Quality and reliability is our tradition.

ISO 9001/EN 29001/BS 5750
APPROVED BY BVQI

KYORITSU

AC LEAKAGE CURRENT TESTER SERIES

Tear-drop-shaped jaws for ease of use in crowded cable areas

KEW SNAP
MODEL 2432 /2433

AC LEAKAGE CURRENT TESTER
AC 4mA/40mA/100A (2432)
AC 40mA/400mA/400A (2433)

φ40

FEATURES
- Frequency Selector Switch to eliminate the effect of harmonics.
- Data hold function.
- Peak hold function.
- Sleep function to save battery.
- High Sensitive Model (2432)

KEW SNAP
MODEL 2434

AC LEAKAGE CURRENT TESTER
AC 400mA/4A/100A

φ28

FEATURES
- Frequency Selector Switch to eliminate the effect of harmonics.
- Data hold function.
- Sleep function to save battery.

KEW SNAP
MODEL 2413F

AC LEAKAGE CURRENT TESTER
AC 200mA/2/20/200/1000A

φ68

FEATURES
- Frequency Selector Switch to eliminate the effect of harmonics.
- Peak hold function.
- Analogue output terminal.

KEW SNAP
MODEL 2431

AC LEAKAGE MINI CURRENT TESTER
AC 20mA/200mA/200A

MINI

φ24

FEATURES
- Frequency Selector Switch to eliminate the effect of harmonics.
- Data hold function.
- Auto power-off function.

MODEL	Model 2413F	Model 2432	Model 2433	Model 2434	Model 2431
AC A (50/60Hz)	200mA/2/20/200A/1000A ±1.5%rdg±2dgt (200mA/2/20A) ±2%rdg±2dgt (200A/0~500A) ±5.5%rdg (501~1000A)	4/40mA/100A ±1%rdg±5dgt (4/40mA) ±1%rdg±5dgt (0~80A) ±5%rdg (80.1~100A)	40/400mA/400A ±1%rdg±5dgt (40/400mA) ±1%rdg±5dgt (0~350.0A) ±2%rdg (350.1~399.9A)	400mA/4/100A ±2%rdg±4dgt	20/200mA/200A ±3%rdg±5dgt (20/200mA/100A) ±5%rdg±5dgt (200A)
AC A (WIDE)	200mA/2/20/200A/1000A ±1%rdg±2dgt (200mA/2/20A) (50/60Hz) ±2%rdg±2dgt (200A/0~500A) ±5.5%rdg (501~1000A)	4/40mA/100A ±2.5%rdg±5dgt (4/40mA) ±2.5%rdg±5dgt (0~80A) ±10%rdg (80.1~100A)	40/400mA/400A ±2.5%rdg±5dgt (40/400mA) ±2.5%rdg±5dgt (0~350.0A) ±5%rdg (350.1~399.9A)	400mA/4/100A ±2%rdg±4dgt (50/60Hz) ±3%rdg±5dgt (40~400Hz)	20/200mA/200A ±2%rdg±4dgt (20/200mA/100A) (50/60Hz) ±5%rdg±6dgt (20/200mA/100A) (40~400Hz) ±5%rdg±4dgt (200A) (50/60Hz)
Conductor Size	φ68mm max.	φ40mm max.		φ28mm max.	φ24mm max.
Safety Standard	IEC61010-1 CAT.(企) 300V Pollution Degree 2 IEC61010-2-032				
Frequency Response	40Hz~1kHz	40Hz~1kHz		40Hz~400Hz	40Hz~400Hz
Output	AC/DC200mV against 2000 count	—		—	—
Effect of External Stray Magnetic Field φ15mm 100A	10mA AC max.	2mA AC max.	10mA AC max.	20mA AC max.	10mA AC max.
Withstand Voltage	3700V AC for 1 minute				
Power Source	6F22 (9V) ×1	R03 or equivalent (DC1.5V) ×2			LR-44 (1.5V) ×2
Dimensions	250 (L) ×130 (W) ×50 (D) mm	185 (L) ×81 (W) ×32 (D) mm		169 (L) ×75 (W) ×40 (D) mm	149 (L) ×60 (W) ×26 (D) mm
Weight	570g approx.	290g approx.	270g approx.	220g approx.	120g approx.
Accessories	9064 (Carrying Case) 6F22×1 Instruction Manual	9052 (Carrying Case) R03 (1.5V) ×2 Instruction Manual		9052 (Carrying Case) R03 (1.5V) ×2 Instruction Manual	9090 (Carrying Case) LR-44×2 Instruction Manual

KEW LEAKAGE CLAMP METERS
FOR FAULT FINDING ON LIVE INSTALLATION

Identifying deterioration of installation and other causes of "nuisance tripping" in live circuits is not always a straightforward matter. Problem of access and isolation may make the inspection costly. Then, let's look at KEW Leakage Clamp Meters designed to take the stress out of inspecting live installations.

