TesPro® Since2002

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TP-16

Calibration Optical Probe Datasheet



TP-16 optical probe is independently developed, designed, and manufactured by Tespro, specifically tailored for portable meter testing equipment.Compliant with MTE/EMH standards and equipped with original imported connectors, it senses visible/infrared LED pulses and converts them into electrical signals for global electronic meter pulse acquisition and accuracy calibration. Featuring a high-performance signal processing circuit with strong anti-interference capability, it is plug-and-play and compatible with various portable testing devices. It supports circuit and casing customization with flexible OEM/ODM services, suitable for on-site calibration, equipment matching, and system integration.



CE RoHS COMPLIANT

Senses visible / infrared light
Converts to electrical pulse

Standard: DC 12V±10%
Optional: DC 24V

High level ≥ 4.0V, Low level ≤ 0.3V
DC 5V / DC 12–24V (Optional)

IP54
-40°C to +70°C
5% to 95% RH (Non-condensing)

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Typical Application Scenarios



Electricity Meter Accuracy Verification

For on-site data collection and accuracy verification of various electronic electricity meters.



Single-phase / Three-phase Meters

For pulse collection and metering accuracy verification of single-phase and three-phase electricity meters.



Smart Meter Testing

For LED optical pulse collection, communication function testing and system integration testing of smart meters.



Mechanical Meter Pulse Collection

For auulliary optical pulse collection and metering accuracy verification of mechanical (induction) meters.



Production Line Mass Testing

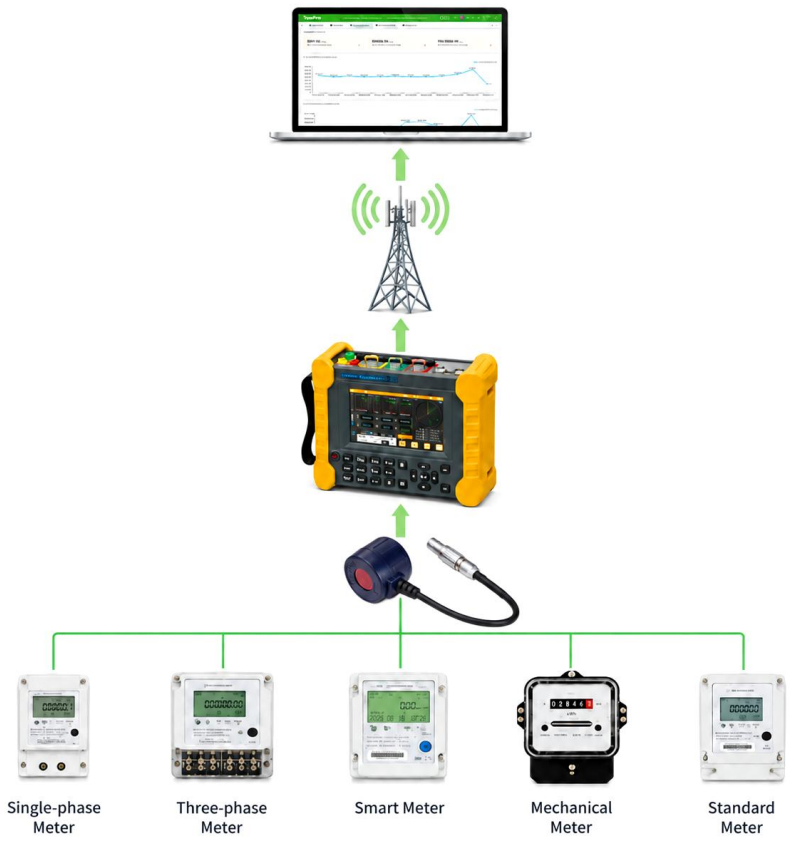
For batch pulse collection and centralized verification in electricity meter manufacturing.



On-site Portable Verification

For field verification and inspection in remote areas without grid power or network access.

Application Topology



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Core Advantages

Power Supply Configuration

Standard 12V±10% (optional 24V) wide voltage input, ≤10mA low power. Fits production line testers and portable calibrators.

