COSINUS® MESSTECHNIK GMBH

Ior LOGGER KEW 5050

Unpreceded Ior Logger!

Quickly find electric leakages with less time and more productivity

Clamp sensors
in two different jaw sizes

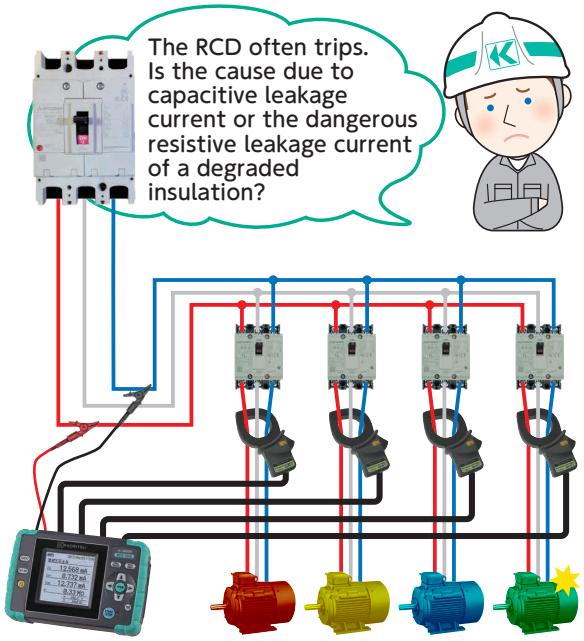
- Providing simultaneous measurement and logging on 4-system
- Supporting various wiring systems
  (Single-phase 2&3-wire, Three-phase 3&4-wire)
- Less susceptible to harmonics
- World's fastest class speed at 200ms interval for leakage current measurement
- Light weight with magnet on the back
- Offering traditional leakage / load current measurements as well

Tests and records 4 channels simultaneously in 200 ms gapless

Can measure up to 4 channels simultaneously!

Best to diagnose unwanted RCD tripping

Measures Ior and Ioc separately to clarify the root cause of the electric leakage troubles.



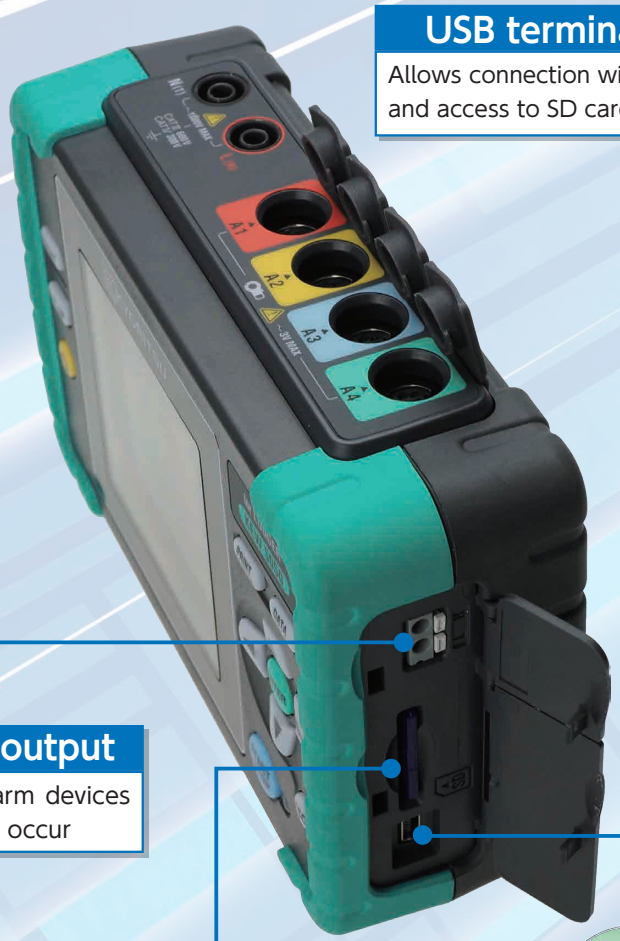
Accessories and optional parts

Optional Power supply adapter is available to derive power via measurement terminal.

