



### FEATURES

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

### ELECTRICAL SPECIFICATIONS

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

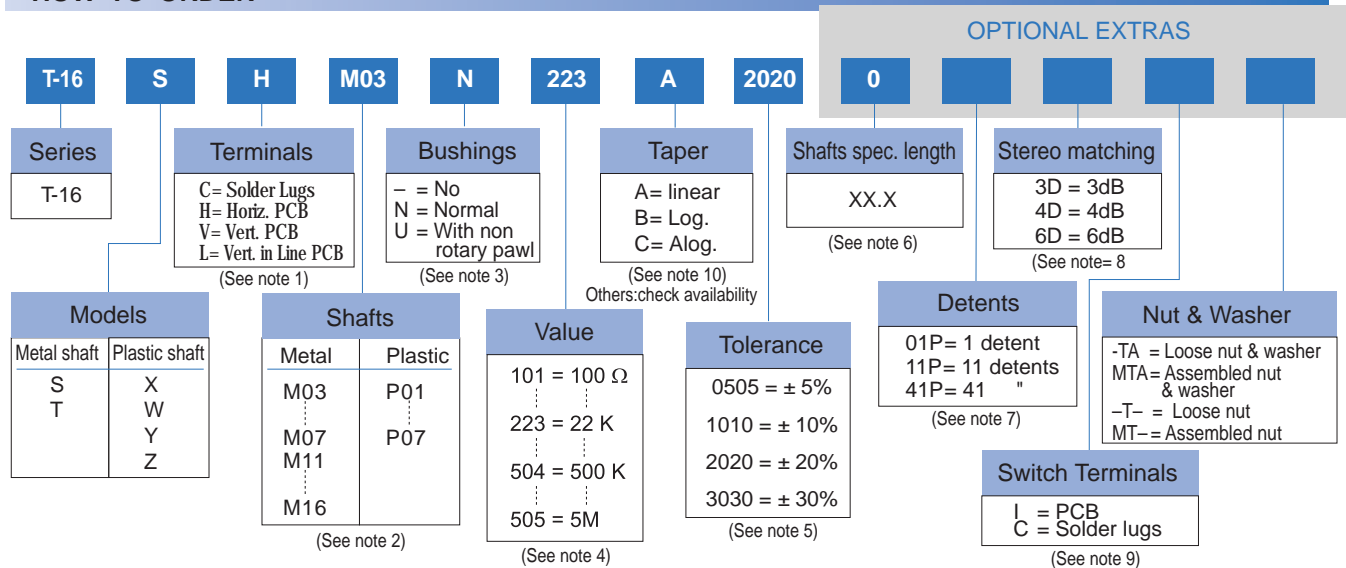
### MECHANICAL SPECIFICATIONS

- Mechanical rotation angle:  $300^\circ \pm 5^\circ$
- Electrical rotation angle:  $280^\circ \pm 20^\circ$
- Torque: 0.5 to 1.5 Ncm.  
(0.7 to 2.1 in-oz)
- Stop torque:  $> 40\text{ Ncm.}$  ( $> 56\text{ in-oz}$ )

\* Others upon request.

\*\* Up to 85°C depending on application.

### 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.  
U = Standard antirotation lugs (at 90° CW).
- (4) Value:
  - Code:  $\frac{10}{1} 100\Omega$  → Number of zeros / 2 first digits of the value.
  - In model "T" with different values, ask by drawing.
- (5) Tolerance (non standard), upon request. Example code: +15 / -20
- (6) Shafts length:
  - Only for special length and plain shafts (not knurled). Example: Shaft  $\varnothing 6,25$  L= 24.5 M07 ..... 24.5 → Shafts length shafts
  - 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 X, W, Y, Z, T.
- (10) Switch option not available with antilog taper.

