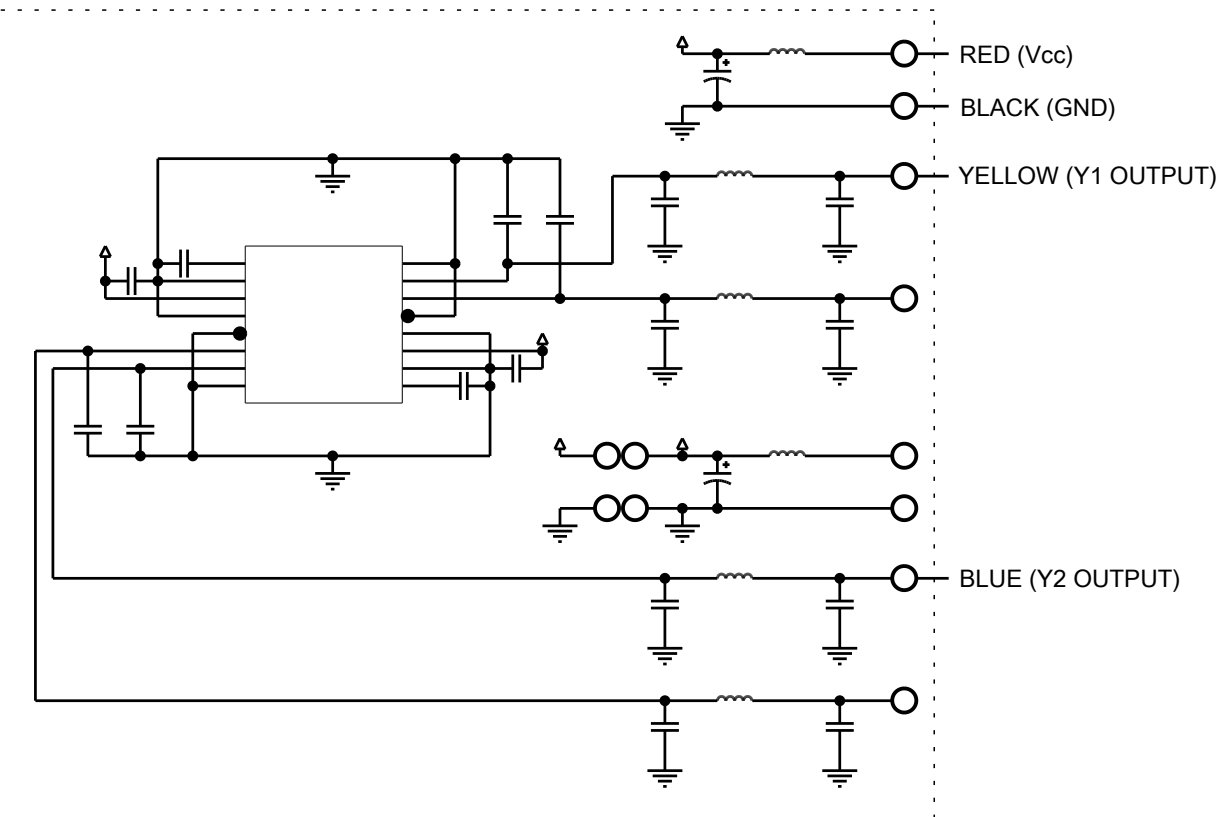
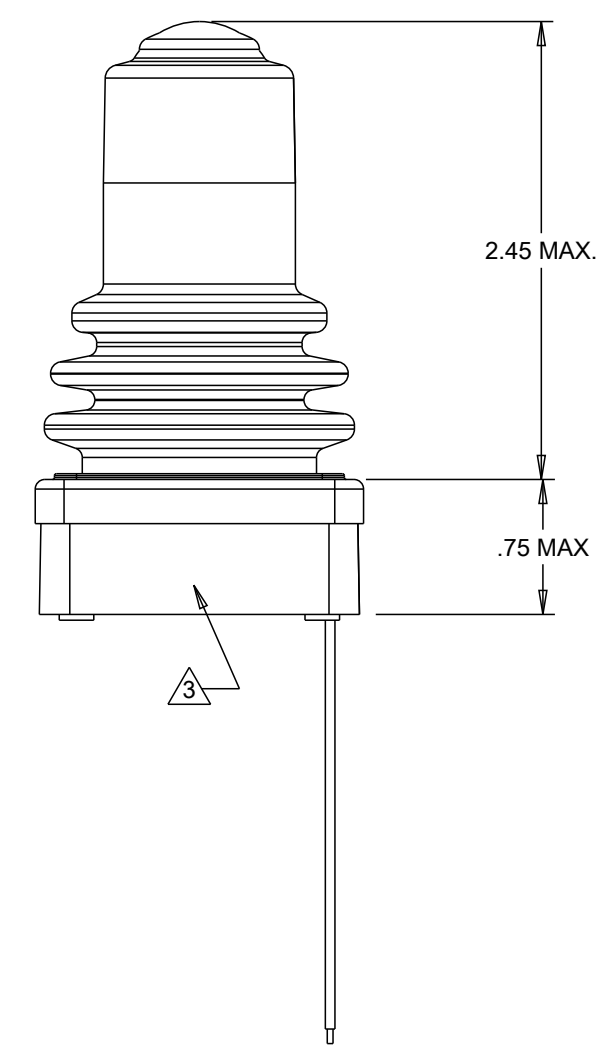
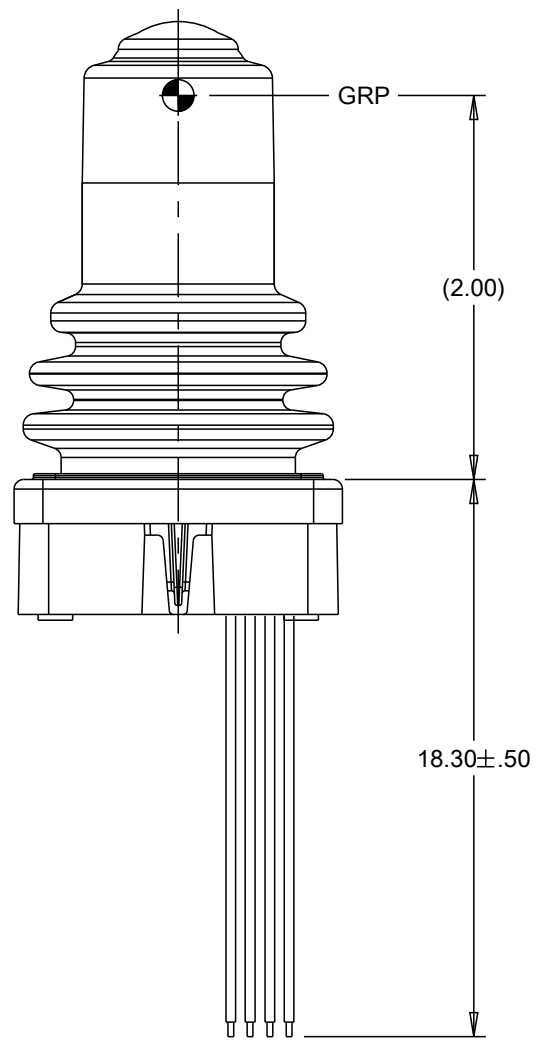
