



### GLAA01A1B



*Actual product appearance may vary.*

**Global Limit Switches Series GLS: Side Rotary With Roller - Standard, 1NC 1NO SPDT Snap Action, 0.5 in - 14NPT conduit**

#### Features

- Designed to IEC standard for world-wide applications
- UL, CSA, and CE
- International conduit sizes
- Direct PLC interface compatible (two circuit)
- Modular construction reduces maintenance parts costs
- Designed for ease of installation
- Variety of basic switch versions
- Wide choice of actuators

#### Potential Applications

- Machine tools: metal fabrication equipment, presses, transfer lines and special machinery
- Material handling equipment: conveyors, elevators, cranes, and hoists
- Packaging machinery and process equipment
- Textile machinery
- Construction machinery and equipment, vehicles and lift trucks

#### Description

The GLS series limit switches are specifically designed for world-wide applications and are supported by Honeywell global resources for sale and after sale service.

| Product Specifications     |                                |
|----------------------------|--------------------------------|
| Availability               | Global                         |
| Operating Force (O.F.)     | 0,330 N m [2.90 in lb]         |
| Pretravel (P.T.)           | 26°                            |
| Overtravel (O.T.)          | 59°                            |
| Differential Travel (D.T.) | 12°                            |
| Product Type               | EN50041/47 Global Limit Switch |
| Actuator                   | Side Rotary                    |
| Lever Style                | Roller - Standard              |
| Circuitry                  | 1NC 1NO SPDT Snap Action       |
| Ampere Rating              | 10 A (Thermal)                 |
| Supply Voltage             | 600 Vac and 250 Vdc max.       |
| Housing Material           | Zinc Die-Cast                  |

|                                |   |
|--------------------------------|---|
| Termination Type               | 0.5 in - 14NPT conduit                  |
| Housing Type                   | EN 50041                                |
| Series Name                    | GLS DIN                                 |
| Shock                          | 50 g per IEC 68-2-27c (w/o Actuator)    |
| Vibration                      | 10 g per IEC 68-2-6 (w/o Actuator)      |
| Sealing                        | NEMA 1, 4, 12, 13 IP67                  |
| Approvals                      | UL, CSA, CE                             |
| CSA File #                     | LR94369-3                               |
| UL File #                      | E37138 & E157416                        |
| Mechanical Life                | 15 million                              |
| Operating Temperature Range    | -25 °C to 85 °C [-13 °F to 185 °F]      |
| Comment                        | Roller Material: Steel                  |
| Agency Approvals and Standards | IEC 947-5-1, EN60947-5-1, UL508         |
| UNSPSC Code                    | 302119                                  |
| UNSPSC Commodity               | 302119 Switches and controls and relays |
| Sealed                         | Industrial                              |
| Operating Position (O.P.)      | 26°                                     |

SIDE ROTARY

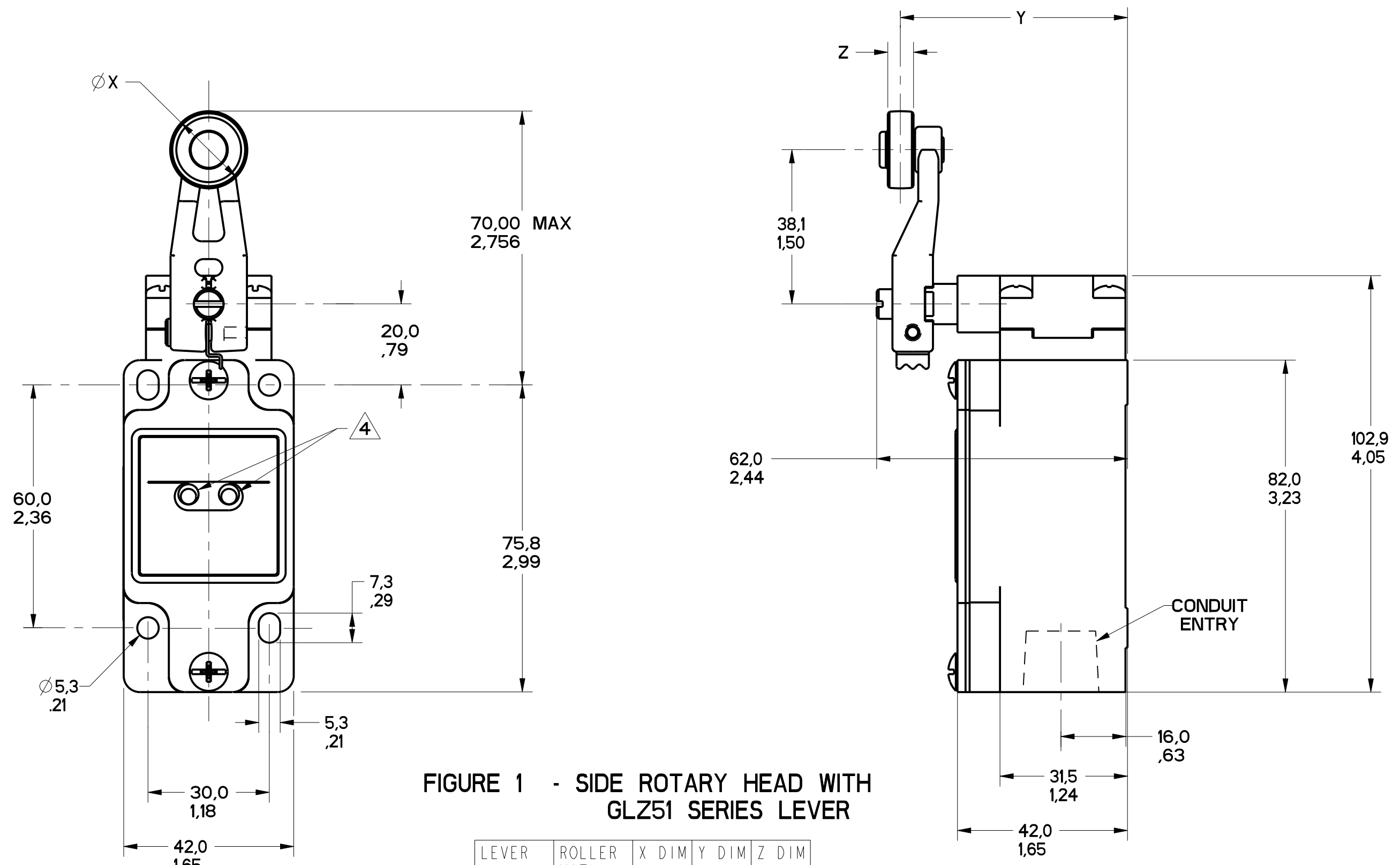


FIGURE 1 - SIDE ROTARY HEAD WITH GLZ51 SERIES LEVER

| LEVER  | ROLLER MATL | X DIM        | Y DIM        | Z DIM       |
|--------|-------------|--------------|--------------|-------------|
| GLZ51A | NYLON       | 19.1<br>.75  | 55.9<br>2.20 | 6.4<br>.25  |
| GLZ51B | STEEL       | 19.1<br>.75  | 55.9<br>2.20 | 6.4<br>.25  |
| GLZ51Y | RUBBER      | 50.0<br>1.97 | 66.1<br>2.60 | 10.0<br>.39 |