Cable markers for easy recognition

USB terminal

Allows connection with PC and access to SD card



Digital output

Activates alarm devices when events occur

Strong magnets help to fix KEW 5050 to the metal distribution board.

SD card interface

Achieves long period of data logging. In case of sudden power interruption, data stored in the SD card aren't lost.

Possible recording time (with 2GB SD card)

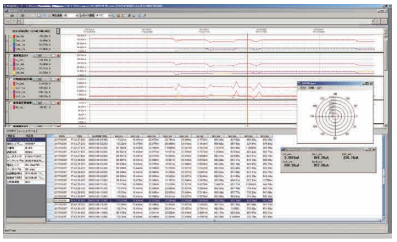
Interval	REC item		
	1P3W×1	1P3W×4	3P4W×4
200ms	25days	8days	7days
1sec.	38days	11days	9days
2sec.	76days	22days	18days
5sec.	6.5mounths	1.8mounths	1.5mounths
15sec.	1year or more	4mounths	5mounths
30sec.		11mounths	9mounths
1min. or more		1year or more	

Special data analysis software

Automatic generation of graphs and lists based on the recorded data by just one click.
Data can be checked without using this software by changing the file extension to csv or others.
Viewing data without using the software is possible by renaming the file with a CSV extension.

[System Requirements]
- OS: Windows® 11/ 10
- Display: XGA (1024 × 768) or higher
- HDD: 1Gbyte or more
- Others: CD-ROM drive, USB port, .NET Framework 3.5, 4.6

* Windows® is a registered trademark of Microsoft in the United States.

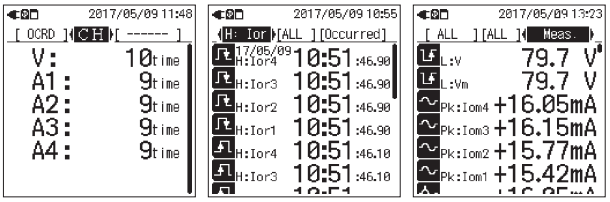


Ior LOGGER KEW 5050

1. **Io** Leakage current (1st-order component of Iom)
2. **Ior** Resistive leakage current
3. **Iom** Leakage current with harmonics
4. **R** Insulation resistance (determined by V and Ior)
5. **V** Reference voltage (1st-order component of Vm)
6. **f** Frequency

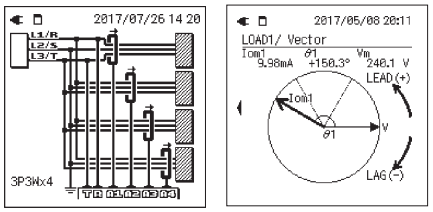
EVENT Quickly displays occurred events

Detailed information on the occurred events are displayed on theLCD. Different threshold values can be set for each channel and each event.



