PIHER

PSC-10

10mm SMD cermet Potentiometer

MAIN FEATURES

- Specifically designed for leadfree reflow soldering processes (excellent performance).
- Cermet resistive element.
- IP54 protection according to IEC 60529.
- Plastic material according to UL94V-0.
- Alumina substrate.
- Full traceability.
- Also upon request:
  - Long life model for low cost control potentiometer applications.
  - Mechanical detents.
  - Low torque version.
  - Centering pins.
  - Wiper positioned at initial, 50% or fully clockwise.

MECHANICAL SPECIFICATIONS

– Mechanical life*:	Up to 10K cycles.
– Mechanical rotation angle:	235° ± 5°
– Electrical rotation angle:	220° ± 20°
– Torque:	0.4 to 2 Ncm. (0.6 to 2.7 in-oz)
– Stop torque:	> 5 Ncm. (>7 in-oz)

ELECTRICAL SPECIFICATIONS

– Range of values*:
100Ω ≤ Rn ≤ 5MΩ (Decad. 1.0 - 2.0 - 2.2 - 2.5 - 4.7 - 5.0)

– Standard tolerance*: 100Ω ≤ Rn ≤ 1MΩ ------ ± 20%
1MΩ ≤ Rn ≤ 5MΩ ------ ± 30%

– Tapers*: Lin, Log, Alog (Log and Alog. only Rn ≥ 1K).

– Nominal power: 0.33W @ 70°C (158°F)

– Operating temperature*: –40°C + 90°C

– Residual resistance: ≤ 0.5 % Rn

– Equivalent noise resistance: ≤ 3% Rn

– Max. voltage: 200 VDC

* Others upon request

HOW TO ORDER

STANDARD

OPTIONAL EXTRAS

PSC- 10	L	V50	102	A	2020				
Series	Rotors	Mounting	Value	Taper	Tolerance	Life	Detents	Wiper position	Torque
	G L M K R	V50 = Standard V60 = Centering pins	101 = 100Ω ⋮ 505 = 5MΩ (See note 1)	A = Lin. B = Log. C = Alog.	3030 = ± 30% 2020 = ± 20% 1010 = ± 10% 0505 = ± 5% (See note 2)	E= 10K cycles (See note 3)	PAI PAM PAF P1I P1F P02 ⋮ P16 See detent configurations	PM = 50% PF = Final	– = Standard L = Low torque (See note 4)

NOTES:

(1) Value Example: 10 2 = 1KΩ
10 → First two digits of the value.
2 → Number of zeros

(2) Non standard tolerance, upon request. Example: +17% -15%
17 → positive tolerance
15 → negative tolerance

(3) Others upon request.

(4) Low torque: ≤ 1.5Ncm. No detent option available for low torque models.

HOW TO ORDER CUSTOM DRAWING

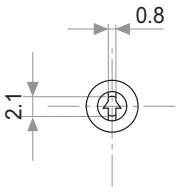
PSC10MV50 + DRAWING NUMBER

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

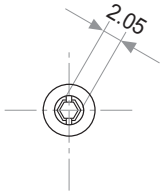
STANDARD OPTIONS

Mechanical life	1000 cycles
Detents	None
Rotor colour	Brown
Housing colour	Brown
Wiper position	Initial
Torque	Standard
Packaging	Reel

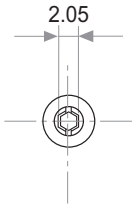
ROTORS (collector side view)