If an RCD trips

Imagine an electrical contractor is called in to deal with a fault which has shut down a complete installation, or part of it. He finds that the supply has been lost, because a 30mA RCD protecting the faulty circuits has tripped. He closes the RCD only to find that tripping occurs again.

What steps should he take to trace the fault?

Since an RCD senses an imbalance between the phase and neutral currents in a circuit, the contractor is faced with identifying the source of the leakage current to earth which is causing the device to trip.
One possible path this leakage current may take is through the phase/earth insulation resistance and, therefore, he decides to perform an insulation test.

But to perform the insulation test in order to trace the fault means to disconnect and separate the different lines, the appliances from the installation. His customer, however, is anxious to minimize installation downtime.
In addition, the faulty circuit may serve sensitive electronic systems which are likely to be damaged by the high voltage generated by insulation test.

How can the contractor resolve this problem?

KEW Leakage Clamp Meters help

Now, thanks to unique AC Leakage Clamp Meters developed by KYORITSU, he can make not only a precise measurement of the earth leakage current in a circuit, but also an instant assessment of the cause of that leakage without shutting down the installation.
Five models are available for him to choose; model 2431, model 2413F, model 2432, model 2433, and model 2434. The substantial time and money saved in using these instruments will repay their costs after only a few visits on site.

MODEL 2413F

MODEL 2432 /2433

MODEL 2434

MODEL 2431

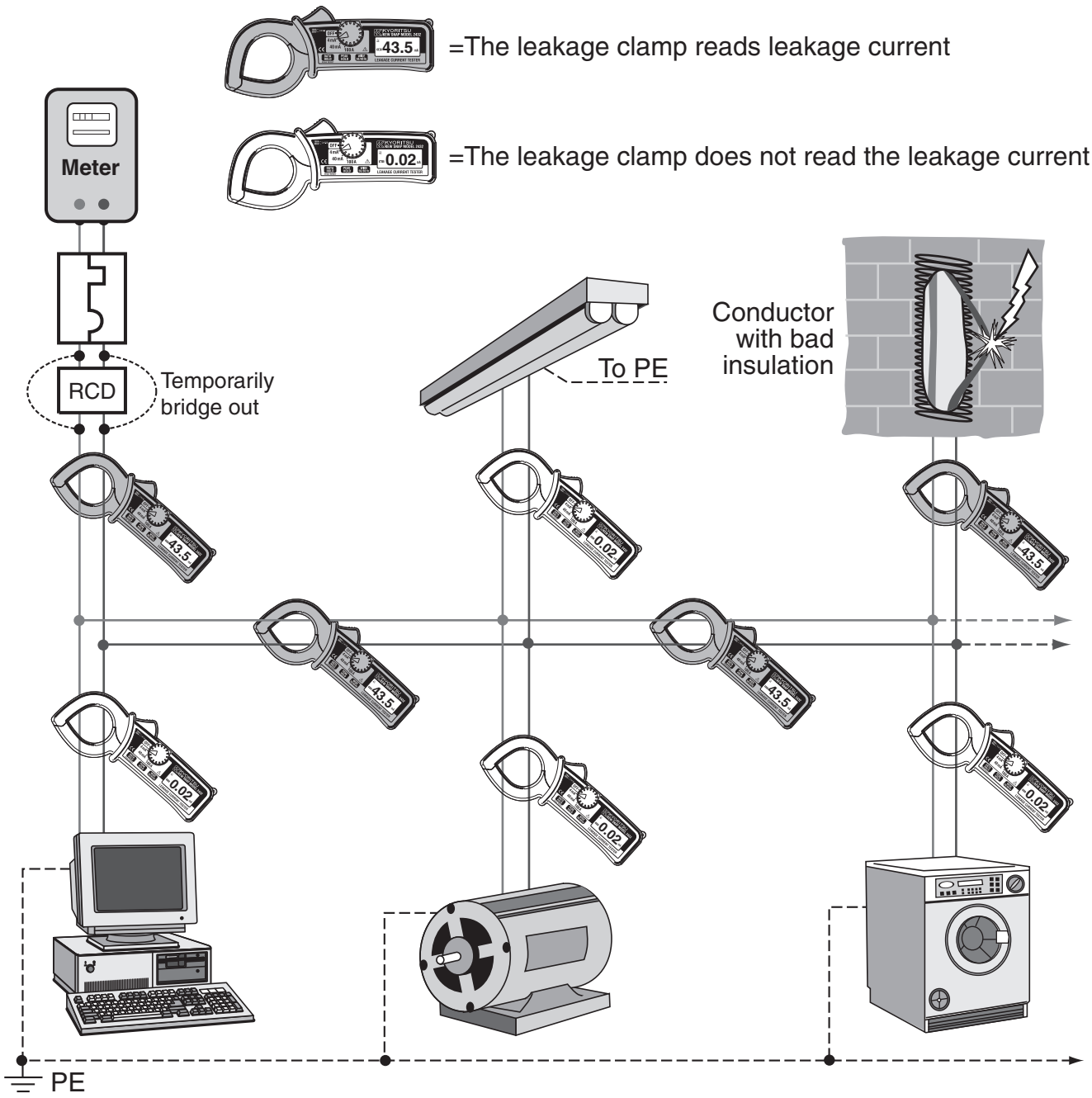
How do they work?