GLZ54J: 200.00 / 7.870 MAX  
GLZ54K: 140.00 / 5.510 MAX  
ALUMINUM ROD

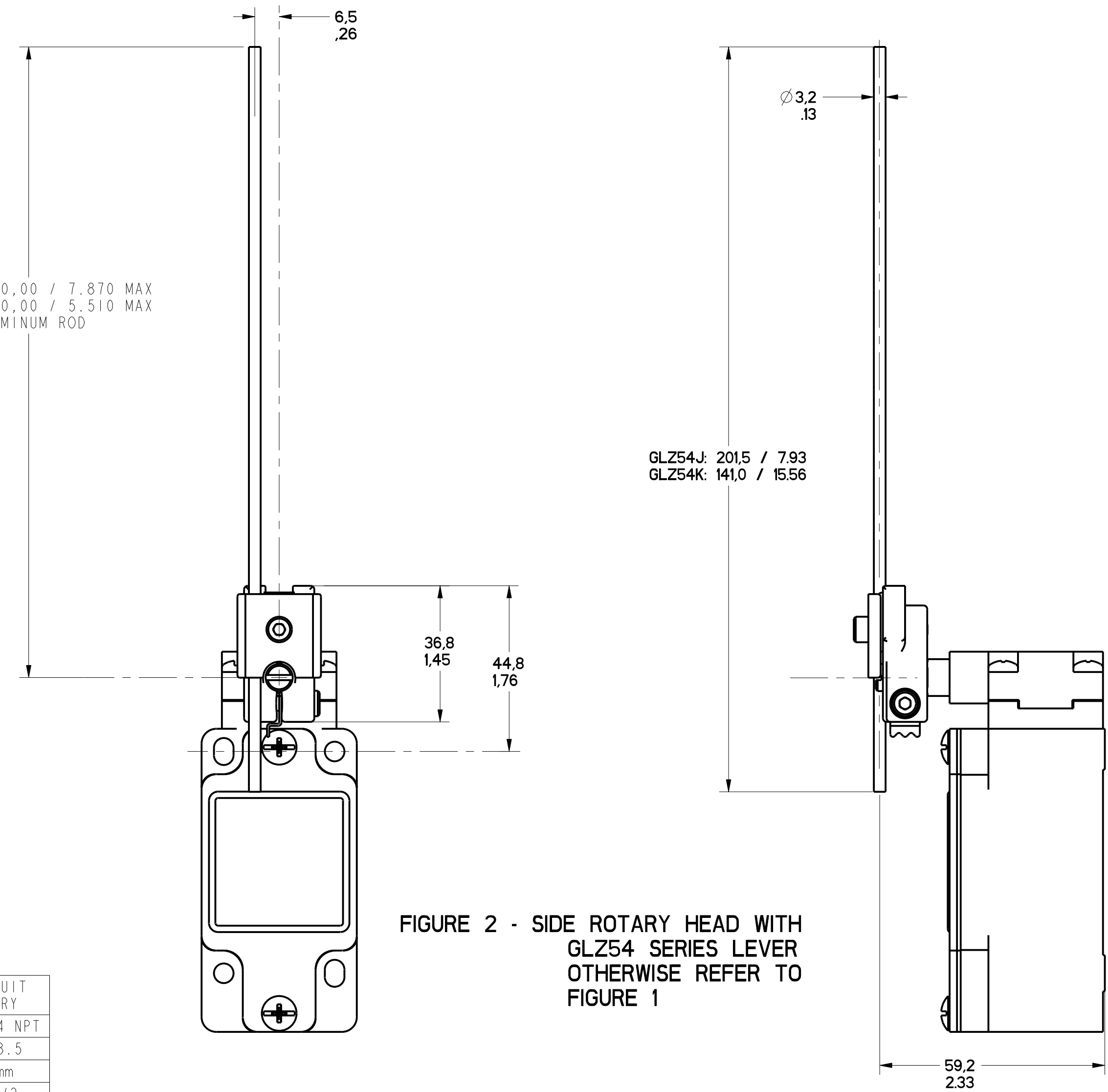


FIGURE 2 - SIDE ROTARY HEAD WITH GLZ54 SERIES LEVER OTHERWISE REFER TO FIGURE 1

| FIGURE | CATALOG LISTING | CONDUIT ENTRY |
|--------|-----------------|---------------|
| 1A     | GL*A SERIES     | 1/2-14 NPT    |
| 1B     | GL*B SERIES     | PG13.5        |
| 1C     | GL*C SERIES     | 20mm          |
| 1D     | GL*D SERIES     | PF1/2         |

| ELECTRICAL RATING |         |         |         |
|-------------------|---------|---------|---------|
| AC                |         | DC      |         |
| A600 Ue           | AC15 Ie | O300 Ue | DC13 Ie |
| (VOLTS)           | (AMPS)  | (VOLTS) | (AMPS)  |
| 120               | 6       | 24      | 2.8     |
| 240               | 3       | 125     | .55     |
| 380               | 1.9     | 250     | .27     |
| 480               | 1.5     |         |         |
| 500               | 1.4     |         |         |
| 600               | 1.2     |         |         |

| ENVIRONMENTAL RATING       |  |
|----------------------------|--|
| IP67                       |  |
| NEMA/UL TYPES 1, 4, 12, 13 |  |

- NOTES
- HEADS MAY BE INDEXED IN 90° INCREMENTS
  - LEVERS MAY BE KEYED TO THE SHAFT AT 90° INCREMENTS. THEY MAY ALSO BE ATTACHED, BUT NOT KEYED ANYWHERE ON THE SHAFT.
  - FOR ADDITIONAL LEVERS SEE "M" DRAWING CHART GLZ5
  - THE LEFT INDICATOR IS GREEN AND INDICATES "POWER ON" IT IS ON GLH SERIES PRODUCTS ONLY. THE RIGHT INDICATOR IS YELLOW AND INDICATES "OUTPUT STATUS" IT IS ON GLF AND GLH SERIES PRODUCTS ONLY.
  - THE MAXIMUM VOLTAGE, V<sub>e</sub> OF GLF AND GLH SERIES PRODUCTS IS THE MAXIMUM RATED VOLTAGE OF INDICATION LIGHTS
  - FREE POSITION, OPERATE POINT, OVERTRAVEL AND PRETRAVEL ALL TO EN50041
  - CAM TRAVEL FOR FIG 9 ONLY APPLIES WHEN LEVER IS ADJUSTED TO 38.1 / 1.50
  - THE MAXIMUM VOLTAGE, V<sub>e</sub> OF "06" AND "36" BASIC SWITCH CODE IS 500V (A500) TEMPERATURE RANGE
  - (ALL PRODUCTS EXCEPT W/SIDE ROTARY OPERATING HEAD) OPERATING: -25°C TO +85°C / -13°F TO +185°F STORAGE: -40°C TO +85°C / -40°F TO +185°F (PRODUCTS W/SIDE ROTARY OPERATING HEAD) OPERATING: -40°C TO +85°C / -40°F TO +185°F STORAGE: -40°C TO +85°C / -40°F TO +185°F

| CATALOG LISTING | BODY DIMENSIONS, FIGURE | HEAD DIMENSIONS, FIGURE | HEAD ACTUATION, FIGURE |
|-----------------|-------------------------|-------------------------|------------------------|
| GLA****         | I                       | N/A                     | N/A                    |
| GLF****         | I                       | N/A                     | N/A                    |
| GLH****         | I                       | N/A                     | N/A                    |
| GLA****         | 1A                      | N/A                     | N/A                    |
| GLB****         | 1B                      | N/A                     | N/A                    |
| GLC****         | 1C                      | N/A                     | N/A                    |
| GLD****         | 1D                      | N/A                     | N/A                    |
| GL****A1*       | I                       | 1                       | 8                      |
| GL****A2*       | I                       | 3                       | 9                      |
| GL****A4*       | I                       | 2                       | 10                     |
| GL****A5*       | I                       |                         | 8                      |
| GL****B         | I                       | 4                       | 11                     |
| GL****C         | I                       | 5                       | 13A, 13B               |
| GL****D         | I                       | 6                       | 14A, 14B               |
| GL****E7A       | I                       | 7A                      | 12                     |
| GL****E7B       | I                       | 7                       | 12                     |
| GL****E7C       | I                       | 7E                      | 15                     |
| GL****E7D       | I                       | 7B                      | 12                     |
| GL****K8A       | I                       | 7C                      | 15                     |
| GL****K8B       | I                       | 7D                      | 15                     |
| GL****K8C       | I                       | 7                       | 15                     |

