

MECHANICAL SPECIFICATIONS

- Mechanical rotation angle: $300^{\circ} \pm 5^{\circ}$
- Electrical rotation angle: $\quad 280^{\circ} \pm 20^{\circ}$
- Torque: $\quad 0.5$ to 1.5 Ncm .
(0.7 to 2.1 in-oz)
-Stop torque: $>40 \mathrm{Ncm} .(>56$ in-oz)
* Others upon request.
** Up to $85^{\circ} \mathrm{C}$ depending on application.


## FEATURES

- Carbon resistive element.
- High mechanical endurance.
- Upon request:
- Detents
- Stereo matching
- Switch
- Nut \& washer


## ELECTRICAL SPECIFICATIONS

- Range of values*
$100 \Omega \leq \mathrm{Rn} \leq 5 \mathrm{M}$ (Decad. 1.0-2.0-2.2-2.5-4.7-5.0)
-Tolerance (*): $100 \Omega \leq \operatorname{Rn} \leq 1 \mathrm{M} \Omega \ldots . .+20 \%$
$1 \mathrm{M} \Omega<\mathrm{Rn} \leq 5 \mathrm{M} \Omega \ldots-\ldots \pm 30 \%$
- Max. Voltage: 250 VDC (lin) 125 VDC (no lin)
- Nominal Power $50^{\circ} \mathrm{C}$ ( $122^{\circ} \mathrm{F}$ ) (see power rating curve) 0.2 W (lin) 0.1 W (no lin)
- Taper* (Log. \& Alog. only Rn > 1K) Lin ; Log; Alog.
- Residual resistance*: $\leq 0.5 \% \operatorname{Rn}(5 \Omega \mathrm{~min}$.)
-Equivalent Noise Resistance: $\leq 3 \% \operatorname{Rn}(3 \Omega \mathrm{~min}$.)
- Operating temperature**: $-25^{\circ} \mathrm{C}+70^{\circ} \mathrm{C}\left(-13^{\circ} \mathrm{F}+158^{\circ} \mathrm{F}\right)$

HOW TO ORDER


NOTES:
(1) Terminals: Model T is not available with terminals " V " or " L "
(2) Shafts: The codes indicate diameter and length. Shaft M05 only for double potentiometer.
(3) Bushings: - = Only for potentiometer model X, W.
(4) Value: - Code: $10 \quad 1 \quad 100 \Omega$ Number of zeros
$\longrightarrow 2$ first digits of the value.

- In model "T" with different values, ask by drawing.
(5) Tolerance (non standard), upon request. Example code: +15
(6) Shafts length:

$\longrightarrow$ positive tolerance
- Only for special length and plain shafts (not knurled). Example: Shaft $\varnothing 6,25$ L= 24.5 M07 ....... 24.5
- Flatted and slotted shafts, etc. will need drawings.

- NOTE: Max. length 40 mm . ( shafts $4,6,6.25$ )
(7) Detents : - Not available for models with plastic shaft X, W, Y, Z
- Detents and switch are not compatible.
(8) Stereo matching: Only available in tandem models and upon request.
(9) Switch: Not available for models $\mathrm{X}, \mathrm{W}, \mathrm{Y}, \mathrm{Z}, \mathrm{T}$.
(10) Switch option not available with antilog taper.

[^0]T-16 SH + DRAWING NUMBER (Max. 16 digits)
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

MODELS WITH METALIC SHAFTS

## T-16 S..




## MODELS WITH PLASTIC SHAFTS



## TERMINALS



PLASTIC SHAFTS

|  | T-16 X/Y |  | Without Switch |  |
| :---: | :---: | :---: | :---: | :---: |
| T-16 X |  | T-16 Y |  | CODE |
| L | 1 | L | I |  |
| 2 | - | - | - | P01 |
| 21 | 12 | 20.5 | 12 | P02 |
| 24.5 | 15 | 24 | 15 | P03 |
| 40 | 31 | 39.5 | 31 | P04 |


| T-16 W/Z | Without Switch |  |
| :---: | :---: | :---: |
| T-16 W | \& | T-16 Z |
| CODE |  |  |
| $\mathbf{L}$ | I |  |
| 9.5 | 5 | P05 |
| 23.5 | 19 | P06 |
| 40 | 35 | P07 |

