

Precision Linear Transducers, Conductive Plastic, up to 450 mm



The 34 L is a compact, accurate and adaptable motion transducer for both industrial and military markets.

FEATURES

- Measurement range 25 mm to 450 mm
- High accuracy $\pm 1\%$ down to $\pm 0.025\%$
- Essentially infinite resolution
- Long life
- Sealed on request
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

QUICK REFERENCE DATA

| | |
|------------------|---------------------------------------|
| Sensor type | LINEAR, conductive plastic |
| Output type | Wires |
| Market appliance | Professional |
| Dimensions | L x 19 mm dia. (with L = TET + 63 mm) |

ELECTRICAL SPECIFICATIONS

| | |
|--|--|
| Theoretical electrical travel (TET = E) in increments of 25 mm | 25 mm 450 mm |
| Independent linearity (over TET) On request | $\leq \pm 1\%$ - $\leq \pm 0.1\%$ $\leq \pm 0.05\%$ for $E \geq 100$ mm $\leq \pm 0.025\%$ for $E \geq 200$ mm |
| Actual electrical travel (AET) | See table 1 |
| Ohmic values (R_T) | From 400 Ω /cm to 2 k Ω /cm |
| Resistance tolerance at 20 °C | $\pm 20\%$ |
| Repeatability | $\leq 0.01\%$ |
| Maximum power rating | 0.05 W/cm at 70 °C, 0 W at 125 °C |
| Wiper current | Recommended: a few μ A - 1 mA max. (continuous) |
| Load resistance | Minimum $10^3 \times R_T$ |
| Number of tracks | 1; on request 2 |
| Insulation resistance | ≥ 1000 M Ω , 500 V _{DC} |
| Dielectric strength | ≥ 750 V _{RMS} , 50 Hz |

MECHANICAL SPECIFICATIONS

| | | |
|-------------------------------|--|----------------------------------|
| Mechanical travel | TET + 2 mm min. | |
| Housing | Anodized aluminum | |
| Operating force On Request | 0.35 N typical (standard model) | 2.50 N typical (sealed model) |
| Shaft (free rotation) | Stainless steel | |
| Termination On request | 3 wires PTFE AWG-30 L = 300 mm cable or connector | |
| Wiper | Precious metal multifinger | |
| Sealing | IP65 on request | |

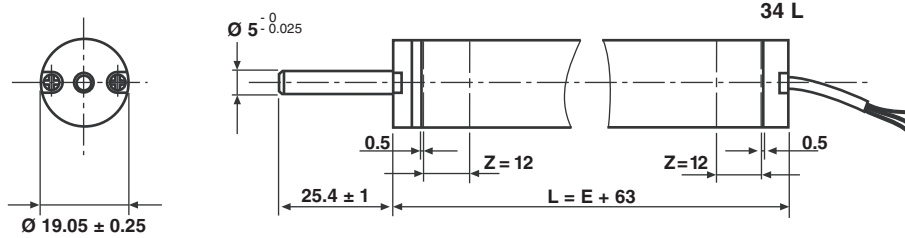
PERFORMANCE

| | |
|-----------------------------|---|
| Operating life | 25 million cycles typical/1 Hz/T° = 20 °C \pm 5 °C/80 % TET |
| Temperature range | -55 °C to +125 °C |
| Sine vibration on 3 axes | 1.5 mm peak to peak or 15 g - 10 Hz - 2000 Hz |
| Mechanical shocks on 3 axes | 50 g - 11 ms - half sine |

Note

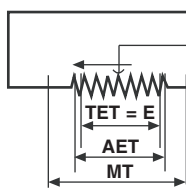
- Nothing stated herein shall be construed as a guarantee of quality or durability.

STANDARD MODEL DIMENSIONS in millimeters, general tolerance ± 1 mm



Z = TIGHTENING ZONE

ELECTRICAL CONNECTIONS



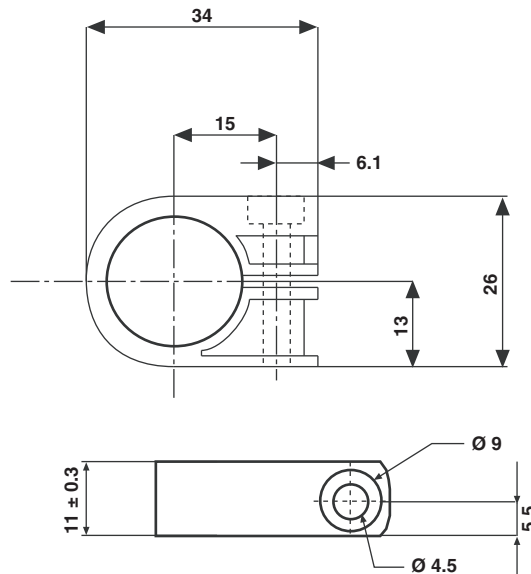
| TERMINALS | WIRE | CABLE |
|--------------|--------|-------|
| 3 ALIM. (+): | GREEN | BLUE |
| 2 WIPER: | RED | RED |
| 1 ALIM. (-): | YELLOW | WHITE |

