HIOKI

CLAMP ON EARTH TESTER FT6380-50

NEW

Easy pole earth resistance measurement with super slim jaw

For multi grounded systems only

Easy Open Jaw
Light Weight



NEW



WIRELESS ADAPTER
Z3210
(Option)





GENNECT Cross is a free app.

Download on the App Store

GET IT ON Google Play

Measurements can be transferred to a smartphone or tablet and reports can be created with site photos, maps and drawings. Can be transferred to an Excel® file. (It will be supported by the 2021 upgrade.)

Z3210 Website





CE

3 year Warranty

Bluetooth®
When Z3210 is installed

Wireless Adapter Compatible

Get Things Done with Super Slim Jaws

Easy clamping!

Open jaws easily with just two fingers.



Clamp at the narrowest point!

The dramatically slim 0.79 inch (20mm) jaws let you finish your job easily and efficiently.





Quick Start!

No wait time after powering on.
Start measuring instantly without zerocalibration.

High Accuracy and Repeatability

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

LCD with beautiful back light

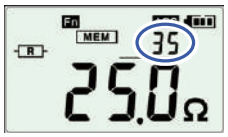
With the bright back light, you can easily read the measurement value even in dark locations.



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



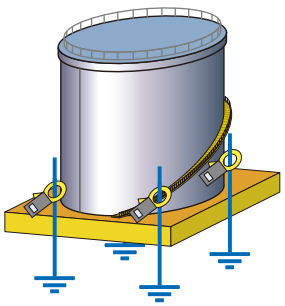
Alarm Function

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

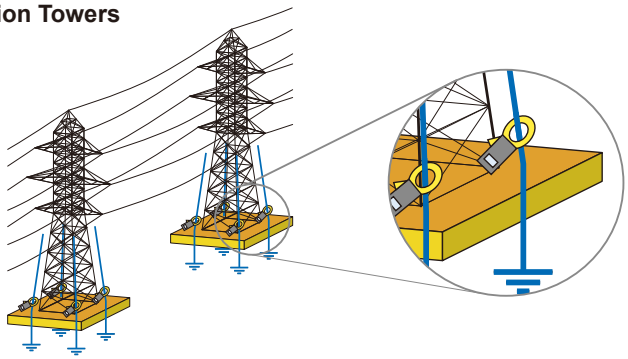
Applications

Multiple grounding can be easily checked with the clamps.

Hazardous Storage Tanks



Transmission Towers



Wireless transmission of measurements to smartphones and tablets

Attach to enable Bluetooth® wireless technology



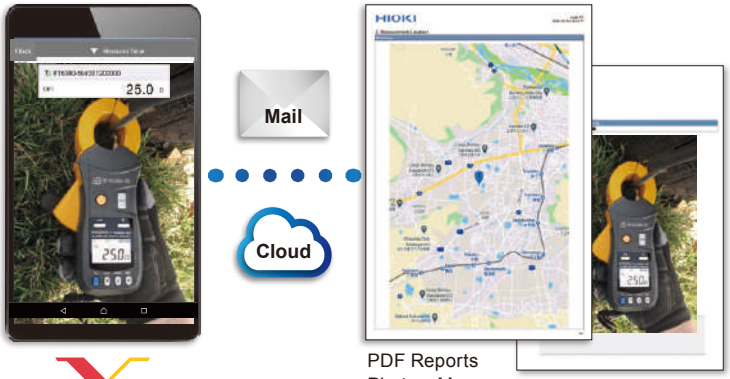
WIRELESS ADAPTER Z3210 (Option)





Transport to GENNECT Cross

GENNECT Cross, a free app designed specifically for use with Hioki measuring instruments, lets you check and manage measurement results and create reports. Data can be smoothly managed in the field by linking with photos, maps and drawings taken at the measurement site.



Learn more

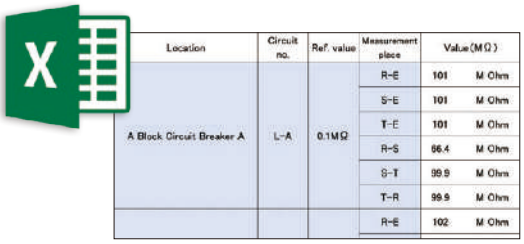
Download on the App Store

GET IT ON Google Play

GENNECT Cross is available for Android and IOS.

Transport to the Excel® file (It will be supported by the 2021 upgrade.)

Open an Excel® file and select a cell. The measured value being held on the instrument's display will be transferred to the computer and entered into the selected cell.



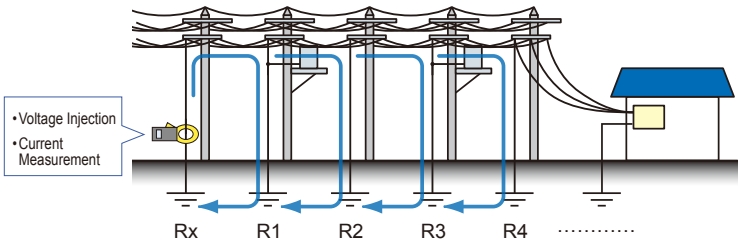
Location	Circuit no.	Ref. value	Measurement place	Value (MΩ)
A Block Circuit Breaker A	L-A	0.1MΩ	R-E	101 M Ohm
			S-E	101 M Ohm
			T-E	101 M Ohm
			R-S	66.4 M Ohm
			S-T	99.9 M Ohm
			T-R	99.9 M Ohm
			R-E	102 M Ohm

Z3210 Website

Measurement Principle

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.