## HOW TO ORDER CUSTOM DRAWING

T-16 SH + DRAWING NUMBER (Max. 16 digits)

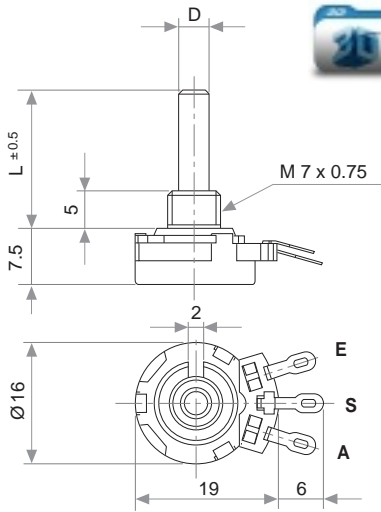
This way of ordering should be used for options which are not included in the "How to order" standard and optional extras.

## STANDARD OPTIONS

|                       |                                     |
|-----------------------|-------------------------------------|
| Shaft length .....    | 0 standard length                   |
| Detents .....         | Not included                        |
| Stereo matching ..... | Only for model "T" and upon request |
| Switch .....          | No switch                           |
| Nut & washer .....    | Without nut and washer              |
| Packaging .....       | Bulk                                |

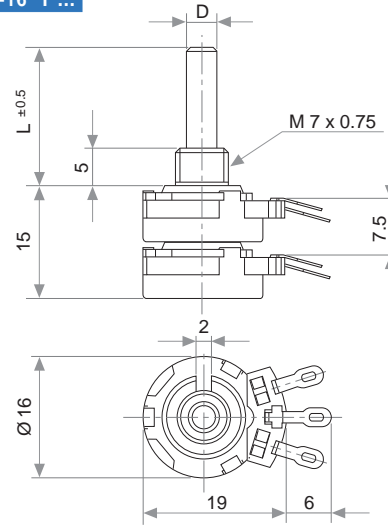
## MODELS WITH METALIC SHAFTS

T-16 S ...



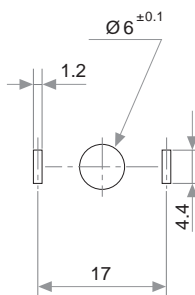
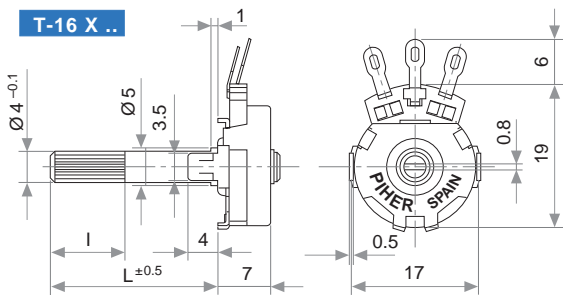
A = Initial  
S = Wiper  
E = Final

T-16 T ...

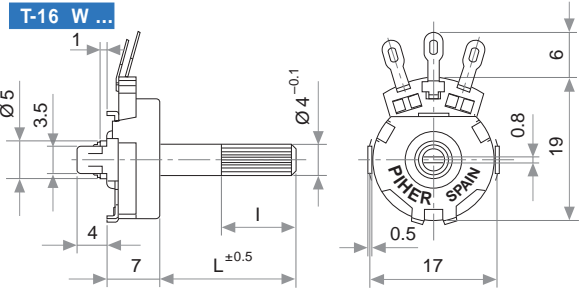


## MODELS WITH PLASTIC SHAFTS

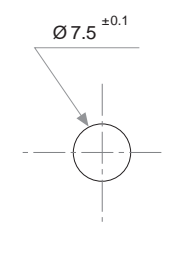
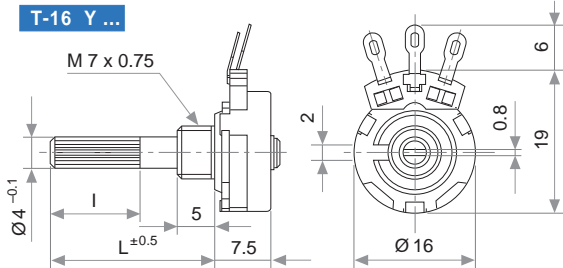
T-16 X ...