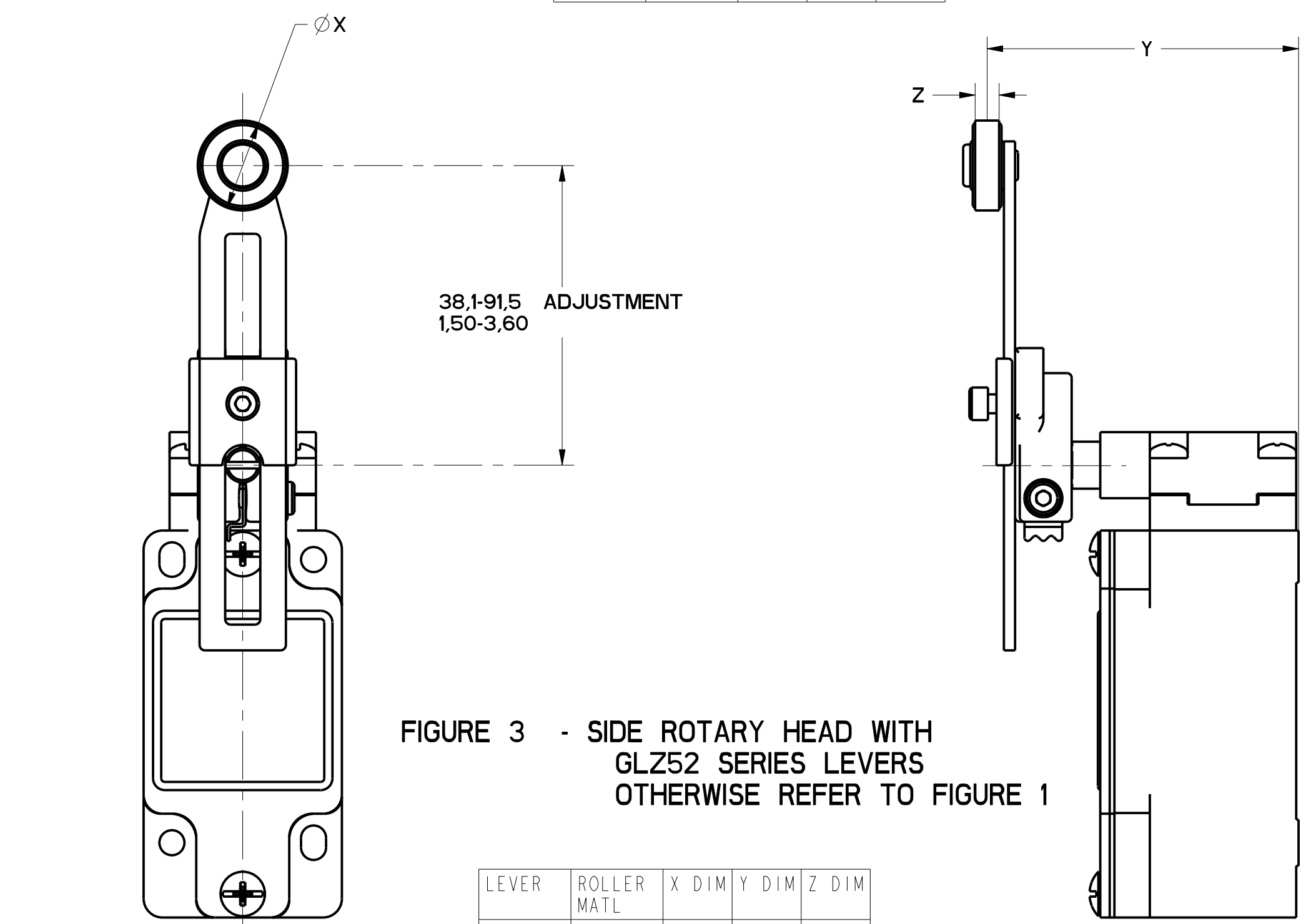


FIGURE 3 - SIDE ROTARY HEAD WITH GLZ52 SERIES LEVERS OTHERWISE REFER TO FIGURE 1

| LEVER  | ROLLER MATL | X DIM        | Y DIM          | Z DIM          |
|--------|-------------|--------------|----------------|----------------|
| GLZ52A | NYLON       | 19.1<br>.75  | 65.9<br>2.59   | 6.4<br>.25     |
| GLZ52B | STEEL       | 19.1<br>.75  | 65.9<br>2.59   | 6.4<br>.25     |
| GLZ52D | NYLON       | 38.1<br>1.5  | 65.9<br>2.59   | 6.4<br>.25     |
| GLZ52E | NYLON       | 19.1<br>.75  | 79.37<br>3.125 | 33.07<br>1.300 |
| GLZ52W | RUBBER      | 40.0<br>1.6  | 71.5<br>2.81   | 12.7<br>.5     |
| GLZ52Y | RUBBER      | 50.0<br>1.97 | 68.8<br>2.71   | 10.0<br>.39    |

MGL SERIES CHART 1  
 DRAWING NUMBER: 12  
 PAGE 1 OF 13  
 RELEASE NO. PR-201782  
 CHECK: MDM  
 DATE: 08/14/08  
 CHECK: B.L.R.  
 DATE: 08/14/08  
 CHECK: D.V.M.  
 DATE: 08/14/08  
 P.T.C./CAD  
 S.A.V. 2/MAR/06

|   |  |  |  |
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| FED. MFG. CODE 91929  |  | GL SERIES CHART 1                            |  |
| MICRO SWITCH a Honeywell Division   |  | SWITCH, ENCLOSED                             |  |
| ANSI Y14.5M-1982 APPLIES  |  | DESIGN UNITS: SI METRIC [X] US CUSTOMARY [ ] |  |

|  |      |             |      |
|--|------|-------------|------|
| THIRD ANGLE PROJECTION   |      |             |      |
| SCALE: FULL  |      |             |      |
| DO NOT SCALE PRINT   |      |             |      |
| TOLERANCES   |      |             |      |
| APPLY TO DESIGN UNITS. CONVERSIONS ARE ONLY FOR REFERENCE, UNLESS NOTED. TOLERANCES ARE: |      |             |      |
| DIM  | TOL. | DIM         | TOL. |
| NO PLACES  | X    | 12-24       | X    |
| ONE PLACE  | X    | 0.01-0.125  | X    |
| TWO PLACES   | X    | 0.150-0.375 | X    |
| THREE PLACES   | X    | 0.375-0.875 | X    |
| ANGLES   |      | ±0.005      |      |
| WEIGHT   |      |             |      |