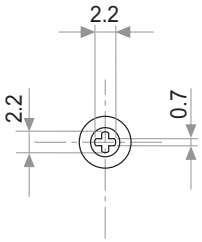
L = Screwdriver thru hole



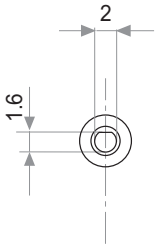
M = Hexagonal thru hole



G = Hexagonal thru hole



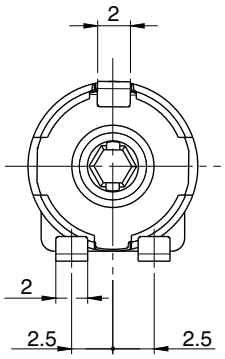
K = Cross slot thru hole

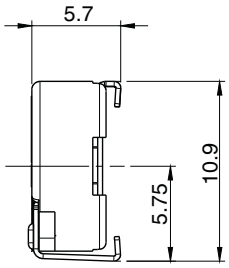


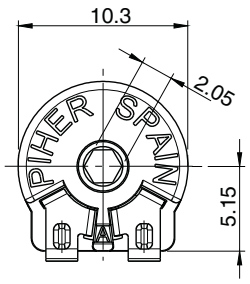
R = thru hole

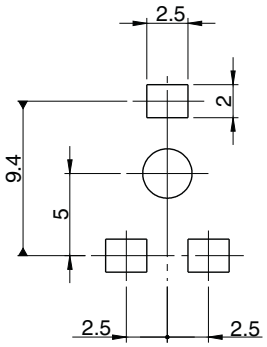
Note: wipers shown positioned at 50%

DIMENSIONS (V50 version)

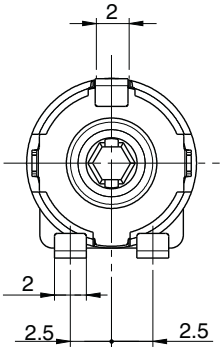


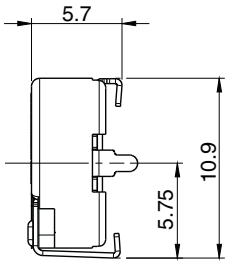


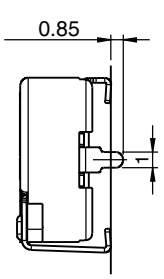


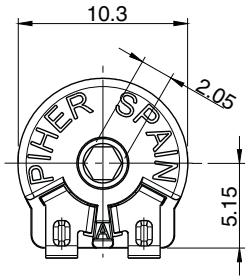


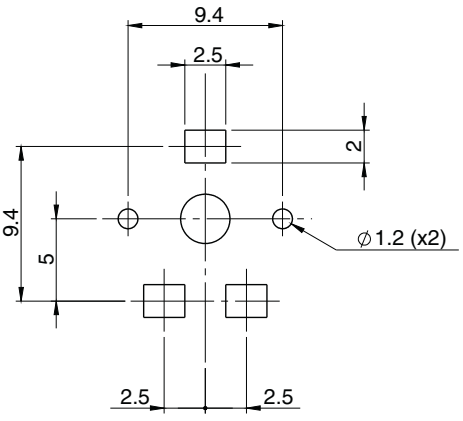
DIMENSIONS (V60 version - with centering pins)





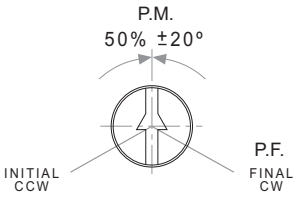




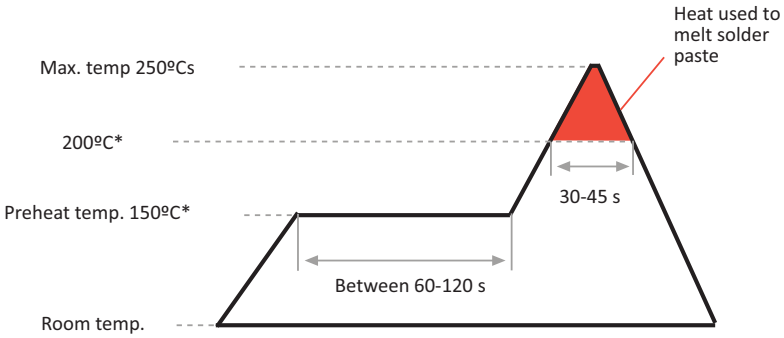


OPTIONS

Positioning (Std. Position = CCW)