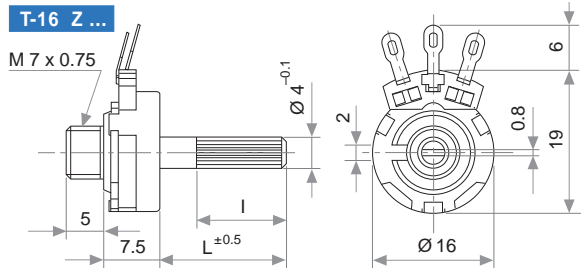
T-16 W ...



T-16 Y ...

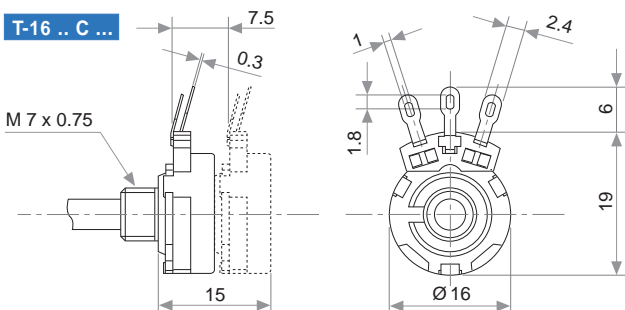


T-16 Z ...

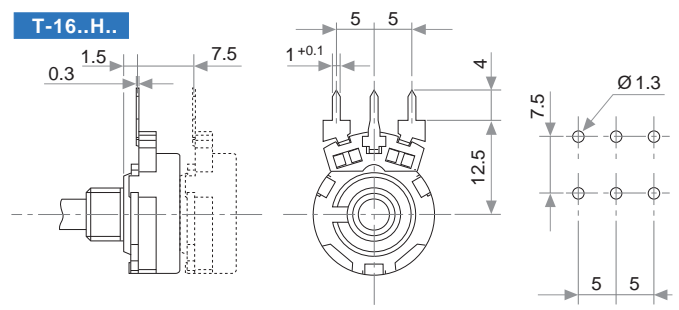


## TERMINALS

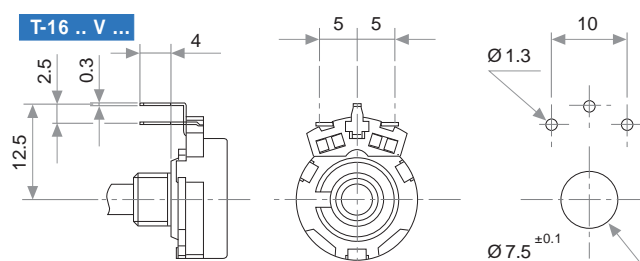
T-16 .. C ...



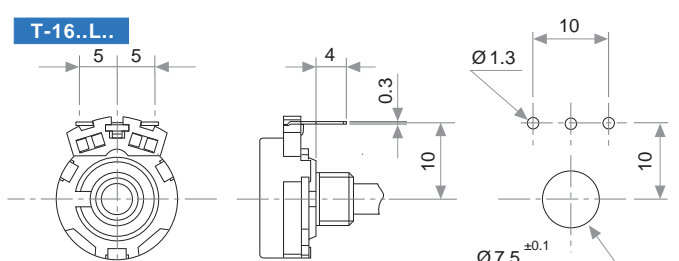
T-16..H..



T-16 .. V ...



T-16..L..



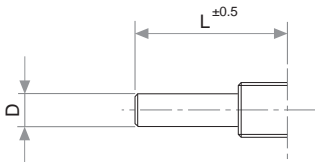
## PLASTIC SHAFTS

| T-16 X / Y |    | Without Switch |    | CODE |
|------------|----|----------------|----|------|
| T-16 X     |    | T-16 Y         |    |      |
| L          | I  | 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 |  | CODE |
|------------|--|----------------|--|------|
| T-16 W     |  | T-16 Z         |  |      |
| L          |  | I              |  |      |
| 9.5        |  | 5              |  | P05  |
| 23.5       |  | 19             |  | P06  |
| 40         |  | 35             |  | P07  |