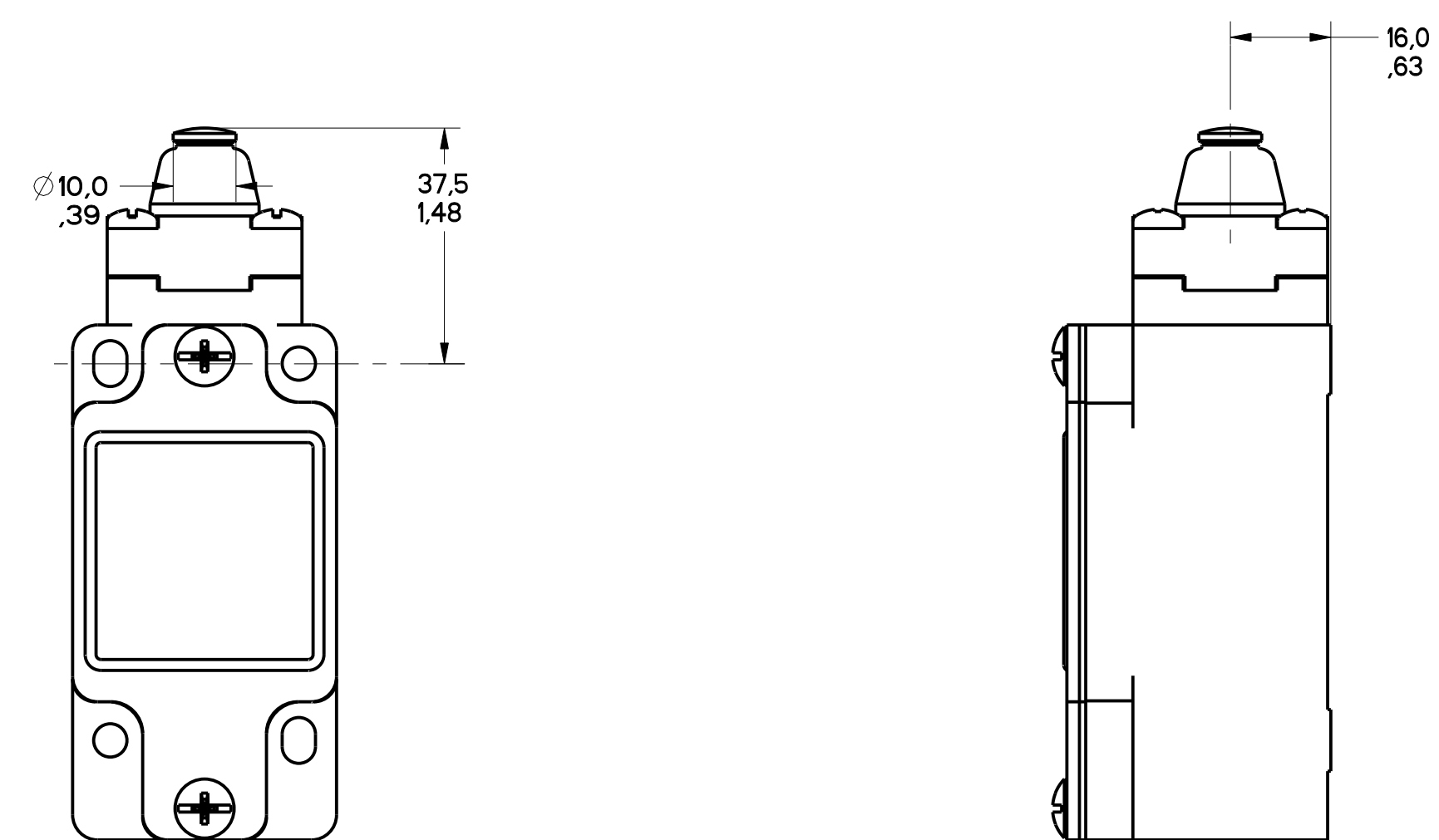


FIGURE 4 - TOP PIN PLUNGER HEAD  
OTHERWISE REFER TO  
FIGURE 1

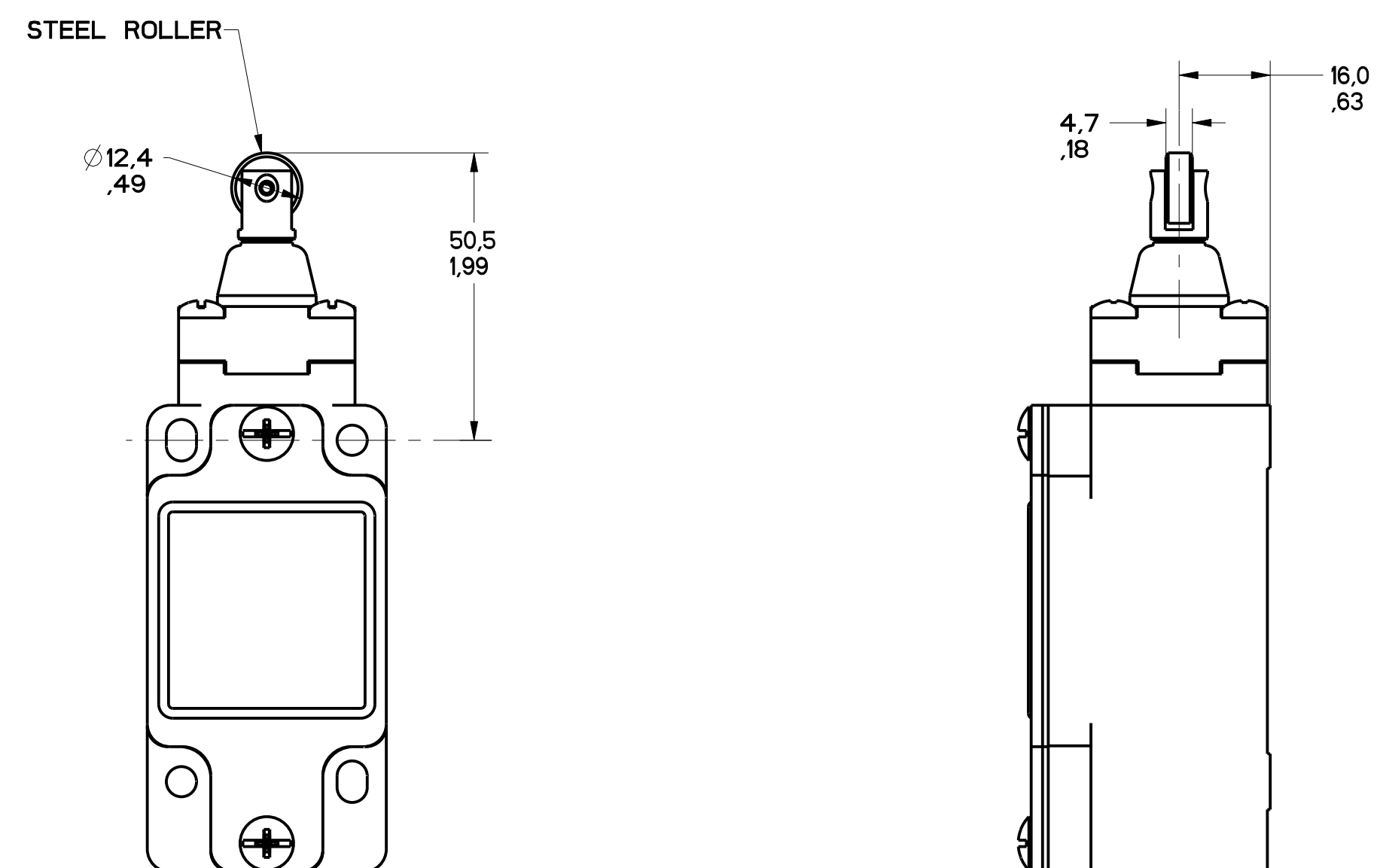


FIGURE 5 - TOP ROLLER PLUNGER HEAD  
OTHERWISE REFER TO  
FIGURE 1

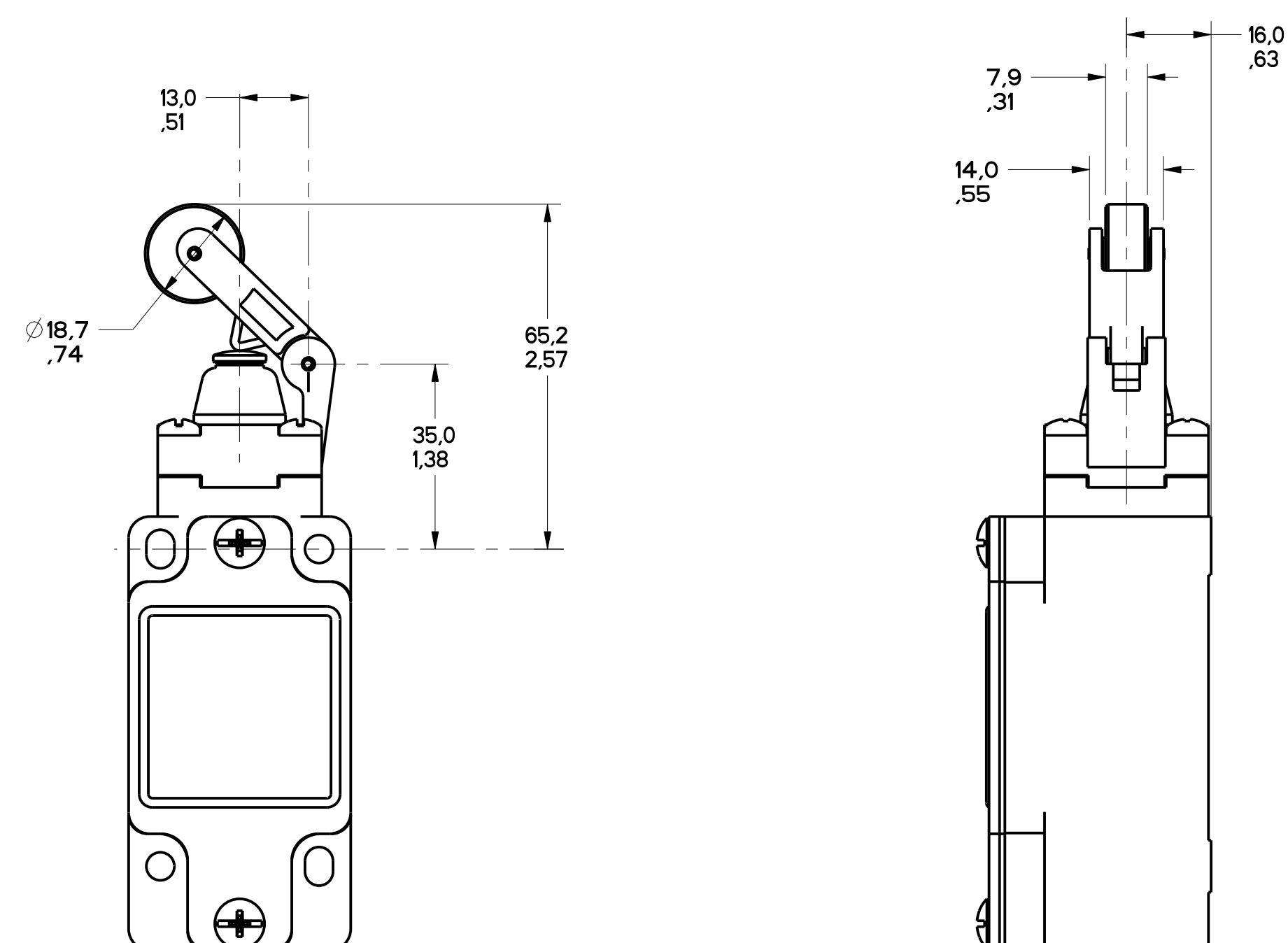


FIGURE 6 - TOP LEVER HEAD,  
OTHERWISE REFER TO  
FIGURE 1

MGL SERIES CHART 1  
 DRAWING NUMBER: 2 OF 13  
 RELEASE NO. PR-20782  
 REPLACES: MDV  
 CHECK: BLP  
 CHECK: G.H.  
 P.T.C./CAD  
 W.L.S. 26AUG83  
 12  
 202747  
 3AP201  
 0000401  
 04  
 2JUN83  
 0002986  
 26AUG83  
 0023759  
 07AUG86  
 0037216  
 08FEB88

|   |      |   |       |
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| <b>MICRO SWITCH</b><br>a Honeywell Division   |      | <b>SWITCH, ENCLOSED</b>                                     |       |
| DESIGN UNITS: <input checked="" type="checkbox"/> SI METRIC <input type="checkbox"/> US CUSTOMARY   |      | <b>GL SERIES CHART 1</b>                                    |       |
| TOLERANCES<br>APPLY TO DESIGN UNITS. CONCESSIONS ARE ONLY FOR REFERENCE, UNLESS NOTED. TOLERANCES ARE:  |      | THIRD ANGLE PROJECTION<br>SCALE: FULL<br>DO NOT SCALE PRINT |       |
| NO PLACES   | 1X   | TOL.  | ±.04  |
| ONE PLACE   | X.1X | ±   | 0.01  |
| TWO PLACES  | X.1X | ±.01  | 0.01  |
| THREE PLACES  | X.1X | ±.001   | 0.001 |
| ANGLES  |      | ±   | 2°    |
| WEIGHT  |      | WEIGHT  |       |