## METALIC SHAFTS



| $\mathbf{D}$ | L | CODE |
| :---: | :---: | :---: |
| 3 | 30 | M03 |
| 4 | 40 | M04 |
| 6 | 40 | M06 |
| 6.25 | 40 | M07 |
| $3 / 4$ | $40 / 30$ | M05 |


| L | $\mathbf{A}$ | $\mathbf{B}$ | $\mathbf{C}$ | CODE |
| :---: | :---: | :---: | :---: | :---: |
| 15 | 2 | 6 | 7 | M11 |
| 20 | 2 | 10 | 11 | M12 |
| 25 | 4 | 12 | 14 | M13 |
| 30 | 4 | 12 | 14 | M14 |
| 35 | 4 | 12 | 14 | M15 |
| 40 | 4 | 12 | 14 | M16 |



SLOTTED SHAFT



## DETENTS

| CODE | DETENTS |
| :---: | :---: |
| 01 P. | 1 detent (at 50\%) |
| 11 P. | 11 detents |
| 41 P. | 41 detents |

Only models with metalic shaft.

## TAPERS



POWER RATING CURVE


| TESTS | TYPICAL VARIATIONS |  |
| :---: | :---: | :---: |
| ELECTRICAL LIFE | 1.000 h @ $50^{\circ} \mathrm{C} ; 0.20 \mathrm{~W}$ | $\pm 5 \%$ |
| MECHANICAL LIFE : POT. <br> SWITCH | $\begin{aligned} & 25.000(10-15 \mathrm{CPM}) \\ & 10.000(1 \mathrm{~A}, 50 \mathrm{VAC}) \end{aligned}$ | $\pm 3 \%(R n<1 M \Omega)$ |
| TEMPERATURE COEFFICIENT | $-25^{\circ} \mathrm{C} ;+70^{\circ} \mathrm{C}$ | $\pm 300 \mathrm{ppm}(\mathrm{Rn}<100 \mathrm{~K})$ |
| THERMAL CYCLING | $16 \mathrm{~h} . @ 85^{\circ} \mathrm{C} ; 2 \mathrm{~h} . @-25^{\circ} \mathrm{C}$ | $\pm 2.5$ \% |
| DAMP HEAT | 500 h @ $40^{\circ} \mathrm{C} @ 95 \%$ HR | $\pm 5 \%$ |
| VIBRATION (each plane X,Y,Z) | $2 \mathrm{~h} . @ 20 \mathrm{~g} .10 \mathrm{~Hz} . . .55 \mathrm{~Hz}$. | $\pm 2$ \% |

NOTE: Out of range values may not comply these results.

## SWITCH

T-16..C..C


Switch terminal detail.


T-16 .. H.. I


## SWITCH SPECIFICATIONS

| NOMINAL CURRENT | $1 \mathrm{~A}, 250 \mathrm{VAC}$ |
| :--- | :--- |
| CONTACT RESISTANCE (Initial) | $10 \mathrm{~m} \Omega$ |
| OPERATING TORQUE | 1 to $3 \mathrm{Ncm}(1.4$ to $4.2 \mathrm{in}-\mathrm{oz})$ |
| OPERATING ANGLE | $30^{\circ} \pm 5^{\circ}$ |
| TEST VOLTAGE | 500 V |

## PACKAGING

| MODEL |  |
| :--- | :--- |
| T $16-\mathrm{L}=40 \mathrm{~mm}$. | PACKAGING |
| T $16-\mathrm{L}=20 \mathrm{~mm}$. | 400 UNITS IN BOX |
| T $16-\mathrm{c} / \mathrm{i}-$ Tandem | 600 UNITS IN BOX |

Piher potentiometer's recommended connection circuit for a position sensor or control application. (voltage divider circuit electronic design).

$\mathrm{R}_{\mathrm{L}} \approx 100 \times \mathrm{R}$

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[^0]:    NOTE: The information contained here should be used for reference purposes only.