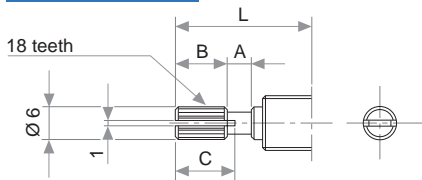
## METALIC SHAFTS

### PLAIN SHAFT



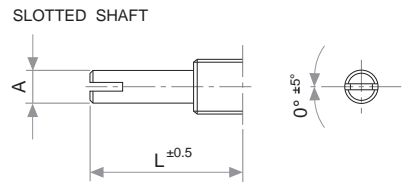
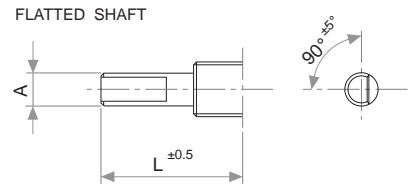
| D    | L     | CODE |
|------|-------|------|
| 3    | 30    | M03  |
| 4    | 40    | M04  |
| 6    | 40    | M06  |
| 6.25 | 40    | M07  |
| 3/4  | 40/30 | M05  |

### KNURLED SHAFT



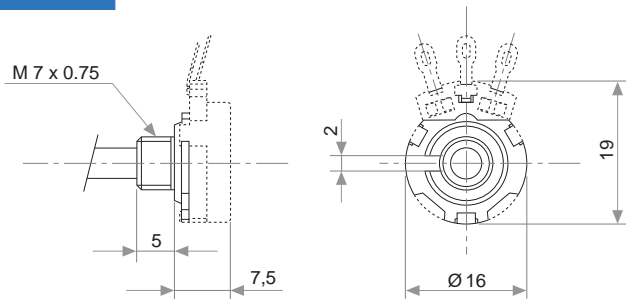
| L  | A | B  | C  | CODE |
|----|---|----|----|------|
| 15 | 2 | 6  | 7  | M11  |
| 20 | 2 | 10 | 11 | M12  |
| 25 | 4 | 12 | 14 | M13  |
| 30 | 4 | 12 | 14 | M14  |
| 35 | 4 | 12 | 14 | M15  |
| 40 | 4 | 12 | 14 | M16  |

### UNDER DRAWING

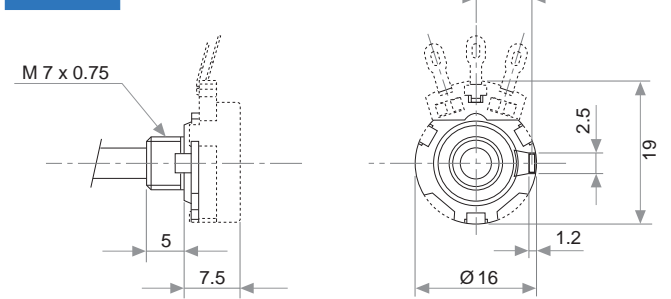


## BUSHINGS

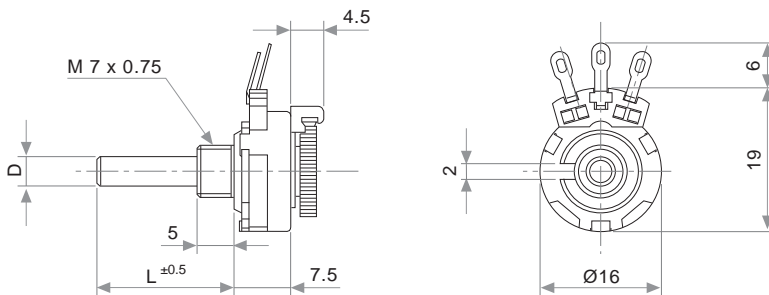
### T-16 .. N ...



### T-16 .. U ...



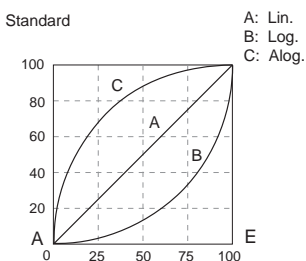
## DETENTS



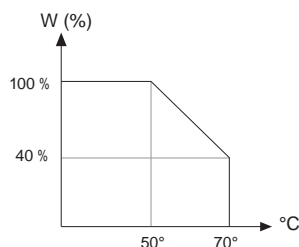
| CODE  | DETENTS           |
|-------|-------------------|
| 01 P. | 1 detent (at 50%) |
| 11 P. | 11 detents        |
| 41 P. | 41 detents        |

Only models with metallic shaft.