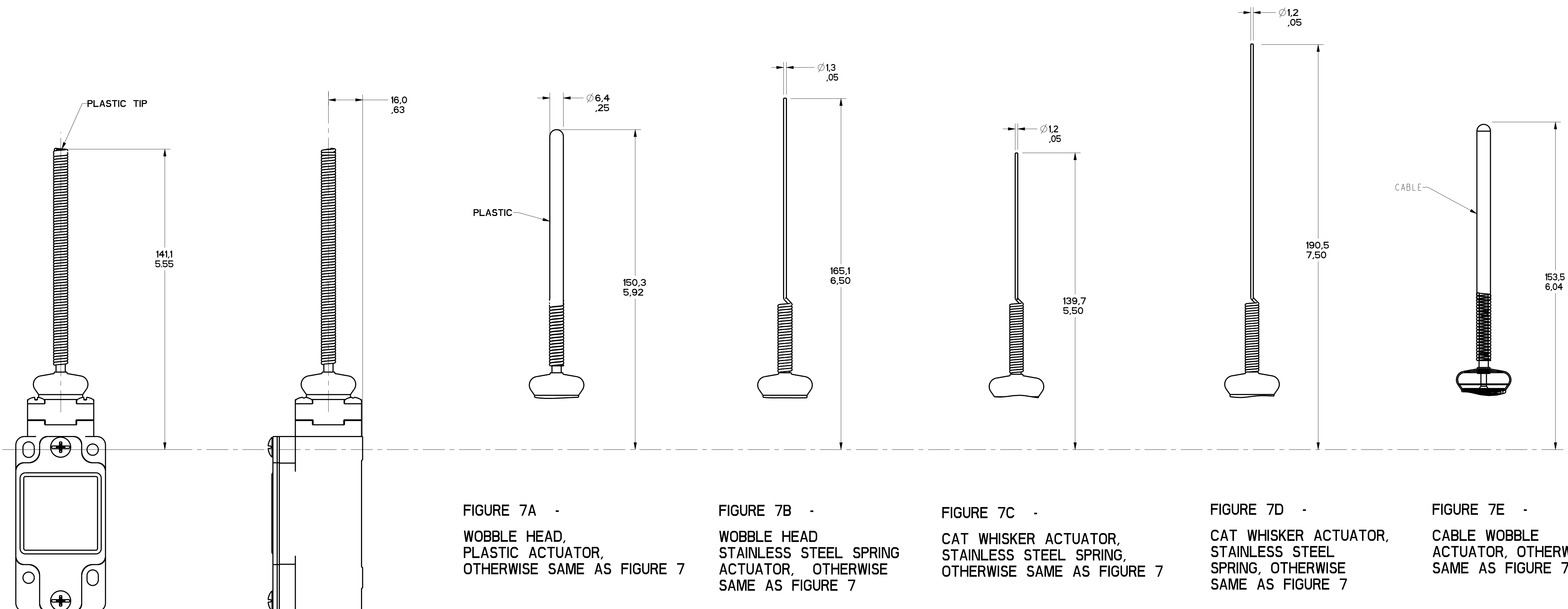


FIGURE 7A -  
WOBBLE HEAD,  
PLASTIC ACTUATOR,  
OTHERWISE SAME AS FIGURE 7

FIGURE 7B -  
WOBBLE HEAD  
STAINLESS STEEL SPRING  
ACTUATOR, OTHERWISE  
SAME AS FIGURE 7

FIGURE 7C -  
CAT WHISKER ACTUATOR,  
STAINLESS STEEL SPRING,  
OTHERWISE SAME AS FIGURE 7

FIGURE 7D -  
CAT WHISKER ACTUATOR,  
STAINLESS STEEL  
SPRING, OTHERWISE  
SAME AS FIGURE 7

FIGURE 7E -  
CABLE WOBBLE  
ACTUATOR, OTHERWISE  
SAME AS FIGURE 7

FIGURE 7 - WOBBLE HEAD, AND CAT WISKER HEAD  
COIL ACTUATOR,  
OTHERWISE REFER TO  
FIGURE 1

MGL SERIES CHART 1  
 DRAWING NUMBER 3 OF 13  
 RELEASE NO. PR-21557  
 REPLACES  
 ISSUE 12  
 CHECKED BY  
 DATE  
 APPROVED BY  
 DATE  
 P.T.C./CAD  
 S.A.V. MAY 96  
 S.A.V. MAY 96

|   |       |   |       |  |   |
|---|-------|---|-------|--|---|
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| MICRO SWITCH<br>a Honeywell Division  |       | DESIGN UNITS<br>SI METRIC <input checked="" type="checkbox"/> US CUSTOMARY <input type="checkbox"/> |       | TOLERANCES<br>APPLY TO DESIGN UNITS. CONVERSIONS ARE ONLY FOR REFERENCE, UNLESS NOTED. TOLERANCES ARE: |   |
| NO PLACES   | ±     | 0.00  | ±     | 0.00   | ± |
| ONE PLACE   | X.1   | 0.01  | X.1   | 0.01   | ± |
| TWO PLACES  | X.1X  | 0.001   | X.1X  | 0.001  | ± |
| THREE PLACES  | X.1XX | 0.0001  | X.1XX | 0.0001   | ± |
| ANGLES  | ±2°   |   |       |  |   |
| WEIGHT  |       |   |       |  |   |