RECOMMENDED REFLOW PROFILE



* Melting point temp. depends on solder properties

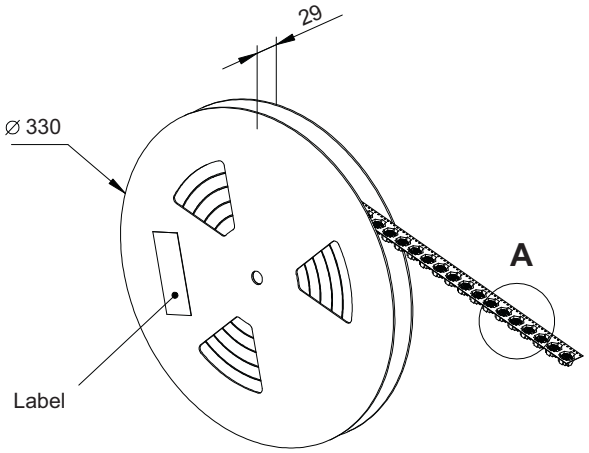
TESTS — TYPICAL VARIATIONS

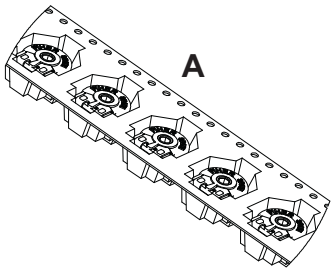
ELECTRICAL LIFE	1000 h. @ 70°C; 0.33 W	±5 %
MECHANICAL LIFE (CYCLES)	1000 @ 10 CPM ...15 CPM	±3 % (Rn < 1 MΩ)
TEMPERATURE COEFFICIENT	–40°C; +90°C	±100 ppm (Rn <100 K)
THERMAL CYCLING	16 h. @ 90°C; 2h. @ –40°C	±2.5 %
DAMP HEAT	500 h. @ 40°C @ 95% HR	±5 %
VIBRATION (for each plane X,Y,Z)	2 h. @ 10 Hz. ... 55 Hz.	±2 %

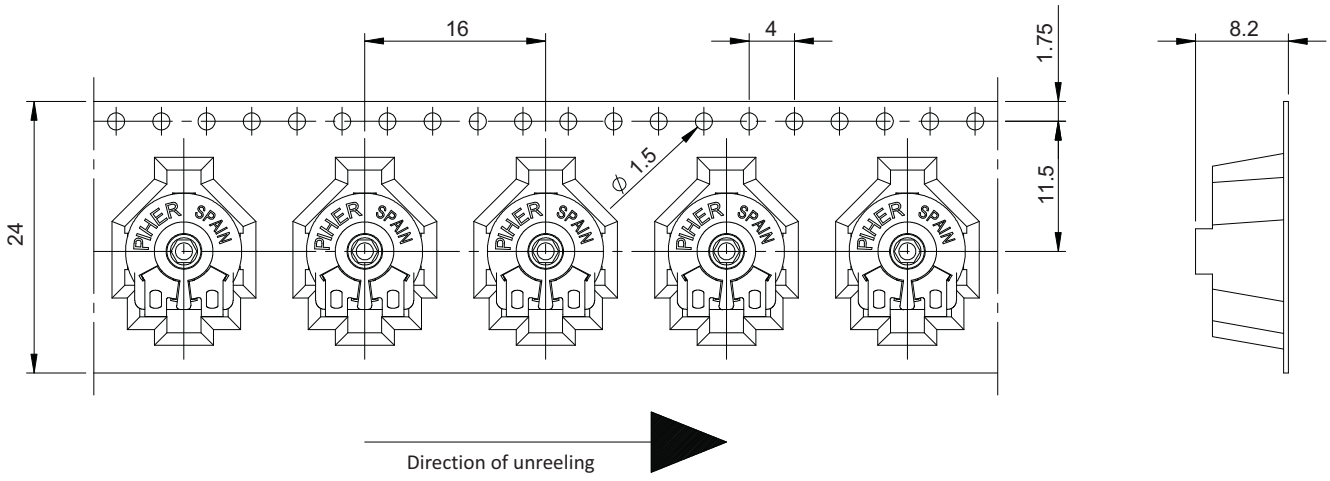
NOTE: Out of range values may not comply these results.