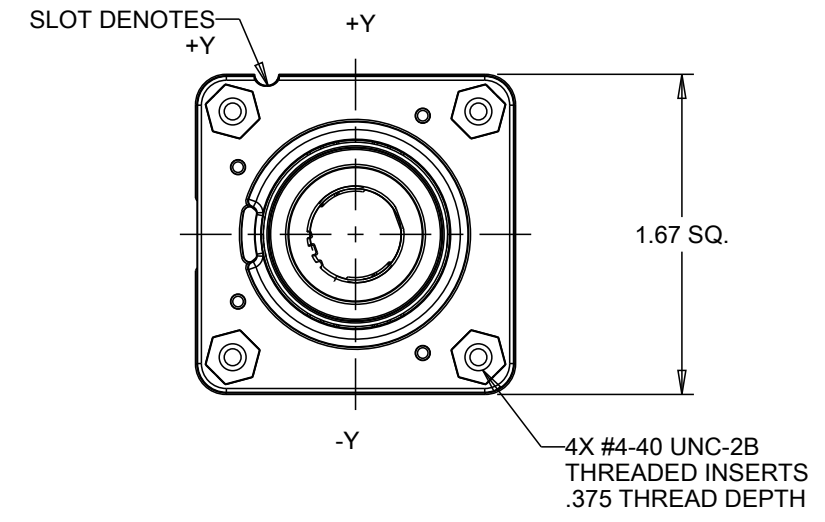
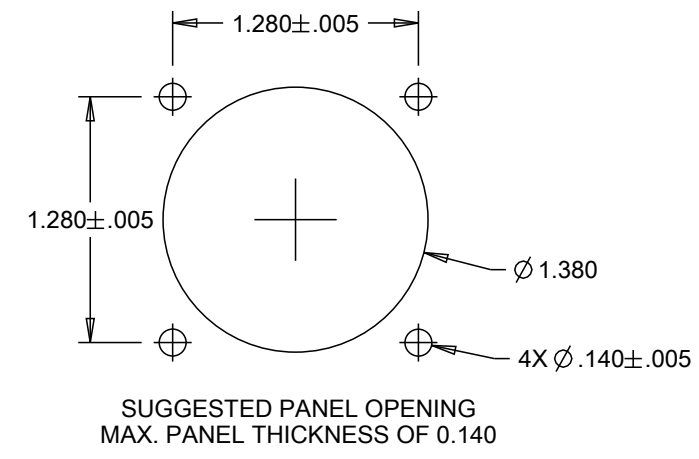
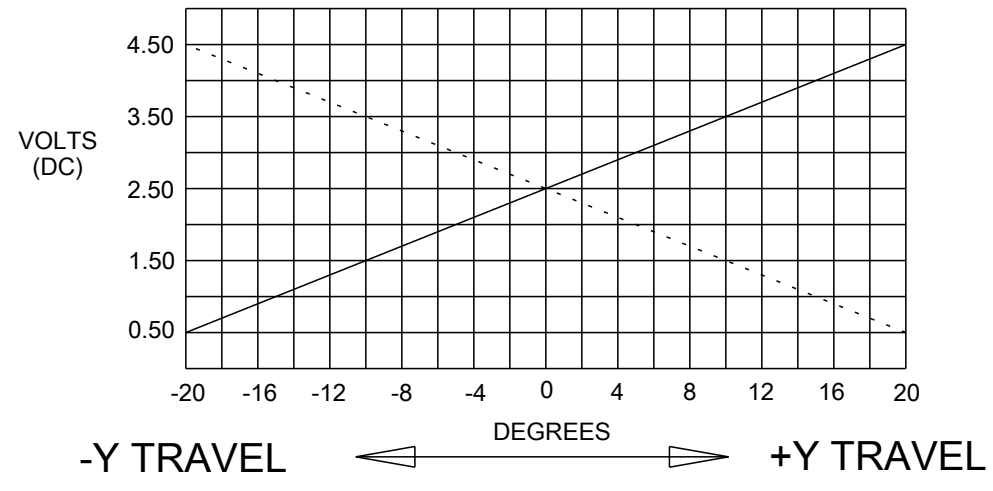
ENVIRONMENTAL:

