



Fine Tooling

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FT3550 User Manual

5½ Digital Multimeter 300V, 5A, 1MΩ



History list

Version	Date	Content
1.0	2023/3/30	First release
1.1	2023/10/23	Increase the appearance size of the product
2.0	2023/11/8	Increased CE And FCC compliance related content

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Product characteristics

- 5½ Measurement accuracy
- Voltage measurement range: 100mV,1V,10V,100V,300V
- Current measurement range: 10µA,100µA,1mA,10mA,100mA,1A, 5A
- Resistance measurement range: 10Ω,100Ω,1kΩ,10kΩ,100kΩ,1MΩ
- Maximum 1000 readings/second
- Bing available of Ethernet, USB and FIDAS version

Overview

The FT3550 is a 5½ multi-meter for industrial application with up to 1000 readings per second. It supports to measure DC current, DC voltage, and resistance under a 5½ accuracy. FT3550 Supports 4-wires resistance measurement to reduce the errors caused by the test wires. While with small size, it is easy be to integrated into industrial control system, FCT testers, aging testing system and such kind of automatic test system applications.

System Support: Windows XP/Win7/10 Linux

Software compatible: LabVIEW Visual Studio FT Studio

DC Measurement characteristics

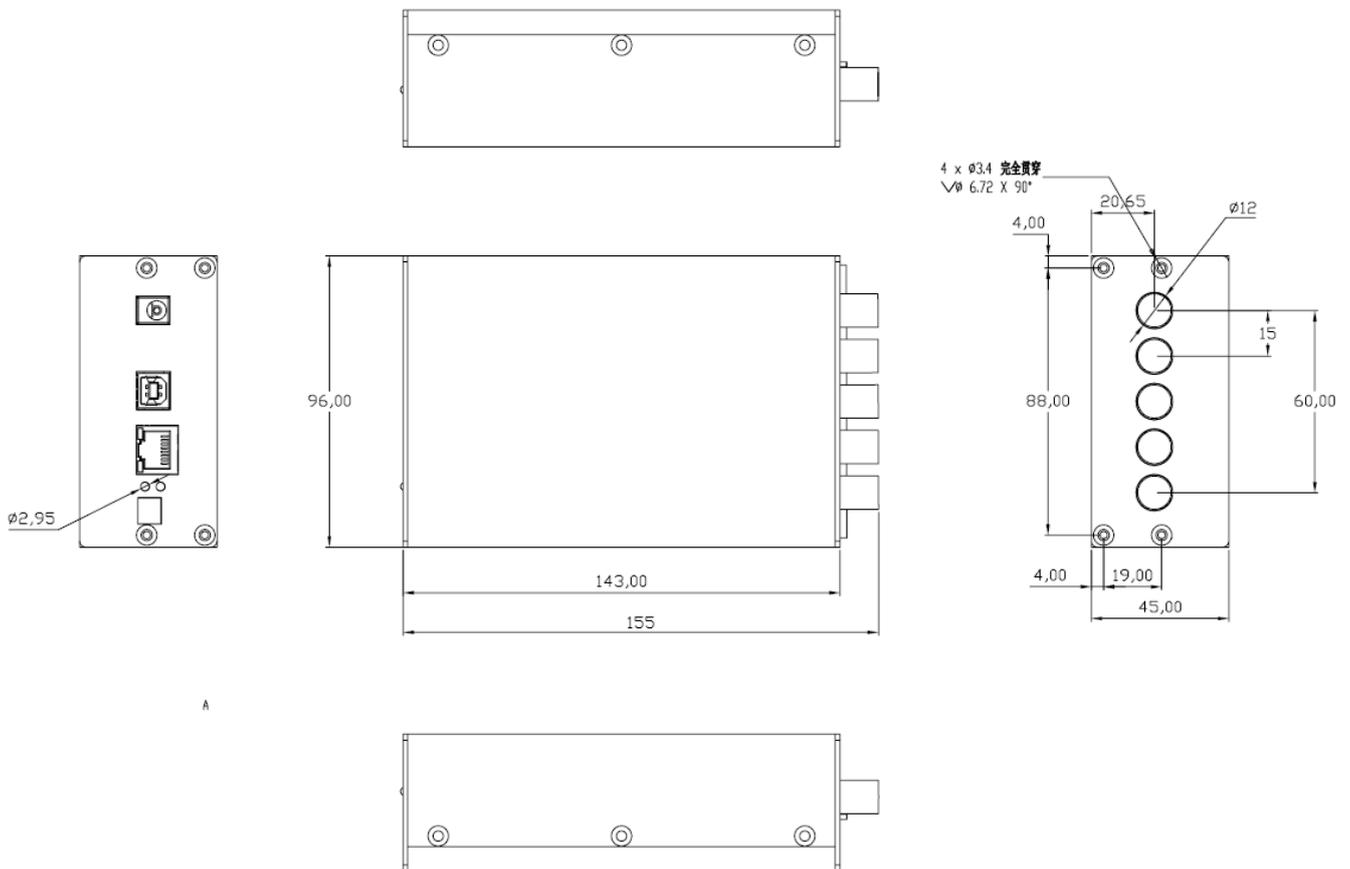
Accuracy Specifications: ± (% of reading + % of range)