PACKAGING

BULK: 500pcs / per Box (80 x 85 x 185 mm.)
EMBOSSED TAPE: 500pcs / Reel





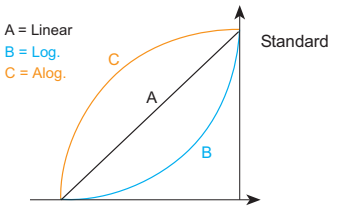


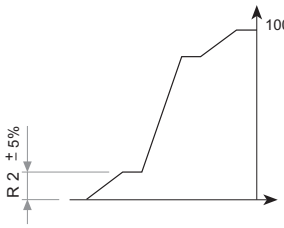
STANDARD VALUES AND TOLERANCES

Resistance Ω	100	200	220	250	470	500	1K	2K	2.2K	2.5K	4.7K	5K	10K	20K	22K	25K	47K	50K	100K	200K	220K	250K	470K	500K	1M	2M	2.5M	4.7M	5M
How to order code	101	201	221	251	471	501	102	202	222	252	472	502	103	203	223	253	473	503	104	204	224	254	474	504	105	205	255	475	505
Standard tolerance	20%																									30%			

(Others upon request)

TAPERS





Special custom taper example.
(contact at sales@piher.net)

DETENT CONFIGURATIONS EXAMPLES - Stepped potentiometers.

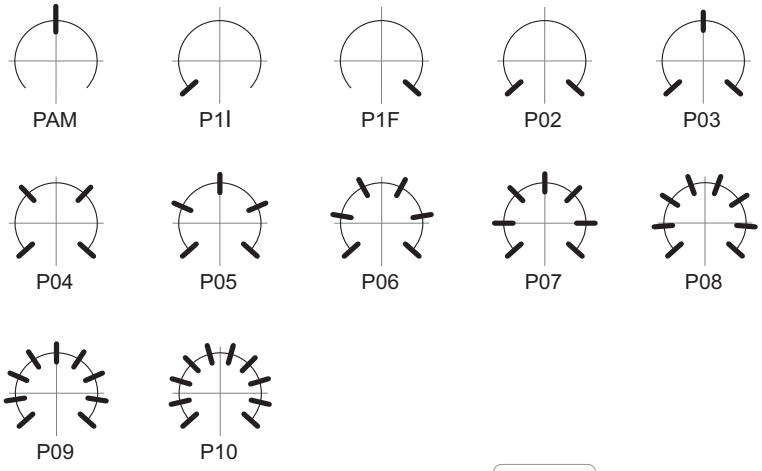
This innovative product family has been specifically developed to allow the integration of otherwise large and expensive external mechanisms into the body of the majority of the 10 & 15 mm. PS/PSX/PSC/PT/PTC potentiometer series, thus allowing a high range of configurations: special tapers, tolerances, linearity, etc.

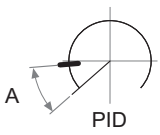
This detent design not only adds a "click" sensation of position, but also offers enormous savings in both cost and space for any given application.

Strong and weak detents can be mixed as per cutomer´s request.

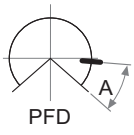
Detent number and positions can be made or fitted to the customer needs or preferences.

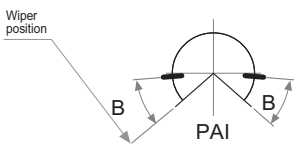
Relative detent (steps) positions along the total mechanical travel. Unless otherwise specified the detents are evenly spaced (using the end points as reference)



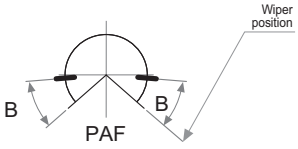


A= 26º
B= 27.5º





(wiper positioned at initial)



(wiper positioned at final)

NOTES FOR DETENTED VERSIONS:

(1) Some configurations may have a longer leadtime.

(2) Standard mechanical life is 500 cycles.

