

**Information**

**HIOKI**

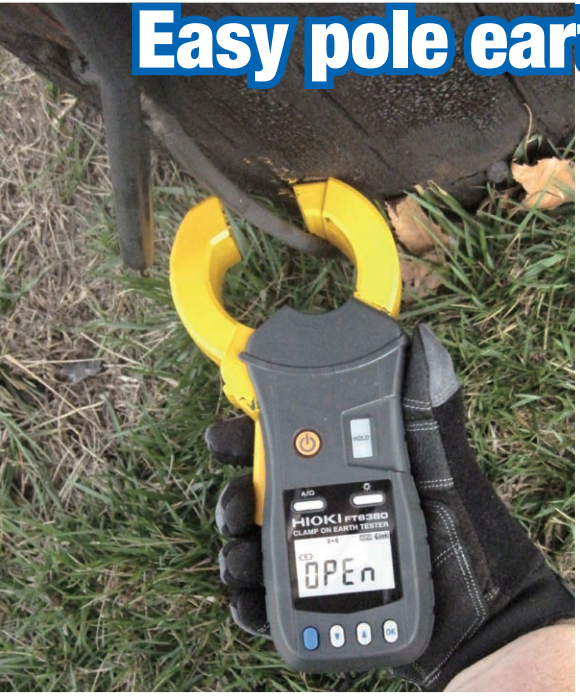
**NEW**

# 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**

For multi grounded systems only



[www.hioki.com](http://www.hioki.com)

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[www.GlobalTestSupply.com](http://www.GlobalTestSupply.com)

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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!

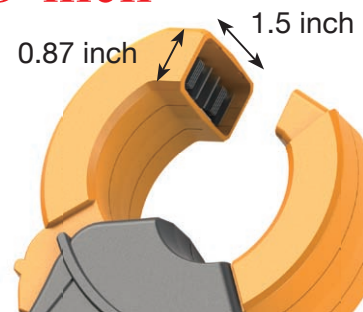
Now you can easily clamp the earth cable on the pole without digging. The dramatically slim 0.79 inch jaws let you finish your job easily and efficiently.



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

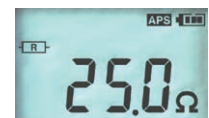
Well-designed magnetic shields eliminate the leakage flux between the two cores that often affect measurement accuracy.

## 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.



## Filter function enables even more accurate measurements

Resistant mode filter: digital filter gives you steadier readings.

Current mode filter: Low-pass filter

# Automatic Report Generation

Bluetooth®

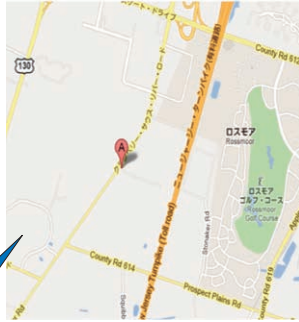
Model 6381 can create reports instantly in the field using an Android™ phone via a Bluetooth® connection.

**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.

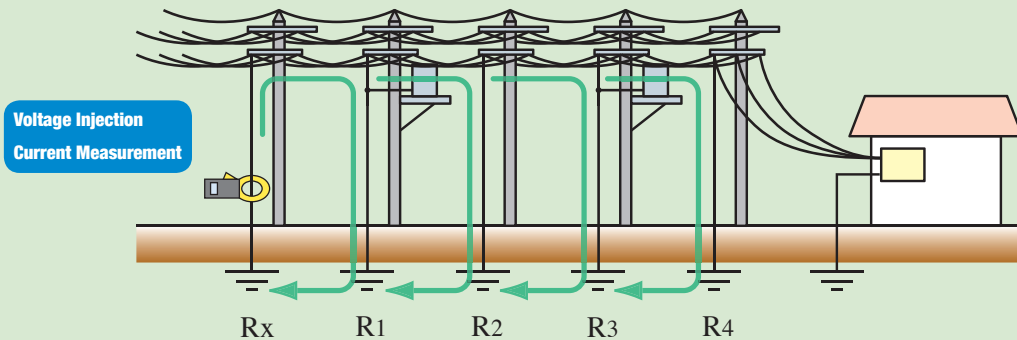


Via e-mail



## 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

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## 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<br>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  | ±2.0%rdg.±0.5mA  | ±2.0%rdg.±0.5mA  |
| 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  | ±2.0%rdg.±0.005A | ±2.0%rdg.±0.005A |
| 2.000A  | 0.180A to 2.000A  | 0.001A     | 45 ≤ f ≤ 66Hz   | ±2.0%rdg.±0.05mA | —                |
|         |                   |            | 30 ≤ f < 45Hz   | ±2.5%rdg.±0.05mA | —                |
|         |                   |            | 66 < f ≤ 400Hz  | ±2.0%rdg.±0.005A | ±2.0%rdg.±0.05A  |
| 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  | ±2.0%rdg.±0.05A  | ±2.0%rdg.±0.5A   |
| 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  | ±2.0%rdg.±0.05A  | —                |

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