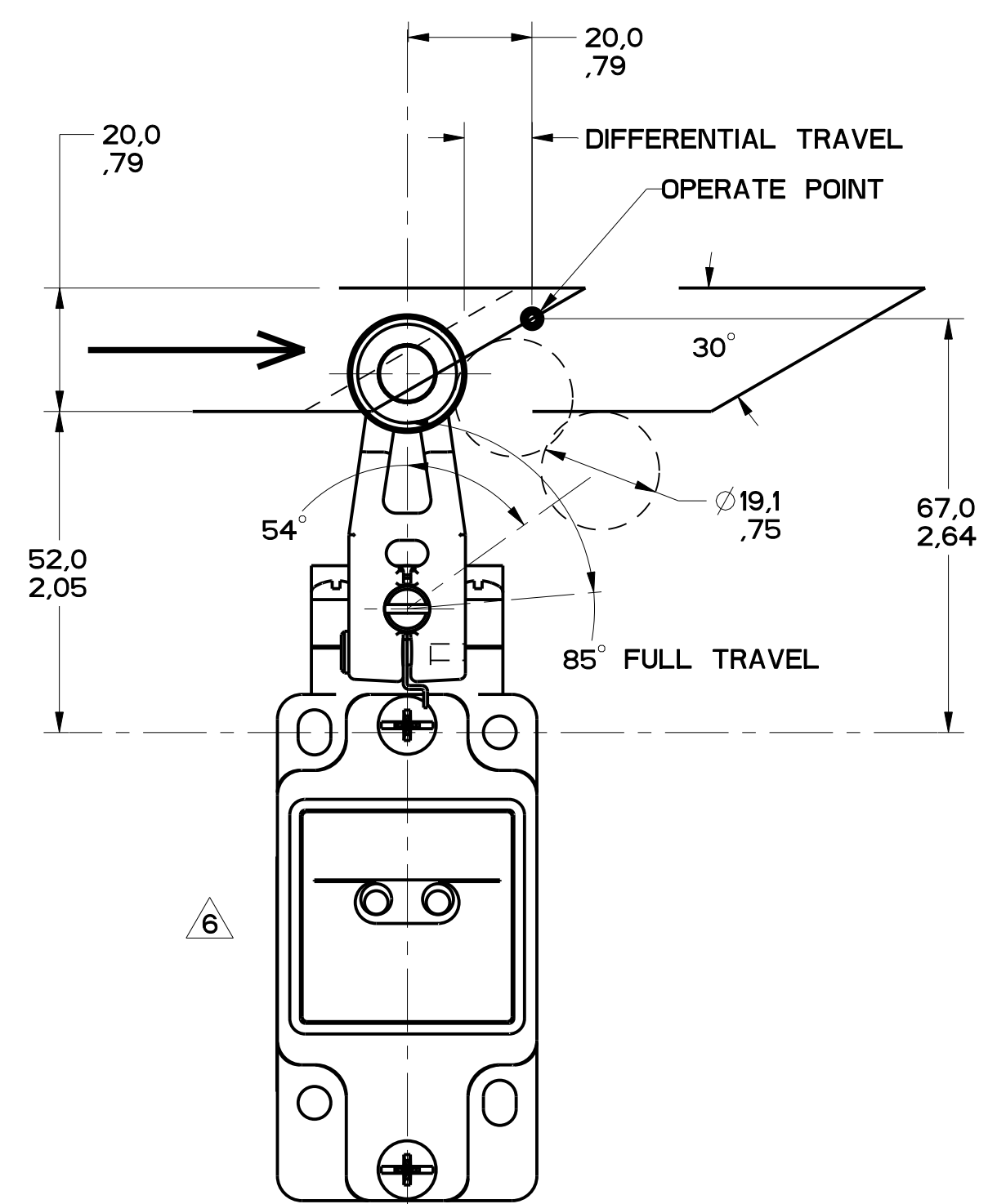


FIGURE 8

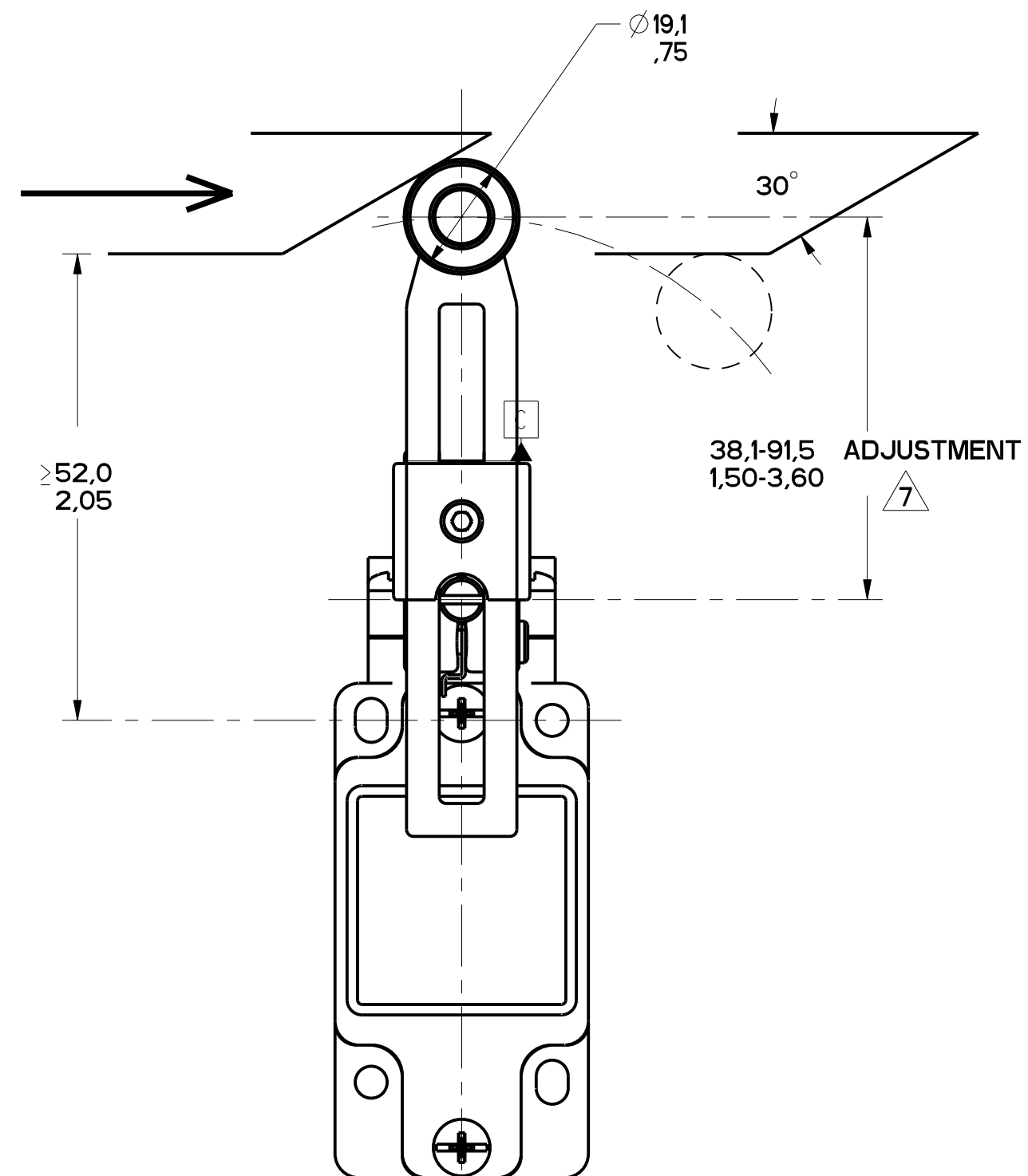


FIGURE 9

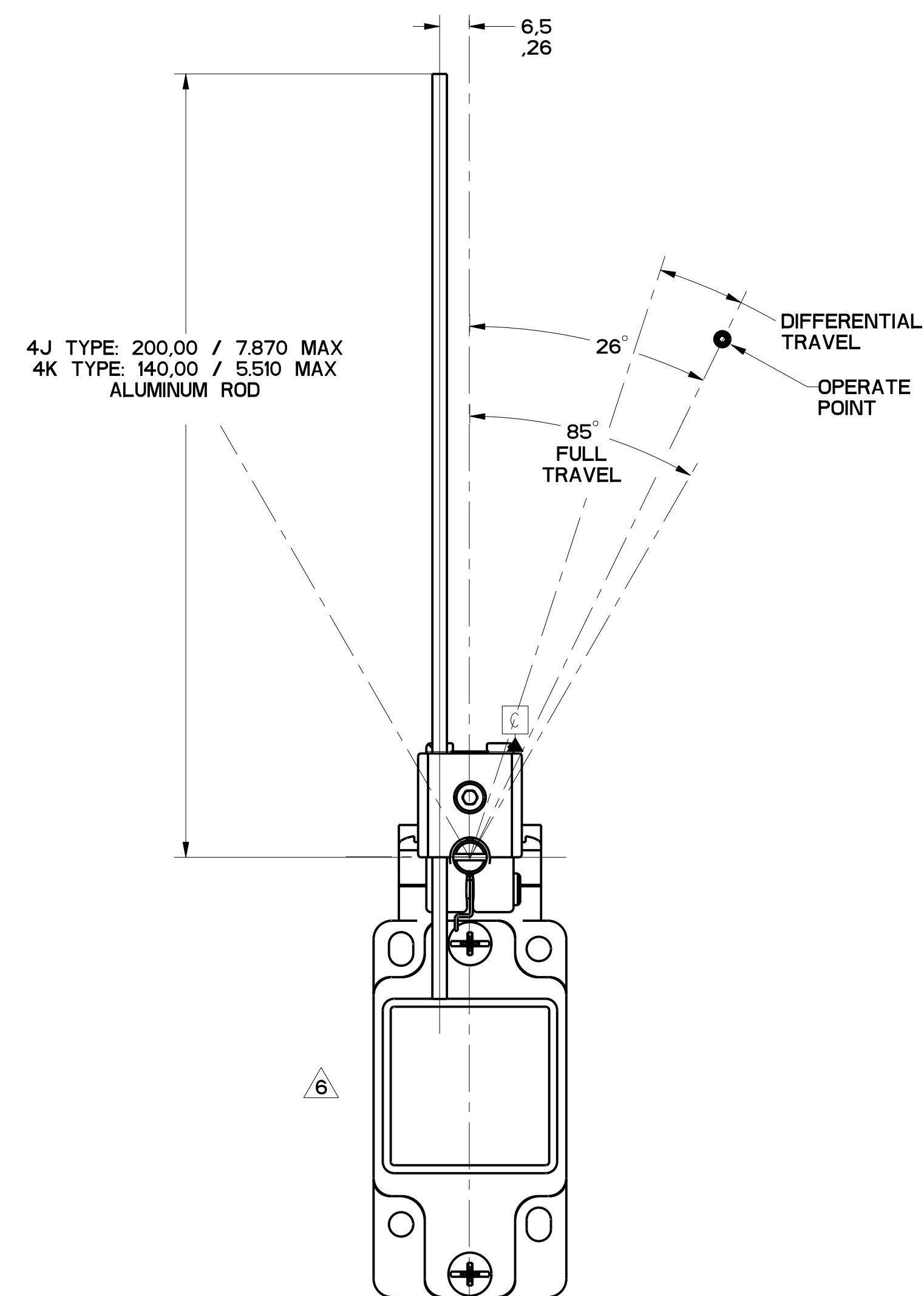


FIGURE 10

MGL SERIES CHART 1  
 DRAWING NUMBER: 4 OF 13  
 RELEASE NO. PR-20782  
 PTC/CAD  
 S. A. V. 2/MAR/86  
 DWM  
 D/TAUG/86  
 CHECK: MDM  
 CHECK: B.L.R.  
 D/TAUG/86  
 PTC/CAD  
 S. A. V. 2/MAR/86  
 DWM  
 D/TAUG/86  
 CHECK: MDM  
 CHECK: B.L.R.  
 D/TAUG/86

|   |       |  |           |
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| FED. MFG. CODE 91929<br>DESIGN UNITS: <input checked="" type="checkbox"/> SI METRIC <input type="checkbox"/> US CUSTOMARY   |       | TOLERANCES<br>APPLY TO DESIGN UNITS. CONVERSIONS ARE ONLY FOR REFERENCE, UNLESS NOTED. TOLERANCES ARE: |           |
| NO PLACES   | X     | ±.04   | ±.04      |
| ONE PLACE   | X, XX | 0.40/.04   | 0.80/.05  |
| TWO PLACES  | X, XX | 0.15/.008  | 0.30/.015 |
| THREE PLACES  | X, XX | ±.02   | ±.02      |
| ANGLES  |       |  |           |
| WEIGHT  |       |  |           |

