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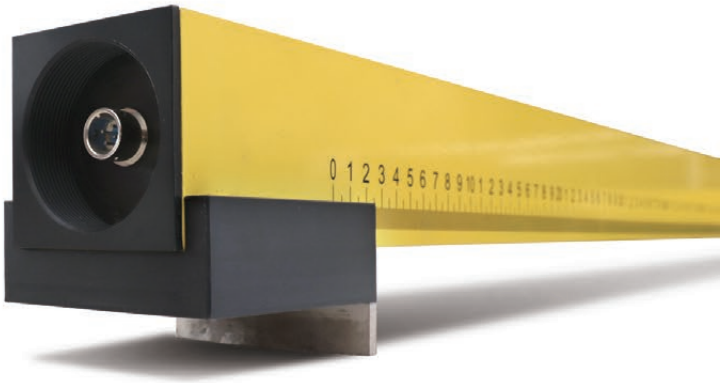
TPJC-2 LASER PORTABLE RAILWAY CATENARY SYSTEM GEOMETRICAL PARAMETERS MEASURING DEVICE

OVERVIEW

TPJC-2 Portable Railway Catenary System Geometrical Parameters Measuring Device is a multifunctional precise measuring instrument. The device consists of laser ranging module, grating angular measuring module, track gauge measuring sensor, and horizontal super elevation measuring modules.

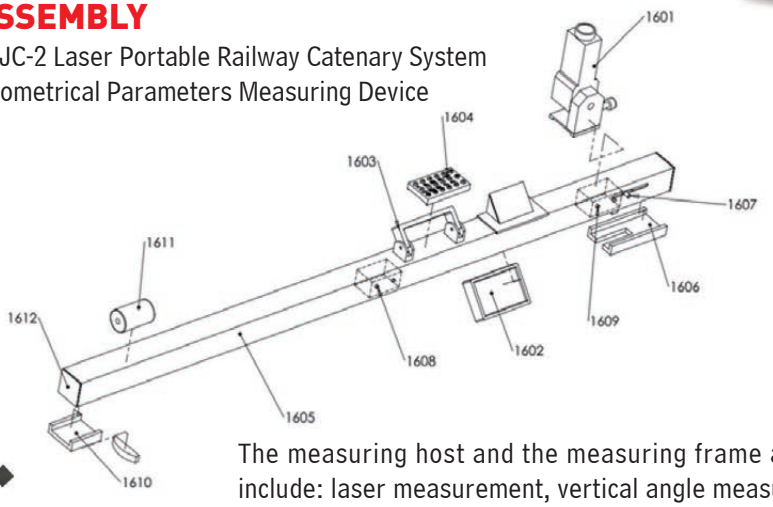
This device integrates laser non-contact detection ranging technology, rating angular technology, two-dimensional coordinate measuring system and sensor information fusion technology. Use Windows CE operating system to design user interface framework. It provides a perfect solution for the measuring catenary system geometrical parameters.

The unit is lightweight(4.7kg) and is provided with a protective box for easy transportation to and from site. All data is displayed on a colour screen. The files can be opened and viewed in TXT file.



ASSEMBLY

TPJC-2 Laser Portable Railway Catenary System Geometrical Parameters Measuring Device



1601. Laser ranging module
1602. Illuminated LCD touch screen
1603. Handle
1604. Keyboard controller
1605. 1435mm measuring beam, (imperial sizing optional)
1606. Sprung foot block
1607. Sprung jig
1608. Super elevation measuring module
1609. Track gauge measuring module
1610. Fixed foot block
1611. Lithium battery
1612. Plastic seal cap

The measuring host and the measuring frame are integrated into TPJC-2. The host functions include: laser measurement, vertical angle measurement; the measurement frame is a horizontal beam placed horizontally between the rails, mainly supporting the measurement host, measuring the track gauge, the horizontal tilt angle and so on.

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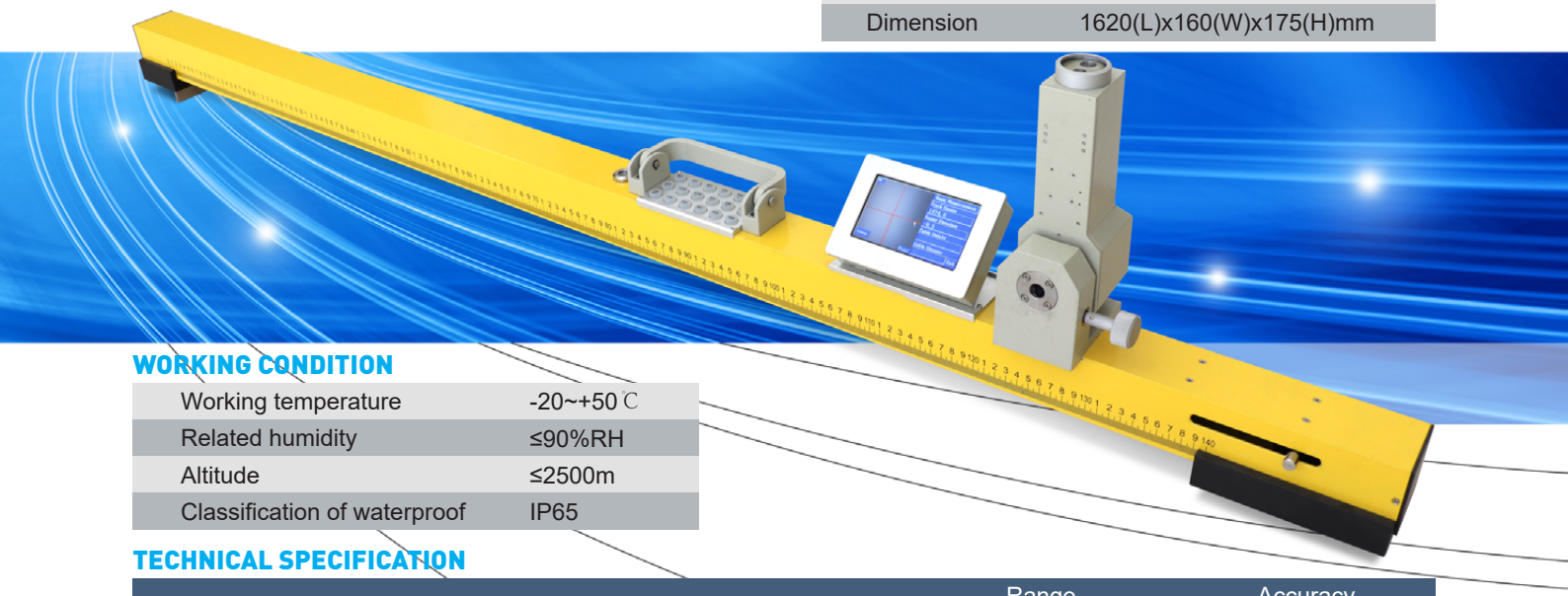
TPJC-2 LASER PORTABLE RAILWAY CATENARY SYSTEM GEOMETRICAL PARAMETERS MEASURING DEVICE