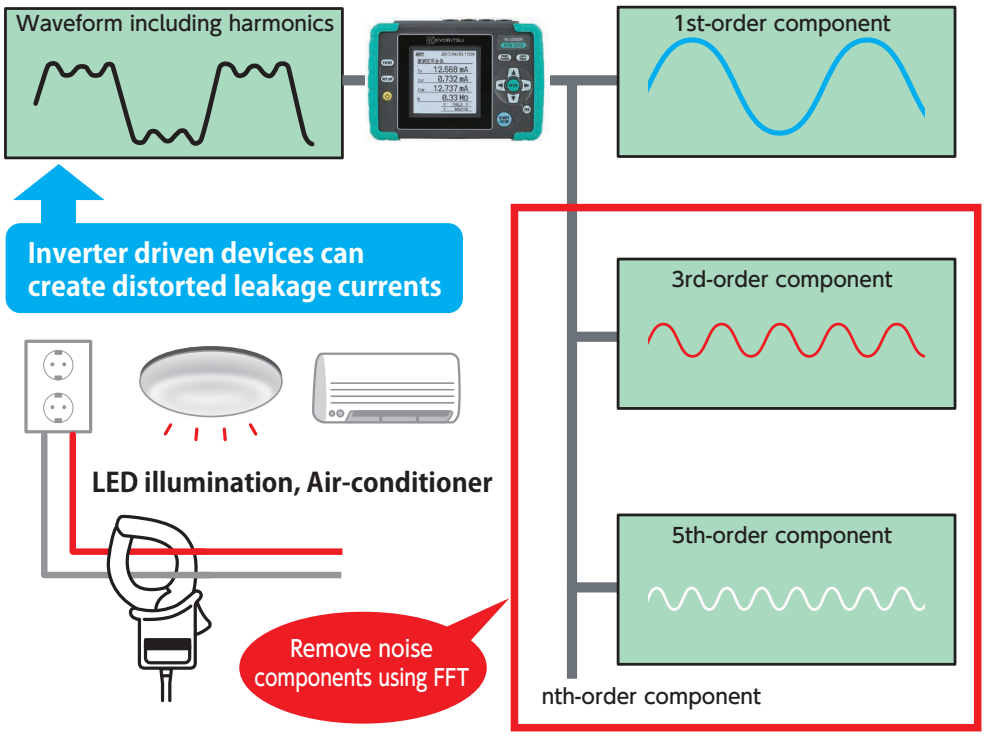
Various display modes

User-friendly graphical display of connections and phase differences.



New measurement method with FFT

Offering accurate Ior measurement without being affected by noises or harmonics

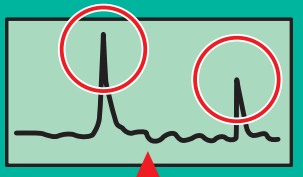


Unlike to traditional Ior measuring apparatus, less susceptible to harmonics noises.
Successfully achieving logging with no effects of harmonics by TRMS calculation every 200 ms using FFT (Fast Fourier Transform).

Never miss intermittent leakages

Gapless continuous measurement

During logging, continuous high-speed sampling (24.4 µsec) without gaps is performed. This allows recording of any intermittent leakage without missing it as an event or maximum value.



KEW 5050 surpasses traditional Ior testers and can record intermittent leakages.

* KEW 5050 cannot measure Ior on different wiring systems at once, nor on V-connection with different capacities and flowing power supply (not connected to earth ground).

KEW 5050 Specification

Wiring configuration		1P2W, 1P3W, 3P3W, 3P4W
Measurements and parameters		Ior : Leakage current (TRMS) with resistive components only
		Io : Leakage current (TRMS) with basic wave of 50/ 60Hz only
		Iom : Leakage current (TRMS) including harmonic components
		V : Reference voltage (TRMS) with basic wave of 50/ 60Hz only
		Vm : Reference voltage (TRMS) including harmonic components
		R : Insulation resistance, Frequency(Hz), Phase angle(θ)
Other functions		Digital output, Print screen, Backlight, Data hold
Recording Interval		200/400ms/1/5/15/30s/1/5/15/30/60/120m
Ior		
	Range	10.000/100.00/1000.0mA/10.000A/AUTO
	Accuracy	For reference voltages of sine wave 40 to 70Hz and 90V TRMS or higher, ±0.2%rdg ±0.2%f.s. + clamp sensor amplitude accuracy + error of phase accuracy* (phase error) * add ±2.0%rdg to measured Io value when using Ior leakage clamp sensor. (θ: within the accuracy of reference voltage/ current phase difference ±1.0°)
	Allowable input	1 to 110% (TRMS) of each range, and 200% (peak) of the range
	Display range	0.15 to 130% (display "0" for less than 0.15%, "OL" if the range is exceeded)
Io *Range, Allowable input and Display Range are the same as Ior		
	Accuracy	±0.2%rdg±0.2%f.s.+ clamp sensor amplitude accuracy
Iom *Range, Allowable input and Display Range are the same as Ior		
	Accuracy	±0.2%rdg±0.2%f.s.+ clamp sensor amplitude accuracy
	Measurement method	Sampling speed 40.96ksps (every 24.4μs), gapless, calculate TRMS values every 200ms.
Voltage		
	Range	1000.0V
	Accuracy	±0.2%rdg±0.2%f.s. * for waveforms of sine wave 40 to 70Hz
	Allowable input	10 to 1000V TRMS, and 2000V peak
	Display range	0.9 to 1100.0V TRMS (display "0" for less than 0.9V, "OL" if the range is exceeded)
Phase angle(θ)		
	Display range	0.0 to ±180.0° (regarding the phase of reference voltage as 0.0°)
	Accuracy	Within ±0.5° for the inputs of 10% or higher of leakage current range, sine wave 40 to 70Hz reference voltage of 90V TRMS or higher. Within ±1.0° when using Ior leakage clamp sensor, and Within ±0.5°+ clamp sensor accuracy when using general purpose clamp sensor.
Frequency meter range		40 to 70Hz
External supply		AC100 to 240V(50/60Hz) 7.5VAmax