FIGURES 8, 9, 10 SIDE ROTARY HEAD, ANGULAR ACTUATION

| CATALOG LISTING                          | CONTACT BLOCK DIAGRAM                           | NOMINAL TRAVELS AND RELATED TERMINALS<br>DIFFERENTIAL TRAVEL, ** POSITIVE OPENING TO IEC 947-5-1 | MAXIMUM OPERATING TORQUE N-m<br>LB-IN | MAXIMUM DISCONNECT TORQUE N-m<br>LB-IN | MAX OPERATE DEGREE/S | MIN OPERATE DEGREE/S | MAX OPERATE FREQUENCY OPS/MIN |
|--|---|--|---------------------------------------|--|----------------------|----------------------|-------------------------------|
| GL**01A<br>GL**07A                       | SNAP - ACTION CONTACTS SINGLE POLE<br>          | <br>12° DIFFERENTIAL TRAVEL  | $\frac{.330}{2.9}$                    | $\frac{.385}{3.4}$                     | 1290                 | 13                   | 250                           |
| GL**03A<br>GL**33A                       | SLOW ACTING BREAK BEFORE MAKE<br>               | <br>38°  | $\frac{.330}{2.9}$                    | $\frac{.385}{3.4}$                     | 1290                 | 13                   | 250                           |
| GL**04A<br>GL**34A                       | SLOW ACTING MAKE BEFORE BREAK<br>               | <br>26°  | $\frac{.330}{2.9}$                    | $\frac{.400}{3.5}$                     | 1290                 | 13                   | 250                           |
| GL**05A<br>GL**35A                       | SLOW ACTING<br>                                 | <br>38°  | $\frac{.330}{2.9}$                    | $\frac{.385}{3.4}$                     | 1290                 | 13                   | 250                           |
| GL**06A<br>GL**36A                       | SLOW ACTING<br>                                 | <br>26**°  | $\frac{.330}{2.9}$                    | $\frac{.385}{3.4}$                     | 1290                 | 13                   | 250                           |
| GL**20A<br>GL**22A<br>GL**24A<br>GL**32A | SNAP ACTION CONTACTS DOUBLE POLE<br>            | <br>12° DIFFERENTIAL TRAVEL  | $\frac{.330}{2.9}$                    | $\frac{.385}{3.4}$                     | 1290                 | 13                   | 250                           |
| GL**21A<br>GL**25A<br>GL**28A<br>GL**31A | SNAP ACTION CONTACTS DOUBLE POLE SEQUENTIAL<br> | <br>8 DIFFERENTIAL TRAVEL  | $\frac{.330}{2.9}$                    | N/A                                    | 1290                 | 13                   | 250                           |

SIDE ROTARY HEAD, CAM ACTUATION PER EN50041, FIGURES 8 AND 9

| CATALOG LISTING                          | CONTACT BLOCK DIAGRAM                               | NOMINAL TRAVELS AND RELATED TERMINALS<br>DIFFERENTIAL TRAVEL, ** POSITIVE OPENING TO IEC 947-5-1<br>DIMENSIONS IN mm | MAXIMUM OPERATING FORCE N<br>LB | MAXIMUM DISCONNECT FORCE N<br>LB | MAX OPERATE VEL M/S<br>IN/S | MIN OPERATE VEL mm/S<br>IN/S | MAX OPERATE FREQUENCY OPS/MIN |
|--|---|--|---------------------------------|----------------------------------|-----------------------------|------------------------------|-------------------------------|
| GL**01A<br>GL**07A                       | SNAP - ACTION CONTACTS SINGLE POLE<br>              | <br>12 DIFFERENTIAL TRAVEL   | $\frac{9.7}{2.2}$               | $\frac{11.4}{2.6}$               | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |
| GL**03A<br>GL**33A                       | SLOW ACTING BREAK BEFORE MAKE<br>                   | <br>32   | $\frac{9.7}{2.2}$               | $\frac{11.4}{2.6}$               | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |
| GL**04A<br>GL**34A                       | SLOW ACTING MAKE BEFORE BREAK<br>                   | <br>20   | $\frac{9.7}{2.2}$               | $\frac{11.4}{2.6}$               | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |
| GL**05A<br>GL**35A                       | SLOW ACTING<br>                                     | <br>32°  | $\frac{9.7}{2.2}$               | $\frac{11.4}{2.6}$               | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |
| GL**06A<br>GL**36A                       | SLOW ACTING<br>                                     | <br>20**   | $\frac{9.7}{2.2}$               | $\frac{11.4}{2.6}$               | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |
| GL**20A<br>GL**22A<br>GL**24A<br>GL**32A | SNAP ACTION CONTACTS DOUBLE POLE<br>                | <br>12 DIFFERENTIAL TRAVEL   | $\frac{9.7}{2.2}$               | $\frac{11.8}{2.7}$               | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |
| GL**21A<br>GL**25A<br>GL**28A<br>GL**31A | SNAP ACTION CONTACTS DOUBLE POLE SEQUENTIAL<br>     | <br>8.5 DIFFERENTIAL TRAVEL  | $\frac{9.7}{2.2}$               | N/A                              | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |
| GL**26J<br>GL**27J<br>GL**29J<br>GL**30J | SNAP ACTION CONTACTS DOUBLE POLE CENTER NEUTRAL<br> | <br>8 DIFFERENTIAL TRAVEL  | $\frac{9.7}{2.2}$               | N/A                              | $\frac{.85}{33.5}$          | $\frac{8.5}{.33}$            | 250                           |

|     |           |     |      |
|-----|-----------|-----|------|
| REV | DATE      | BY  | CHKD |
| A   | 14 JUN 88 | PTC | MDM  |
| B   | 20 NOV 88 | MDM | MDM  |
| C   | 20 FEB 89 | MDM | MDM  |
| D   | 000401    |     |      |
| E   | 0002986   |     |      |
| F   | 0023759   |     |      |
| G   | 0037274   |     |      |
| H   | 08 FEB 88 |     |      |

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FED. MFG. CODE 91929

**MICRO SWITCH**  
a Honeywell Division

**SWITCH, ENCLOSED**

**GL SERIES CHART 1**

THIRD ANGLE PROJECTION  
SCALE: FULL  
DO NOT SCALE PRINT  
TOLERANCES  
APPLY TO DESIGN UNITS. CONVERSIONS ARE ONLY FOR REFERENCE. UNLESS NOTED, TOLERANCES ARE:  
DIM TOL DIM TOL  
NO PLACES X .15 .04 X .1 0.01/0.05  
ONE PLACE X .15 0.04/0.06 X .15 0.01/0.05  
TWO PLACES X .15 0.01/0.06 X .15 0.01/0.05  
THREE PLACES X .15 0.01/0.06 X .15 0.01/0.05  
ANGLES SI METRIC US CUSTOMARY  
DESIGN UNITS [ ] [ ]  
WEIGHT