(3) Long life versions are available under request and have the following characteristics at Tª:
- Potentiometers with 1 to 3 detents: up to 10K cycles
- Potentiometers with 4 and more detents: up to 5K cycles

(4) Detent torque can vary from 1.2 to 2.5 times the standard potentiometer torque.

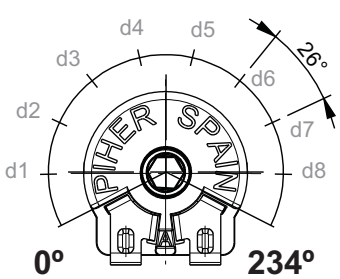
(5) Please consult your nearest Piher supplier if unique non-overlapping values at each detent position or LOG/ALOG tapers are required.

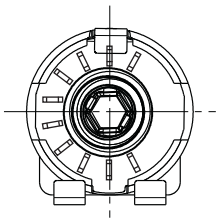
(6) Different output voltage values can be matched at each detent position (under request).

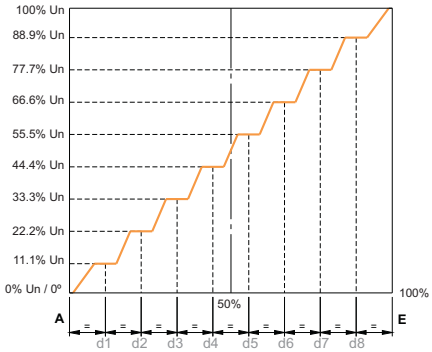
PSC-10 with 10 detents and silver zones

upon request

Detents can be matched with constant value zones when required.







SHAFTS (for G and M rotor types, top view)