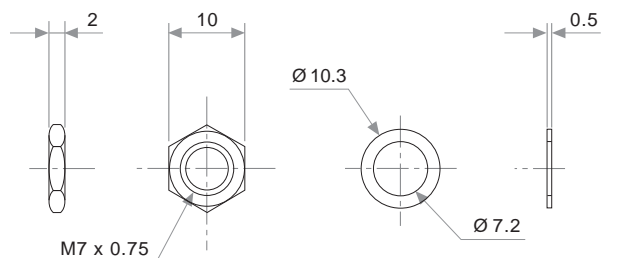
## TAPERS



## POWER RATING CURVE



## NUT & WASHER

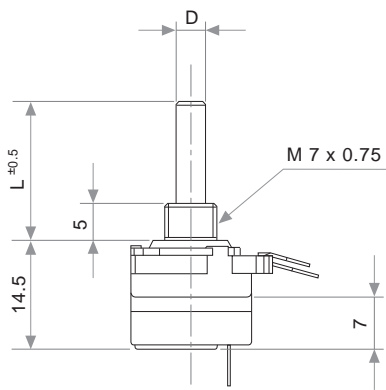


| TESTS                         |   | TYPICAL VARIATIONS     |
|-------------------------------|---|------------------------|
| ELECTRICAL LIFE               | 1.000 h. @ 50°C; 0.20 W                   | ± 5 %                  |
| MECHANICAL LIFE : POT. SWITCH | 25.000 (10–15 CPM)<br>10.000 (1A, 50 VAC) | ± 3 % ( Rn < 1 MΩ )    |
| TEMPERATURE COEFFICIENT       | -25°C; +70°C                              | ± 300 ppm (Rn < 100 K) |
| THERMAL CYCLING               | 16 h. @ 85°C; 2h. @ -25°C                 | ± 2.5 %                |
| DAMP HEAT                     | 500 h. @ 40°C @ 95% HR                    | ± 5 %                  |
| VIBRATION (each plane X,Y,Z)  | 2 h. @ 20 g. 10 Hz ... 55 Hz.             | ± 2 %                  |

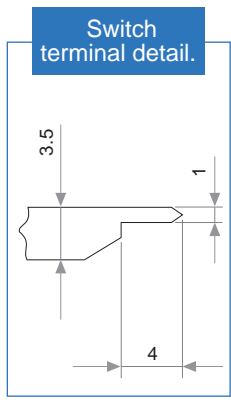
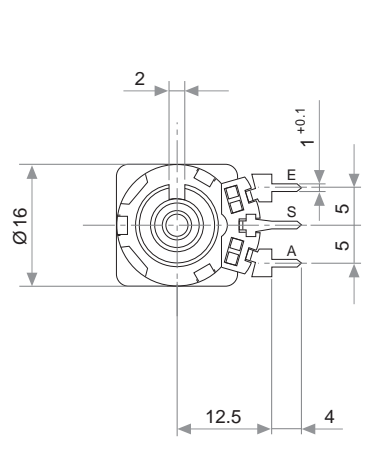
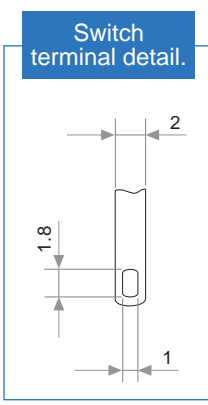
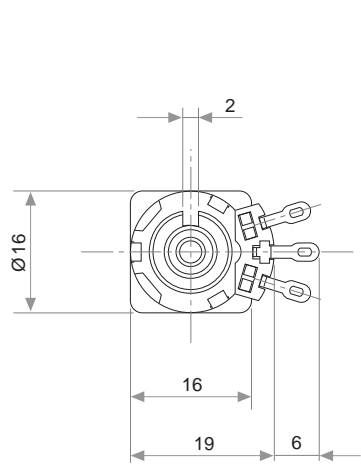
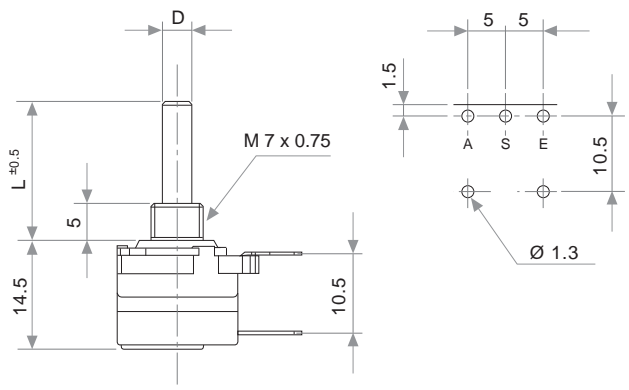
NOTE: Out of range values may not comply these results.

