

**Information**

**HIOKI**

**NEW**

# CLAMP ON EARTH TESTER FT6380, FT6381

Field Measuring Instruments



**Easy pole earth resistance measurement  
with super slim jaw**



**Easy Open Jaw  
Light Weight**

**High Accuracy**

**0.02 Ω to 1600 Ω wide measurement range for earth resistance measurement  
1.00 mA to 60.0 A covering small leakage current to load current**

For multi grounded systems only



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Hioki company overview, new products, environmental considerations and other information are available on our website.



**True RMS**

**CAT IV 600 V**

# Get Things Done with Super Slim Jaws

## Easy clamping!

Open jaws easily with just two fingers. Only half the grip power is needed compared to typical clamp earth testers.



## Clamp at the narrowest point!

Now you can easily clamp the earth cable on the pole without digging. The dramatically slim 0.79 inch (20mm) jaws let you finish your job easily and efficiently.



0.87 inch  
(22 mm)

0.79 inch  
(20 mm)

1.5 inch  
(38 mm)  
0.87 inch  
(22 mm)



## LCD with beautiful back light

With the bright back light, you can easily read the measurement value even in dark locations.



## Quick Start!

No wait time after powering on. Start measuring instantly without zero-calibration.

## High Accuracy and Repeatability

Well-designed magnetic shields eliminate the leakage flux between the two cores that often affect measurement accuracy.

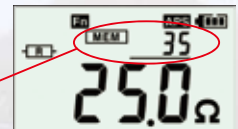
## Alarm Function

Set the alarm to audibly and visually notify you that the resistance or current value exceeds the threshold.

## Large storage capacity (up to 2,000 data)

You can store up to 2,000 measurement values in the field and recall them in your office later.

## Memory number



## Filter function enables even more accurate measurements

Resistant mode filter: digital filter gives you steadier readings.

Current mode filter: Low-pass filter eliminates harmonics current over 180Hz.



# Automatic Report Generation

Model FT6381 can create reports instantly in the field using an Android™ phone via a Bluetooth® wireless technology.



For the U.S./Canada/Europe/Japan only

## 1 Real time data transfer

## 2 Automatic Report Generation on your Android™ phone

## 3 Download data

Report includes the Measurement Value, Date and Time, Map with GPS information and Pass/Fail information

After making a report, you can see it on the Android™ phone or send the data to your PC at the office via e-mail.



Via e-mail



**Field**

Measured Data

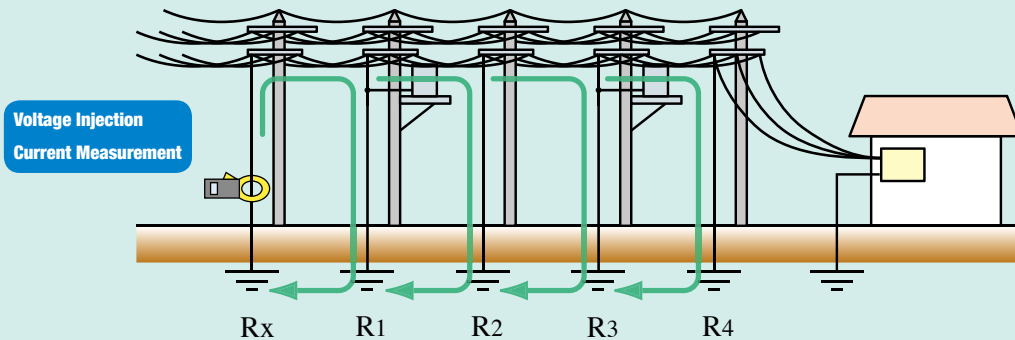


**Office**



## Measurement Principle

FT6380/6381 can measure Multi-Grounded systems.



Clamp on the earth cable. The instrument has two cores for voltage injection and current measurement.

1. The voltage transducer injects a defined voltage into the multi-grounded system.
2. From the defined voltage and measured current, the total circuit loop resistance is calculated in the following equation.

$$R_x + \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \frac{1}{R_4} \dots} = \frac{V}{I}$$

In a typical multi-grounded system, the parallel resistance value is small enough to be ignored and the equation as referred above can be simulated as follows.