TET = THEORETICAL ELECTRICAL TRAVEL
 AET = ACTUAL ELECTRICAL TRAVEL
 MT = MECHANICAL TRAVEL

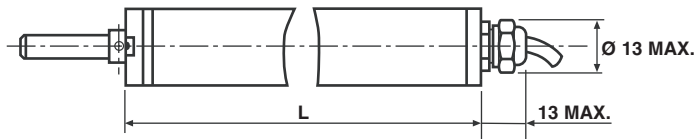
| TET = E | AET | TOL. |
|------------------|----------|--------------|
| 25 mm to 275 mm | E + 1 mm | ± 0.5 mm |
| 300 mm to 450 mm | E + 1 mm | ± 0.8 mm |

ACCESSORIES ON REQUEST - DIMENSIONS in millimeters, general tolerance ± 3 mm

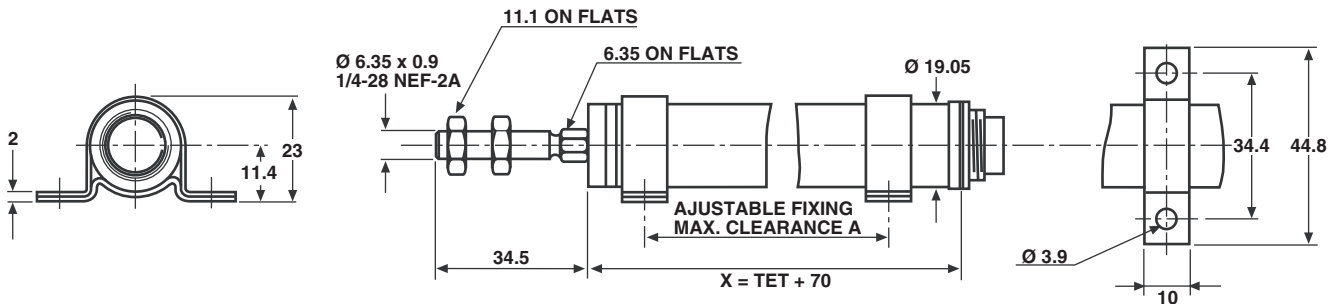
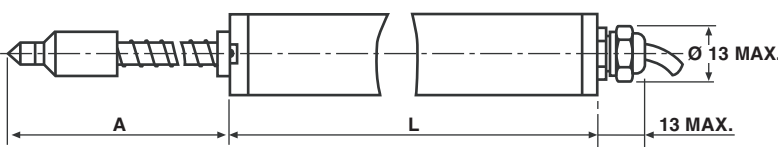
Clamp for 34L
 Vishay Reference: CQ00051



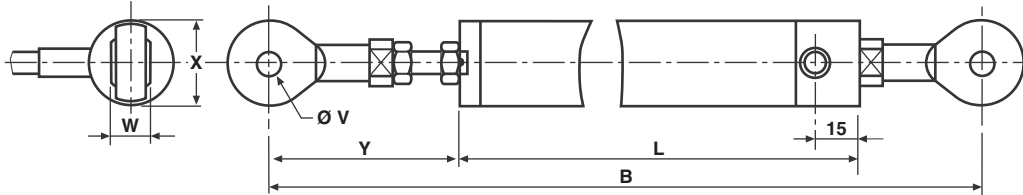
OPTIONS - DIMENSIONS in millimeters, general tolerance ± 1 mm

OPTION 1: SEALED (IP65): W03280


| MODEL | CODE | L |
|-------|--------|------------|
| 34 L | W03280 | TET + 83.5 |

OPTION 2: DELIVERED WITH CLAMPS AND BINDER CONNECTOR 680: W05013

OPTION 3: SPRING LOADED SHAFT; OUTPUT BY SHIELDED CABLE: W01744


| MODEL | CODE | A | L |
|-------|--------|-------|-------------|
| 34 L1 | W01744 | 61.4 | TET + 119.5 |
| 34 L2 | W01744 | 93.6 | |
| 34 L3 | W01744 | 125.8 | |
| 34 L4 | W01744 | 158 | |

OPTION 4: DOUBLE BALL JOINT: W03263


| MODEL CODE | B | L | Ø V | W | X | Y | TET |
|----------------------|-------------|-------------|-----|---|----|--------|------------|
| 34 L W03263 L1 to L5 | TET + 151.6 | TET + 82.8 | 5 | 8 | 18 | 42 ± 2 | 25 to 125 |
| L6 to L10 | TET + 173.6 | TET + 104.8 | 5 | 8 | 18 | 42 ± 2 | 150 to 250 |
| L11 to L12 | TET + 230 | TET + 161.2 | 5 | 8 | 18 | 42 ± 2 | 275 to 300 |

ORDERING INFORMATION/DESCRIPTION

| REC | 34 | L | 3 | D | 103 | W... | e. |
|--------|-------|------------------------------|-------------------------------|---|---|-----------------------------|-------------|
| SERIES | MODEL | NUMBER OF TRACKS | THEORETICAL ELECTRICAL TRAVEL | LINEARITY | OHMIC VALUE | MODIFICATIONS | LEAD FINISH |
| | | L = 1 track LL = 2 tracks | Times 25 mm | A: ± 1 % D: ± 0.1 % E: ± 0.05 % F: ± 0.025 % | First 2 digits are significant numbers 3 rd digit indicates number of zeros | Special feature code number | |

SAP PART NUMBERING GUIDELINES

| RE | 34 L | 3 | D | 103 | W.... |
|--------|-------|-----|-----------|-------------|------------------|
| SERIES | MODEL | TET | LINEARITY | OHMIC VALUE | SPECIAL FEATURES |



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