Power source	LR6(AA)(1.5V) × 6 (Battery life approx. 11 h)
Display / update period	160 × 160 dots, FSTN monochrome display / 500ms
PC card interface	SD card (2GB) *standard accessory
PC communication interface	USB
Temperature and humidity range	23±5 ℃, relative humidity 85% or less(no condensation)
Operating temperature and humidity range	-10 to 50℃ ,relative humidity 85% or less(no condensation)
Storage temperature and humidity range	-20 to 60℃ ,relative humidity 85% or less(no condensation)
Applicable Standards	IEC 61010-1 CAT Ⅳ 300V / CAT Ⅲ 600V Pollution degree 2 IEC 61010-2-030, IEC 61010-031, IEC 61326
Dimension/Weight	165(L) × 115(W) × 57(D)mm/Approx. 680g (including batteries)
Accessories	7273(Voltage test lead) 8262(AC adapter) 7278(Earth cable) 7219(USB cable) 8326-02(SD card 2GB) 9125(Carrying case) Instruction manual, Cable marker, Software installation manual LR6(AA) × 6 KEW Windows for KEW 5050(Software)
Optional Accessories	8177(Ior Leakage current clamp sensor 10A type ϕ40mm) 8178(Ior Leakage current clamp sensor 10A type ϕ68mm) 8329(Power supply adapter) 8146, 8147, 8148 (Leakage & Load current clamp sensor) 8130, 8133 (Flexible clamp sensor) 8121, 8122, 8123 (Load current clamp sensor) 8124, 8125, 8126, 8127, 8128 (Load current clamp sensor)

Shows insulation resistance (R) values determined by the following formula.
V: Reference voltage/ Ior: Leakage current with resistive components only
Displayed value is just for reference since the measurement method differs from insulation resistance testers and may not be consistent with each other.

Accessories

MODEL 7273
Voltage test lead
3000mm

MODEL 8262
AC adapter

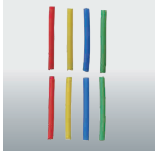
MODEL 7278
Earth cable
1500mm

MODEL 7219
USB cable
1500mm

MODEL 8326-02
SD card [2GB]

MODEL 9125
Carryng case

KEW Windows for KEW 5050
Software



Cable marker

Optional Accessories

KEW 8178
Ior leakage current clamp sensor 10A type ϕ68mm(3m)

KEW 8177
Ior leakage current clamp sensor 10A type ϕ40mm(3m)

MODEL 8329
Power supply adapter

Kits

KEW 5050-00
Basic Model(main unit only)

KEW 5050-01

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KEW 8178 × 1
Ior Leakage current clamp sensor 10A type ϕ68mm(3m)

KEW 5050-02

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KEW 8177 × 1
Ior Leakage current clamp sensor 10A type ϕ40mm(3m)

Safety Warnings : Please read the "Safety Warnings" in the instruction manual supplied with the instrument thoroughly and completely for correct use. Failure to follow the safety rules can cause fire, trouble, electrical shock, etc. Therefore, make sure to operate the instrument on a correct power supply and voltage rating marked on each instrument.

●This leaflet was produced in December 2023. The contents of this leaflet are subject to change without notice.

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COSINUS Messtechnik - Ihr Partner für Messlösung in allen elektrischen und physikalischen Anwendungen

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