$$R_x = \frac{V}{I}$$

## Specifications

Display	Digital/ LCD, max. 2000 digits      Display update rate: 2 times / s
Maximum conductor diameter for measurement	ø 32 mm (1.26 in)
Power supply	LR6 alkaline battery × 2
Continuous operating time	35 hours    With display backlight off, Bluetooth OFF (FT6381)
Auto power save	Power save state when 5 minutes have elapsed since the last operation
Operating temperature and humidity	-10°C (14°F) to 50°C (122°F), 80 % rh or less (no condensation)
Storage temperature and humidity (no condensation, except batteries)	-20°C (-4°F) to 60°C (140°F), 80 % rh or less
Dustproof and waterproof	IP40 (EN60529)    With Jaws Closed
Temperature characteristics	In -10°C (14°F) to 50°C (122°F) range: add 0.1 × Measurement accuracy / °C
Withstand voltage	AC 7400 Vrms for one minute    Between clamp sensor and casing
Maximum input current	AC 100 A continuous, AC 200 A 2 minute (50 / 60Hz)
Applicable standards	Safety: EN61010    EMC: EN61326 Wireless (For FT6381 only): FCC Part 15.247, IC RSS-210, EN 300 328, 301 489-1, 301-489-17
Dimensions, Mass	Approx. 73 mm (2.87 in) W × 218 mm (8.58 in) H × 43 mm (1.69) D ,    Approx 620 g (21.9 oz)
Accessories	Carrying Casex1, Resistance Check Loopx1, Strapx1, Instruction Manualx1 Alkaline Battery(LR6)x2

### FT6381 Interface

Interface	Bluetooth® v2.1+EDR
Communication Distance	10 m (Class 2.1)
Communication Protocol	SPP (Serial Port Profile)
Compatibility	Smartphone/ Tablet (Android™)
Applicable OS	Android™ 2.1 or later

### Accessories



Resistance Check Loop



Carrying Case

### Resistance mode

Accuracy guaranteed for 1 year

Temperature and humidity for guaranteed accuracy: 23±5°C 80%rh or less (no condensation)

Range	Measurement Range	Resolution	Accuracy
0.20 Ω	0.02 Ω to 0.20 Ω	0.01 Ω	±1.5 % rdg. ±0.02 Ω
2.00 Ω	0.18 Ω to 2.00 Ω	0.01 Ω	±1.5 % rdg. ±0.02 Ω
20.00 Ω	1.80 Ω to 20.00 Ω	0.01 Ω	±1.5 % rdg. ±0.05 Ω
50.0 Ω	18.0 Ω to 50.0 Ω	0.1 Ω	±1.5 % rdg. ±0.1 Ω
100.0 Ω	50.0 Ω to 100.0 Ω	0.1 Ω	±1.5 % rdg. ±0.5 Ω
200.0 Ω	100.0 Ω to 200.0 Ω	0.2 Ω	±3.0 % rdg. ±1.0 Ω
400 Ω	180 Ω to 400 Ω	1 Ω	±5 % rdg. ±5 Ω
600 Ω	400 Ω to 600 Ω	2 Ω	±10 % rdg. ±10 Ω
1200 Ω	600 Ω to 1200 Ω	10 Ω	±20 % rdg.
1600 Ω	1200 Ω to 1600 Ω	20 Ω	±35 % rdg.

Frequency of measurement Approx 2,400Hz.

### Current Mode

Accuracy guaranteed for 1 year

Temperature and humidity for guaranteed accuracy: 23±5°C 80%rh or less (no condensation)

Range	Measurement Range	Resolution	Frequency Range	Accuracy	
				Filter off	Filter on
20.00 mA	1.00 mA to 20.00 mA	0.01 mA	45 ≤ f ≤ 66Hz	±2.0 % rdg. ±0.05 mA	±2.0 % rdg. ±0.05 mA
			30 ≤ f < 45Hz, 66 < f ≤ 400Hz	±2.5 % rdg. ±0.05 mA	—
200.0 mA	18.0 mA to 200.0 mA	0.1 mA	45 ≤ f ≤ 66Hz	±2.0 % rdg. ±0.5 mA	±2.0 % rdg. ±0.5 mA
			30 ≤ f < 45Hz, 66 < f ≤ 400Hz	±2.5 % rdg. ±0.5 mA	—
2.000 A	0.180 A to 2.000 A	0.001 A	45 ≤ f ≤ 66Hz	±2.0 % rdg. ±0.005 A	±2.0 % rdg. ±0.005 A
			30 ≤ f < 45Hz, 66 < f ≤ 400Hz	±2.5 % rdg. ±0.005 A	—
20.00 A	1.80 A to 20.00 A	0.01 A	45 ≤ f ≤ 66Hz	±2.0 % rdg. ±0.05 A	±2.0 % rdg. ±0.05 A
			30 ≤ f < 45Hz, 66 < f ≤ 400Hz	±2.5 % rdg. ±0.05 A	—
60.0 A	18.0 A to 60.0 A	0.1 A	45 ≤ f ≤ 66Hz	±2.0 % rdg. ±0.5 A	±2.0 % rdg. ±0.5 A
			30 ≤ f < 45Hz, 66 < f ≤ 400Hz	±2.5 % rdg. ±0.5 A	—

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