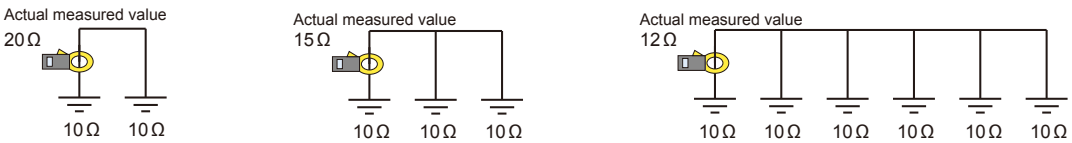
$$Rx + \frac{1}{\frac{1}{R1}+\frac{1}{R2}+\frac{1}{R3}+\frac{1}{R4}} = \frac{V}{I}$$

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

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

Measurement Examples

In multi-grounded system, the larger the number of grounding poles, the more accurate the measured value. Where the number of grounding poles are few, if just only one carries a very small resistance (e.g., 1 Ω), the measured value will be close to the true value.
On the other hand, poles with large resistances (e.g., 100 Ω) will result in greater measurement uncertainties.



General specifications

Product warranty period: 3 years, (Accuracy guarantee period 1 year)

Display	LCD, Max. 2,000 count Display refresh rate: Approx. 2 times/sec.
Range switching	Auto-range
Maximum measurable conductor diameter	ϕ32 mm
Power supply	LR6 alkaline battery × 2
Continuous operating time	Approx. 40 hours (25 Ω measurement, backlight off, without Z3210 installed) Approx. 35 hours (25 Ω measurement, backlight off, with Z3210 installed and using wireless communications)
Auto-power-save	Instrument automatically turns off approx. 5 min. after last key operation.
Operating temperature and humidity range	-10°C (14°F) to 50°C (122°F), 80% RH or less (non-condensation)
Storage temperature and humidity range	-20°C (-4°F) to 60°C (140°F), 80% RH or less (non-condensation, except for the battery)
Dust-proof and waterproof	IP40 (EN60529) With Jaws Closed
Maximum rated terminal-to-ground voltage	600 VAC measurement category IV (anticipated transient overvoltage 8000 V)
Maximum input current (Current measurement)	100 A AC continuous, 200 A AC for 2 minutes (50 Hz/60 Hz)
Effects of conductor position (Current measurement)	Within ±0.5% rdg (using the center of the sensor as the reference, in all positions)
Effect of external magnetic field (Current measurement)	10 mA or less in an external magnetic field of 400 A/m at 50 Hz/60 Hz AC
Standards	Safety: EN61010, EN61557-1/-5/-13 EMC: EN61326
Dimensions	Approx. 73W × 218H × 43D mm (2.87″W × 8.58″H× 1.69″D)
Mass	Approx. 620 g (except for the battery)
Accessories	Carrying case, Resistance check loop (1 Ω±2%, 25Ω±1%), Strap, LR6 alkaline battery × 2, Instruction manual
Option	Z3210 WIRELESS ADAPTER

Current mode

Accuracy guarantee temperature and humidity range: 23°C±5°C (73°F±9°F), 80% RH or less (no condensation)

Range	Accuracy Range	Resolution	Accuracy	
			45 Hz≤f≤66 Hz Specified by filter ON/OFF.	30 Hz≤f<45 Hz, 66 Hz<f≤400 Hz Only filter off is specified.
20.00 mA	1.00 mA to 20.00 mA	0.01 mA	±2.0% rdg ±0.05 mA	±2.5% rdg ±0.05 mA
200.0 mA	18.0 mA to 200.0 mA	0.1 mA	±2.0% rdg ±0.5 mA	±2.5% rdg ±0.5 mA
2.000 A	0.180 A to 2.000 A	0.001 A	±2.0% rdg ±0.005 A	±2.5% rdg ±0.005 A
20.00 A	1.80 A to 20.00 A	0.01 A	±2.0% rdg ±0.05 A	±2.5% rdg ±0.05 A
60.0 A	18.0 A to 60.0 A	0.1 A	±2.0% rdg ±0.5 A	±2.5% rdg ±0.5 A

Current measurement filter function Cutoff frequency 180 Hz±30 Hz (-3dB)

Zero suppression 0.05 mA less than

Resistance mode

Accuracy guarantee temperature and humidity range: 23°C±5°C (73°F±9°F), 80% RH or less (no condensation)

Range	Accuracy 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

Measurement frequency Approx. 2,400 Hz

Zero suppression 0.02 Ω less than

Alarm function

(Beeps when measured value is less than or greater than threshold.)

Alarm HI/LO	Separate HI/LO settings for resistance measurement and current measurement
	Resistance measurement: HI/LO
	Current measurement: HI/LO
Alarm threshold setting range	Resistance measurement: 0.02 Ω to 1600 Ω Initial value 25.0 Ω
	Current measurement:0.05 mA to 200.0 mA, 0.201 A to 60.0A Initial value: 1.00 mA

Model name

Model name	Model No. (Order Code)
CLAMP ON EARTH TESTER	FT6380-50
CLAMP ON EARTH TESTER/ WIRELESS ADAPTER	FT6380-90

Option

Model name	Model No. (Order Code)
WIRELESS ADAPTER	Z3210

Package Contents



Strap



Resistance check loop



CLAMP ON EARTH TESTER FT6380-50



LR6 alkaline battery × 2



Instruction manual



Carrying case

260W × 250.6H × 119.5D mm

(Handle, excluding protruding parts)

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Scan for all regional contact information

All information correct as of Mar. 14, 2022. All specifications are subject to change without notice.

FT6380-50E3-23M Printed in Japan