At the first glance, the KEW Leakage Clamp meters appear to be conventional clamp ammeters. However, the special construction of the clamp shielding, allows the contractor to measure tiny out-of-balance currents between any conductors enclosed within the transformer jaws.

Kyoritsu Electrical Instruments Works, LTD.
www.kew-ltd.co.jp

The KEW leakage clamp meters way to use

Let's go back to the customer's problem. If the RCD trips, it should be temporarily "bridged out".The contractor now simply clamps the Leakage Clamp Meter around both phase and neutral conductors on the supply side of the RCD（for 3-phase systems, all three live conductors and the neutral conductor should be enclosed）.
The instrument display will then directly read the leakage current to earth in the installation with a high resolution.
Suppose the display reads 43.5 mA, simply tracing the leakage current the fault will be found.
In the fig below there is a practical example how to trace the fault measuring the leakage current.



Normally, using this tracing system the fault will be found but sometimes the earth leakage current will not be caused exclusively by low insulation resistance.
In fact could happen that performing an insulation test there is not a low value of insulation resistance even if the RCD still trips!

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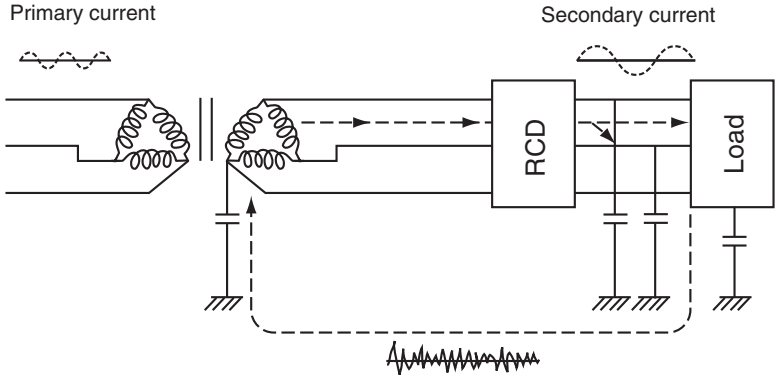
Leakage Through Capacitors

In fact there is also some leakage through the capacitive components of an installation, particularly with extensive circuits or where there are a lot of data processing equipments connected. At mains frequency (50 or 60 Hz), this phenomenon is of negligible significance.
However, at higher frequencies, such as those found in power supplies for computer systems and microwave apparatus, capacitive links can produce quite large leakage currents.



How to measure leakage at high frequency

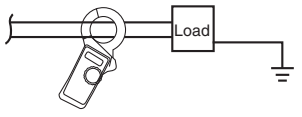
KEW Leakage Clamp Meters are so unique because can determine the level of earth leakage current including or not the high frequency.
The electrical contractor simply switches a special frequency response setting and obtains these two values directly on the instrument display.
If the leakage clamp meter measures a leakage current at high frequency, the electrical contractor infers that the cause of the RCD tripping is not poor insulation resistance, but is higher frequency earth leakage current, probably through filters in his customer's data processing equipment.

Versatility

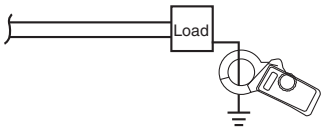
The KEW Leakage Clamp Meters enable the electrical contractor to:

- Measure earth leakage currents on single or three phase systems (see picture below)
- Identify the causes of leakage to earth
- Assess the deterioration of insulation in a live circuit without carrying out an insulation test.
- Trace faults while avoiding insulation shutdown time and possible damage to sensitive loads.
- Measure the AC current like the conventional clamp meters ranging from 100A (with model 2432) to 1000A (with model 2413F).

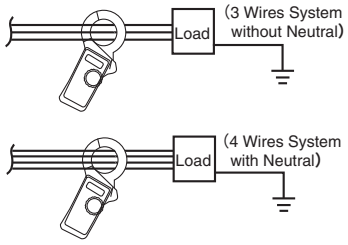
In the fig below there are some other basic examples how use the KEW Leakage Clamp Meters on Single and Three Phase systems.



Leakage Current
Measurements on the
Single-Phase Systems



Leakage Current
Measurements on the
Three-Phase Systems



※ The contents of this catalogue may be subject to change without notice.

■ DISTRIBUTOR

KYORITSU ELECTRICAL INSTRUMENTS WORKS, LTD.
No. 5-20 Nakane 2-chome, Meguro-ku, Tokyo, 152-0031 Japan
Phone :81-3-3723-0131 Fax :81-3-3723-0152
URL :http://www.kew-ltd.co.jp
E-mail:info@kew-ltd.co.jp
Factories:Uwajima & Ehime

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