Voltage Range	24 hours T _{CAL} ± 1 °C	90 days T _{CAL} ± 5 °C	1 year T _{CAL} ± 5 °C	2 years T _{CAL} ± 5 °C
100mV	0.0070 + 0.0090	0.0080 + 0.0095	0.0090 + 0.0095	0.0100 + 0.0095
1V	0.0060 + 0.0012	0.0070 + 0.0012	0.0080 + 0.0012	0.0090 + 0.0012
10V	0.0055 + 0.0007	0.0070 + 0.0008	0.0080 + 0.0008	0.0090 + 0.0008
100V	0.0060 + 0.0009	0.0070 + 0.0009	0.0080 + 0.0009	0.0090 + 0.0009
300V	0.0060 + 0.0009	0.0065 + 0.0010	0.0085 + 0.0010	0.0110 + 0.0010

Resistance Range	Test Current	24 hours T _{CAL} ± 1 °C	90 days T _{CAL} ± 5 °C	1 year T _{CAL} ± 5 °C	2 years T _{CAL} ± 5 °C
10 Ω	1 mA	0.0100 + 0.010	0.020 + 0.020	0.030 + 0.020	0.040 + 0.020
100 Ω	1 mA	0.0080 + 0.008	0.009 + 0.009	0.010 + 0.009	0.011 + 0.009
1 kΩ	1 mA	0.0080 + 0.001	0.009 + 0.001	0.010 + 0.001	0.011 + 0.001
10 kΩ	100 µA	0.0080 + 0.001	0.009 + 0.001	0.010 + 0.001	0.012 + 0.001
100 kΩ	10 µA	0.0080 + 0.001	0.009 + 0.001	0.010 + 0.001	0.013 + 0.001
1 MΩ	5 µA	0.0050 + 0.002	0.006 + 0.002	0.007 + 0.0020	0.008 + 0.002

Current Range	Burden Voltage	24 hours $T_{CAL} \pm 1\text{ }^{\circ}\text{C}$	90 days $T_{CAL} \pm 5\text{ }^{\circ}\text{C}$	1 year $T_{CAL} \pm 5\text{ }^{\circ}\text{C}$	2 years $T_{CAL} \pm 5\text{ }^{\circ}\text{C}$
10 μA	< 0.011 V	0.050 + 0.060	0.060 + 0.070	0.060 + 0.070	0.060 + 0.070
100 μA	< 0.11 V	0.010 + 0.020	0.040 + 0.030	0.050 + 0.030	0.060 + 0.030
1 mA	< 0.11 V	0.007 + 0.006	0.030 + 0.007	0.050 + 0.007	0.060 + 0.007
10 mA	< 0.11 V	0.007 + 0.020	0.030 + 0.020	0.050 + 0.020	0.060 + 0.020
100 mA	< 0.1 V	0.010 + 0.004	0.030 + 0.005	0.050 + 0.005	0.060 + 0.005
1 A	< 0.01 V	0.050 + 0.006	0.080 + 0.010	0.100 + 0.010	0.120 + 0.010
5A	< 0.05 V	0.180 + 0.020	0.200 + 0.020	0.200 + 0.020	0.230 + 0.020

Dimensions of appearance



Compliance

The Federal Communications Commission (FCC) Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Product Measurement Used Standard:

FCC Rules and Regulations Part 15 Subpart B Class B, ANSI C63.4:2014

The FCC places digital electronics into two classes. These classes are known as Class A (for use in industrial commercial locations only) or Class B (for use in residential or industrial commercial locations). In simple terms FCC Rules for Class B is more rigorous than Class A. Consider that most of the products are basically used in an industrial environment, most of our products are Class A certified. Some of our small precision instruments, customers sometimes handheld use, from the user's health and safety considerations, so we will follow the more stringent B product certification. Our

Class A

A digital device that is marketed for use in a commercial, industrial, or business environment, exclusive of a device which is marketed for use by the general public or is intended to be used in the home.

Class B

A digital device that is marketed for use in a residential environment notwithstanding use in commercial, business, and industrial environments. Examples of such devices include, but are not limited to, personal computers, calculators, and similar electronic devices that are marketed for use by the public.

European Union - Compliance to CE

The above-mentioned product meets the requirements of the EMC and LVD directive of CE certification. The CE mark can be used, under the responsibility of the manufacturer or the importer, after completion of an EU declaration of conformity and compliance with all relevant EU directives.

This Product Measurement Used Standard:

EN 61326-1:2013

EN 61010-1:2010/A1:2019

FCC/DOC/CE Warnings

Changes or modifications not expressly approved by Finetooling Technology could void the user's authority to operate the equipment under the FCC/CE Rules.

This equipment has been tested and found to comply with the limits for above specified FCC and CE Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio

or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

The CE And FCC Mark declaration of conformity will contain important supplementary information and instructions for the user or installer. The marks would be included on our product shell, except for those bought for OEMs or the condition that compliance would be not requires.

