

Information

HIOKI



# CLAMP ON EARTH TESTER FT6380, FT6381

Field Measuring Instruments



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



**Slim Jaw  
Easy Open Jaw  
Light Weight**

**High Accuracy**

0.02 Ω to 1600Ω Wide measurement range for earth resistance measurement

1.00 mA to 60.0A Covering from small leakage current to load current Slim Jaw Easy

For multi grounded systems only



ISO 9001  
JMI-0216



ISO 14001  
JQA-E-90091



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# Get Things Done with Super Slim Jaws

## Easy clamping!

Open jaws easily with just two fingers. Only half the 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 jaws let you finish your job easily and efficiently.



0.87 inch



0.79 inch



## 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.

## 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.



## Alarm Function

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

## 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

Bluetooth®

Model 6381 can create reports instantly in the field using an Android™ phone via a Bluetooth® connection.

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

Measured Data  
**Field**



Location information  
with Google Maps®



**Office**



**1** Bluetooth®  
Real time data transfer and remote control



**2** Automatic Report Generation on your Android™ phone  
Report includes the Measurement Value, Date and Time, Map with GPS information and Pass/Fail information



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

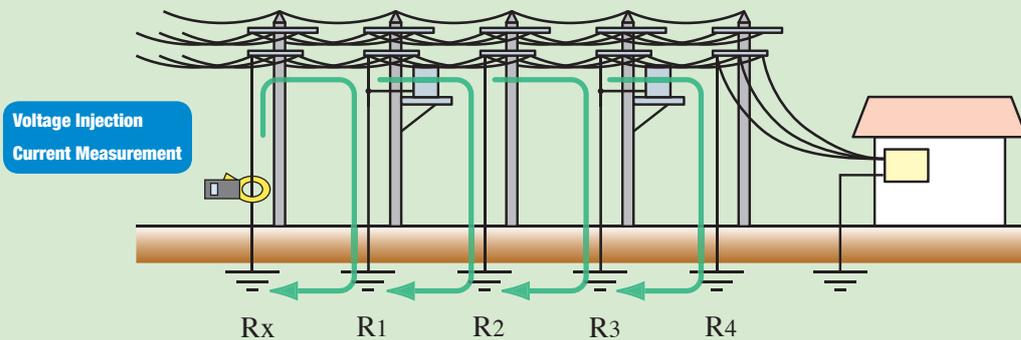


Via e-mail



## 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	Φ32mm	
Power supply	LR6 alkaline battery ×2	
Continuous operating time	20 hours With display lighting 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 to 50°C (14 to 122°F) 80%rh or less (no condensation)	
Storage temperature (no condensation)	-10°C to 50°C (14 to 122°F) 80%rh or less	
Dustproof and waterproof	IP40 (EN60529) With Jaw Closed	
Temperature characteristics	In -10°C to 50°C (14 to 122°F) range: add 0.1 × Measurement accuracy / °C	
Withstand voltage	AC7400Vrms for one minute Between clamp sensor and casing	
Applicable standards	Safety: EN61010 EMC: EN61326	
Dimensions, Mass	Approx. 73W × 218H × 44mm (2.87"W×8.58"H×1.73"D), Approx 650g (22.9 oz.)	
Accessories	Carrying Case, Resistance Check Loop, Strap, Instruction Manual Alkaline Battery(LR6)×2	

### FT6381 Interface

Interface	Bluetooth® 2.1+EDR
Communication Distance	10m (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
0.20Ω	0.02Ω to 0.20Ω	0.01Ω	±1.5%rdg.±0.02Ω
2.00Ω	0.18Ω to 2.00Ω	0.01Ω	±1.5%rdg.±0.02Ω
20.00Ω	1.80Ω to 20.00Ω	0.01Ω	±1.5%rdg.±0.05Ω
50.0Ω	18.0Ω to 50.0Ω	0.1Ω	±1.5%rdg.±0.1Ω
100.0Ω	50.0Ω to 100.0Ω	0.1Ω	±1.5%rdg.±0.5Ω
200.0Ω	100.0Ω to 200.0Ω	0.2Ω	±3.0%rdg.±1.0Ω
400Ω	180Ω to 400Ω	1Ω	±5%rdg.±5Ω
600Ω	400Ω to 600Ω	2Ω	±10%rdg.±10Ω
1200Ω	600Ω to 1200Ω	10Ω	±20%rdg.
1600Ω	1200Ω to 1600Ω	20Ω	±35%rdg.

### 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
20.00mA	1.00mA to 20.00mA	0.01mA	45 ≤ f ≤ 66Hz	±2.0%rdg.±0.05mA	±2.0%rdg.±0.05mA
			30 ≤ f < 45Hz	±2.5%rdg.±0.05mA	—
			66 < f ≤ 400Hz	±2.5%rdg.±0.05mA	—
200.0mA	18.0mA to 200.0mA	0.1mA	45 ≤ f ≤ 66Hz	±2.0%rdg.±0.5mA	±2.0%rdg.±0.5mA
			30 ≤ f < 45Hz	±2.5%rdg.±0.5mA	—
			66 < f ≤ 400Hz	±2.5%rdg.±0.5mA	—
2.000A	0.180A to 2.000A	0.001A	45 ≤ f ≤ 66Hz	±2.0%rdg.±0.005A	±2.0%rdg.±0.005A
			30 ≤ f < 45Hz	±2.5%rdg.±0.05mA	—
			66 < f ≤ 400Hz	±2.5%rdg.±0.05mA	—
20.00A	1.80A to 20.00A	0.01A	45 ≤ f ≤ 66Hz	±2.0%rdg.±0.005A	±2.0%rdg.±0.05A
			30 ≤ f < 45Hz	±2.5%rdg.±0.005A	—
			66 < f ≤ 400Hz	±2.5%rdg.±0.005A	—
60.0A	18.0A to 60.0A	0.1A	45 ≤ f ≤ 66Hz	±2.0%rdg.±0.05A	±2.0%rdg.±0.5A
			30 ≤ f < 45Hz	±2.5%rdg.±0.05A	—
			66 < f ≤ 400Hz	±2.5%rdg.±0.05A	—

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