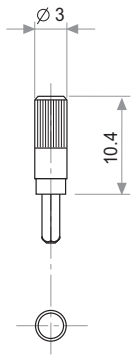


Fig. 1 / Ref. 5016

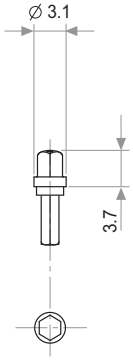


Fig. 2 / Ref. 5053

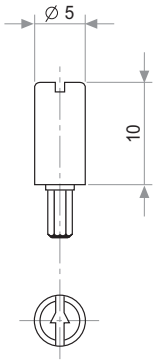


Fig. 3 / Ref. 5012

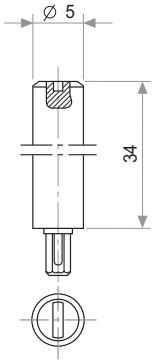


Fig. 4 / Ref. 6053

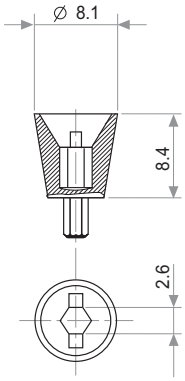


Fig. 6 / Ref. 5035

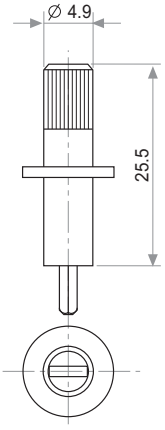


Fig. 7 / Ref. 5115

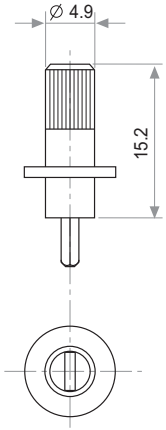


Fig. 8 / Ref. 5116

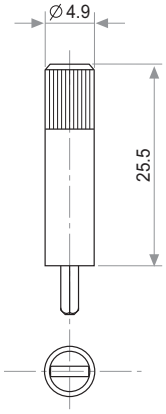


Fig. 9 / Ref. 5119

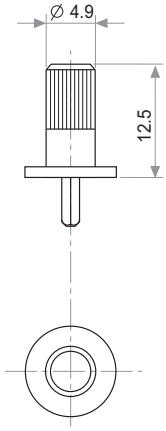


Fig. 10 / Ref. 5120

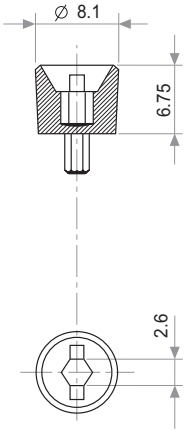


Fig. 11 / Ref. 5027

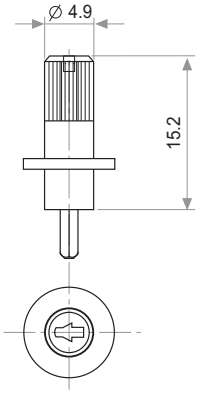


Fig. 12 / Ref. 6052

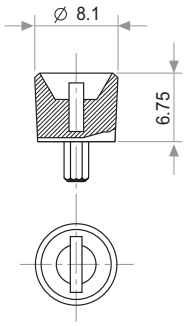


Fig. 13 / Ref. 5121

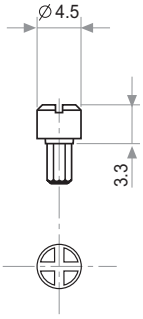


Fig. 14 / Ref. 5055

Shafts, kobs and thumbwheels are delivered unassembled.
If you wish to use your own custom plastic shaft/knob/actuator please contact Piher for advice about compatible materials.

THUMBWHEELS (for G and M rotor types, top view)

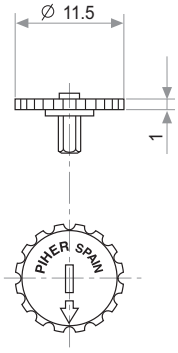


Fig. 5 / Ref. 5034

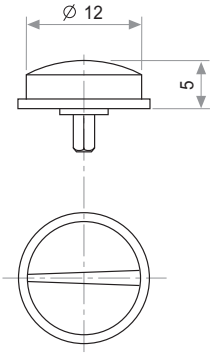


Fig. 15 / Ref. 6008

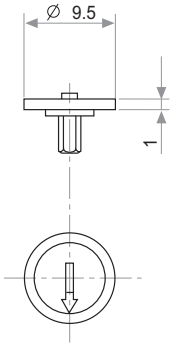


Fig. 16 / Ref. 5039

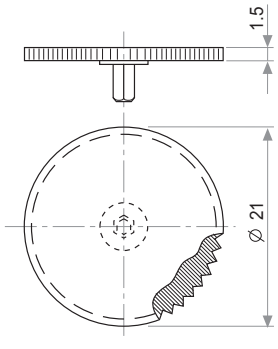
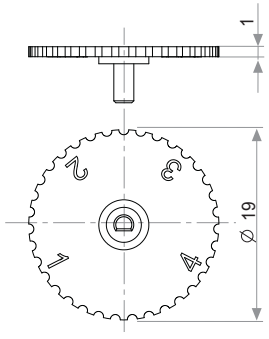


Fig. 17 / Ref. 5062

THUMBWHEEL For R rotor type only

Marking: configurable number of positions.

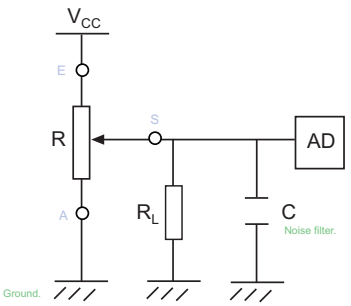
Example of four positions marking:



Upon request

RECOMMENDED CONNECTIONS

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



$R_L \simeq 100 \times R$

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.

RoHS compliant

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 for the most up-to-date information.

v160818

Contact

Piher Sensors & Controls SA

Polígono Industrial Municipal
Vial T2 Nº22
31500 Tudela - Spain
Tel: +34-948-820450

sales@piher.net

www.piher.net

Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

Наши контакты:

Телефон: +7 812 627 14 35

Электронная почта: sales@st-electron.ru

Адрес: 198099, Санкт-Петербург,
Промышленная ул, дом № 19, литера Н,
помещение 100-Н Офис 331