Pulse Signal Output

Forward pulse output: high ≥4.0V, low ≤0.3V. Stable signal amplitude, matching calibration devices for accurate data.

Mechanical Fixing

Strong magnetic mounting (IEC 62056-21). Works with TP-GS2 bracket for reliable, instant fixing on meters.

Original Connectors

Original Lemo connectors for PRS1.3 and PWS1.3 meters. Adapts to various calibration interfaces for high-fidelity transmission, plug-and-play.

Structural Design

Compact 32mm x 30mm body, weighing only 92g. Impact-resistant ABS+PC casing, durable against collisions and drops.

Strong Weather Resistance

perating temp -40℃~+70℃, IP54 rated. Withstands harsh environments (cold, heat, humidity) for long-term stable operation.

Product Features

· Standard power: DC 12V±10%, ≤10mA, low power consumption.

· Optional DC 24V wide voltage input for production testers and portable calibrators.

· Forward pulse output: high ≥4.0V, low ≤0.3V, stable signal amplitude.

· Pulse output power: DC 5V or DC 12~24V optional.

· Compliant with MTE / EMH standards. Designed for portable meter testing, suitable for global electronic meter pulse acquisition and calibration.

· Standard 3m cable, custom lengths available.

· Original Lemo connectors for PRS1.3 and PWS1.3 meters, adapting to various calibration interfaces.

· Strong magnetic adsorption, IEC 62056-21 compliant.

· N40/N52 magnet optional. Compatible with TP-GS2 bracket for secure mounting on meter surfaces.

· Impact-resistant ABS+PC casing, compact and durable.

· Operating temp -40℃~+70℃, IP54 rated. Withstands harsh environments (cold, heat, dust).

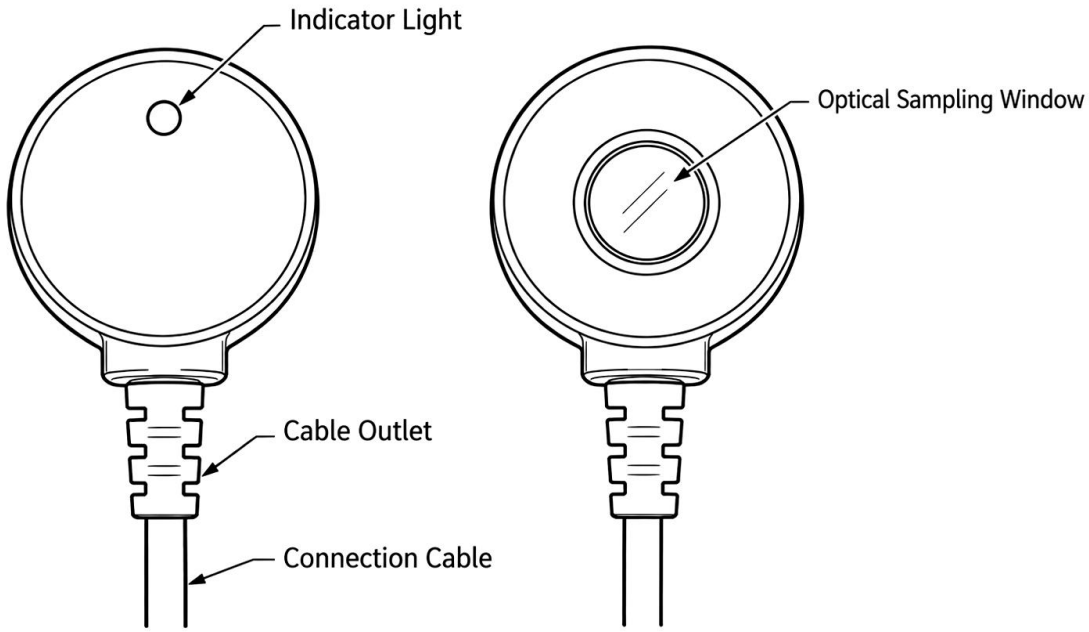
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Specifications