MAIN TECHNICAL PARAMETERS

MECHANICAL PARAMETERS

Weight	4.7Kg
Dimension	1620(L)x160(W)x175(H)mm



WORKING CONDITION

Working temperature	-20~+50 ℃
Related humidity	≤90%RH
Altitude	≤2500m
Classification of waterproof	IP65

TECHNICAL SPECIFICATION

		Range	Accuracy
Cable Height		5100~6500mm	±3mm
Cable stagger		±600mm	±5mm
Gross center	Height	5100~6500mm	±3mm
	Deviation Value	±600mm	±5mm
Elevation difference at 500mm			±4mm
Track gauge		1410~1470mm	±0.5mm
Super-Elevation(horizontal)		±185mm	±1mm
Red Line			±4mm
Mast gauge		2400~6500mm	±5mm
Dropper Space			±5mm
Overlap section	Horizontal distance		±7.5mm
	Vertical distance		±5mm
Distance between railway transmission lines and contact wire			±4mm
Free measurement	Horizontal distance		±4mm
	Vertical distance		±3mm
Mast span on both sides of the track		35000mm	±5mm
Registration arm slope	1:n(n accurate to 0.1)		

ELECTRICAL PARAMETERS

Voltage	12V
Electric current	500mA
Continuous working time	no less than 12 hours
Laser wavelength	650nm
Test data can be exported to TXT file via USB	
GPS function should be ordered separately	
Operating system	Windows Embedded CE 6.0
Software interface and logo can be customized	

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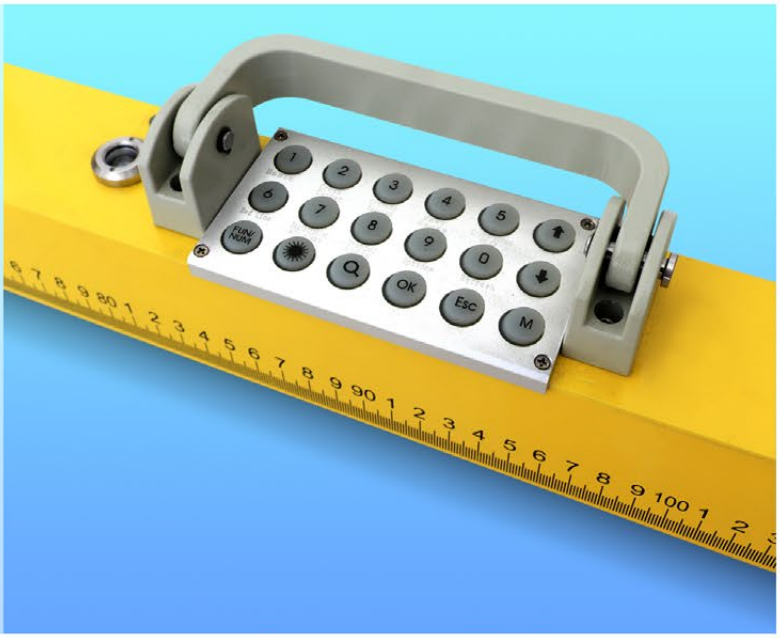
TPJC-2 LASER PORTABLE RAILWAY CATENARY SYSTEM GEOMETRICAL PARAMETERS MEASURING DEVICE

FUNCTIONS

- Track gauge measurement
- Super elevation measurement
- Cable height measurement
- Cable stagger measurement
- Cross center measurement
- Overlap section measurement
- Mast gauge measurement
- Elevation difference measurement at 500mm
- Red line measurement
- Registration arm slope measurement
- Dropper space measurement
- Mast perpendicularity measurement
- Data storage and export TXT file to computer
- GPS(optional)

KEYBOARD

There are 18 buttons in this keyboard among which the following 10 buttons: 1,2,3,4,5,6,7,8,9,0 have two functions. Switch by pressing the "Func/Num" button to input the number or enter corresponding function interface. Detailed introduction will be showed in the following part.



"Options" button is designed for special geometrical parameter measuring function:(a) mast perpendicularity measuring, definition:Schematic diagram M;(b) span measuring, definition: schematic diagram N; (c) tunnel section measuring, definition: schematic diagram O; default options function is to measure mast perpendicularity(a).
Turn on the power switch(The power switch is on one side of the LCD screen.), boot time is about 4-5 seconds, the basic function interface showing in LCD screen first.

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