## SWITCH

T-16..C..C



T-16..H..I



## SWITCH SPECIFICATIONS

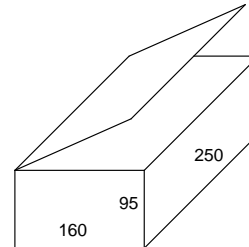
|                              |                                 |
|------------------------------|---------------------------------|
| NOMINAL CURRENT              | 1A, 250 VAC                     |
| CONTACT RESISTANCE (Initial) | 10 mΩ                           |
| OPERATING TORQUE             | 1 to 3 Ncm ( 1.4 to 4.2 in-oz ) |
| OPERATING ANGLE              | 30° ±5°                         |
| TEST VOLTAGE                 | 500 V                           |

## PACKAGING

| MODEL               | PACKAGING                |
|---------------------|--------------------------|
| T 16 – L = 40 mm.   | 400 UNITS PER BOX (BULK) |
| T 16 – L = 20 mm.   | 600 UNITS PER BOX (BULK) |
| T 16 – c/i – Tandem | 200 UNITS PER BOX (BULK) |



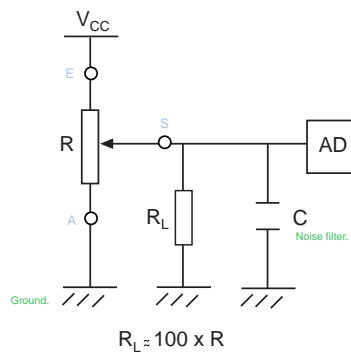
Box dimensions (cms).



Default packaging is bulk.  
Blister and other packaging types are available upon request, please contact [sales@piher.net](mailto:sales@piher.net).

## RECOMMENDED CONNECTIONS

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



## Piher's advantage

- ✓ Outstanding customer support.
- ✓ Design in support.
- ✓ Switch function.
- ✓ Cable & Connector assembly.
- ✓ Manufacturing competence for high and low volume in Europe & Asia.
- ✓ One-stop solution provider for inductive, capacitive, hall-effect and resistive solutions.
- ✓ Amphenol Global footprint and customer care.

Disclaimer: The product information in this catalogue is for reference purposes. Please consult for the most up to date and accurate design information.

Piher Sensors & Controls S.A., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Piher"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product described herein.

Piher disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Piher's terms and conditions of sale, including but not limited to the warranty expressed therein, which apply to these products.

No licence, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Piher.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Piher products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Piher for any damages arising or resulting from such use or sale. Please contact authorised Piher personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Information contained in and/or attached to this catalogue may be subject to export control regulations of the European Community, USA, or other countries. Each recipient of this document is responsible to ensure that usage and/or transfer of any information contained in this document complies with all relevant export control regulations. If you are in any doubt about the export control restrictions that apply to this information, please contact the sender immediately. For any Piher Exports, Note: All products / technologies are EAR99 Classified commodities. Exports from the United States are in accordance with the Export Administration Regulations. Diversion contrary to US law is prohibited.

Piher is an Amphenol™ company.



All Piher products can be adapted to meet customer's requirements. Due to continuous process improvement, specifications are subject to change without notice. Please always use the datasheets published at our website [www.piher.net](http://www.piher.net) for the most up-to-date information.