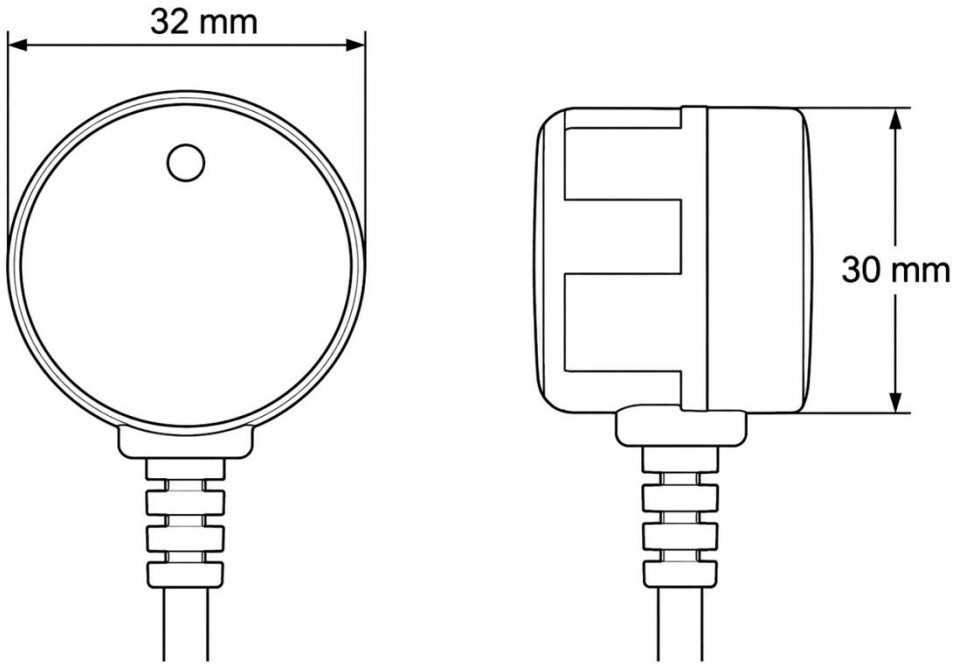
Category	TP-16
Signal Output	
Output Type	Forward Electrical Pulse
High Level Output Voltage	≥4.0V
Low Level Output Voltage	≤0.3V
Electrical Parameters	
Power Supply	Standard: DC 12V±10%, ≤10mA; Optional: DC 24V
Pulse Output Power	DC 5V / DC 12~24V（Optional）
Wavelength	Approx.900nm
Interface & Cable	
Cable Length	Standard 3m (Customizable)
Connector	Original Lemo connectors for PRS1.3 and PWS1.3 meters
Installation & Fixing	
Fixing Method	Strong magnetic adsorption（Compliant with IEC 62056-21）
Magnet Force	N40 / N52（Optional）
Matching Bracket	Compatible with TP-GS2 bracket for fixing onvarious meters
Mechanical Properties	
Casing Material	Impact-resistant ABS + PC composite
Dimensions	32 × 30 mm（Diameter × Height）
Weight	92 g
Environment & Protection	
Operating Temperature	-40°C ~ +70°C
Storage Temperature	-20°C ~ +60°C
Operating Humidity	5% ~ 95% RH（Non-condensing）
Protection Rating	IP54
Standards & Certifications	
Product Certification	CE，RoHS
Compliant Standard	IEC 62056-21

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Interface Diagram



Dimensions



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Accessories & Packaging

Component Information



TP-16 Calibration Optical Probe



Driver Download Card

Packaging Information



Dimensions

139 × 125.7 × 56.8 mm

Made of eco-friendly, recyclable packaging materials, in compliance with green environmental standards.

About Tespro

Tespro is a 25-year veteran industrial IoT equipment manufacturer specializing in AI computing devices, industrial IoT terminals, and power communication equipment, along with proprietary software. It has grown into a top global manufacturer in IoT and power acquisition. Its product matrix includes AI devices, gateways, routers, DTUs, meter optical probes, testing instruments, and smart management platforms, serving power energy, industrial automation, and smart buildings. With branches in the US, UK, Singapore, Hong Kong, and Zhuhai (China), its products are exported to over 150 countries. Partnering with Fortune 500 companies, Tespro is a trusted global partner.

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