

GENERAL DESCRIPTION:

MODEL LP-3U IS A SHORT STROKE (3 mm), CONTACTLESS LINEAR POSITION SENSOR FEATURING LONG LIFE, LOW NOISE, SUPERB REPEATABILITY AND FAST MOTION TRACKING CAPABILITY.
 MODEL LP-3U-1-TCx, WHICH CONTAINS TEMPERATURE COMPENSATION RESISTOR NETWORK, IS AVAILABLE FOR OPERATING IN AN EXTENDED TEMPERATURE RANGE.

ENVIRONMENTAL SPECIFICATIONS:

OPERATING TEMPERATURE: -20°C to +80°C
 STORAGE TEMPERATURE: -20°C to +80°C

ELECTRICAL SPECIFICATIONS: (UNLESS OTHERWISE SPECIFIED, Ta=25°C)

EFFECTIVE STROKE: ±1.5 mm (3 mm FS)
 INPUT VOLTAGE (Vin): 14 Vdc MAX.
 OUTPUT SENSITIVITY: 8% Vin / mm MIN.
 INDEPENDENT LINEARITY: ±1.5% FS
 INPUT IMPEDANCE:

LP-3U: 25 kOHMS ±30%
 LP-3U-1-TCx: 25 kOHMS ±40%

INSULATION RESISTANCE: 100 megOHMS MIN. @500Vdc
 DIELECTRIC STRENGTH: 500 Vrms @50/60 Hz FOR 1 MINUTE

TEMPERATURE CHARACTERISTICS: (REFER TO TABLE 1 AND FIGURE 4.)

LP-3U: STANDARD UNIT

LP-3U-1-TCx: TEMPERATURE COMPENSATED UNIT

TABLE 1 (DEVIATION IS EXPRESSED IN EQUIVALENT STROKE, TREF. = 25°C)

| | LP-3U (Ta= 0°C to +75°C) | LP-3U-1-TCA (Ta= 0°C to +60°C) | LP-3U-1-TCB (Ta= -20°C to +80°C) |
|----------------------|-----------------------------|-----------------------------------|-------------------------------------|
| AT 0 mm POSITION: | ±0.25 mm (REF.) | ±0.05 mm | ±0.07 mm |
| AT ±1.5 mm POSITION: | ±0.45 mm (REF.) | ±0.15 mm | ±0.20 mm |

MECHANICAL SPECIFICATIONS:

MECHANICAL STROKE: 5 ±1 mm (SEE FIGURE 2)
 FRICTION: 1 N (100 gf) MAX. (SPRING FORCE)
 WEIGHT: APPROX. 24 g

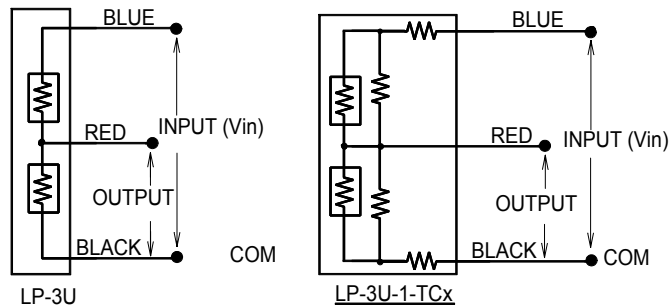


FIGURE 1 SCHEMATIC

| C.O.N | SYM | DESCRIPTION | DATE | DRAWN | APPR'D |
|-------|-----|-------------|------|-------|--------|
|-------|-----|-------------|------|-------|--------|



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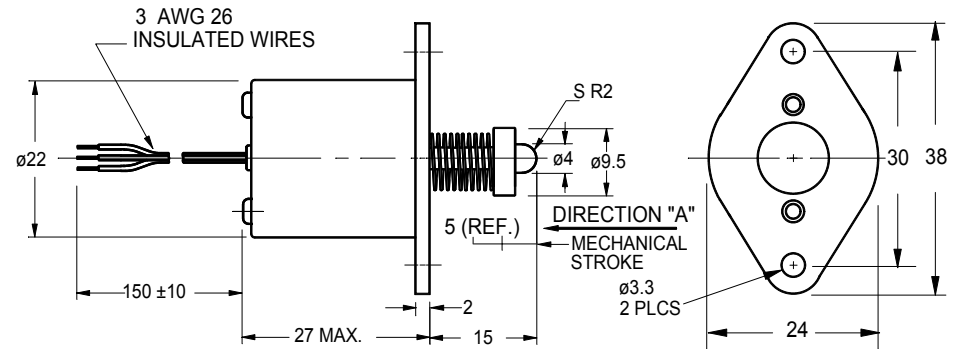


FIGURE 2 OUTLINE DIMENSIONS

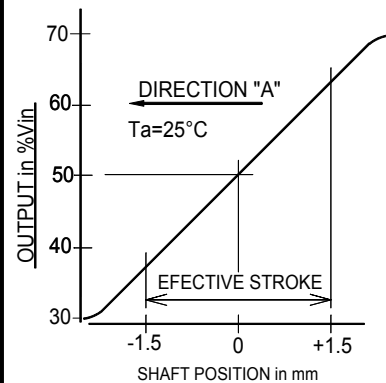


FIGURE 3 TYPICAL OUTPUT CHARACTERISTICS

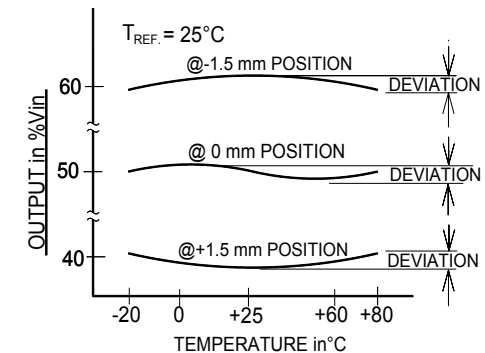


FIGURE 4 TEMPERATURE CHARACTERISTICS (APPLICABLE TO LP-3U-1-TCx ONLY)

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN mm (in).
 TOLERANCES:
 ANGLES ±1.5°
 <10 mm: ±0.25
 <100 mm: ±0.5
 >100 mm: ±1

| | | | |
|----------|-------------|------|----------|
| DRAWN | T. TSUGAWA | DATE | 08/06/02 |
| CHECKED | Y. NAKAMURA | DATE | 09/09/02 |
| APPROVED | | DATE | |
| APPROVED | | DATE | |
| SCALE: | | | |

SPECIFICATION DWG
FOR
LP-3U
CONTACTLESS LINEAR
POSITION SENSOR

FILE: LP-3U

B-MAC-B61

1 OF 1