| JOYSTICK | | | | |
|-----------------------|----|-----|----|----|
| OPERATING TEMPERATURE | °C | -40 | 20 | 85 |

| | |
|------------------------------|---|
| DROP | 1 METER MAX. TO CONCRETE |
| ELECTRONICS ENCLOSURE DESIGN | ISO 20653, IP6K8S - DUSTTIGHT, CONTINUOUS IMMERSION, 1 METER FOR 31 MINUTES, STATIONARY DURING TEST(S) |
| EMI/RFI WITHSTAND | PER SAE J1113 CONTACT FACTORY FOR DETAILS |

MATERIAL:

| | |
|---------|-----------------------|
| HOUSING | THERMOPLASTIC, BLACK |
| BELLOWS | SILICONE, BLACK |
| WIRES | 22 AWG (7/30), UL1569 |



SCHMATIC

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



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| DESCRIPTION | | | | |
|--|------------------------|---------|-------------|--------------|
| JHT, SINGLE AXIS 50% TRAVEL DETENT, NO PUSHBUTTON | | | | |
| DRWN. BAG | SIZE | FSCM NO | DRAWING NO. | REV. |
| CHKD. KLW | C | 21649 | JHT-00028 | A |
| APPD. AH | THIRD ANGLE PROJECTION | | Scale 1:1 | Sheet 1 OF 1 |