

Our new main products line in 2021

MULTI

Let's Create
New Concepts of
Instruments

Phase tester
DPP-36



Voltage detector
Non-contact type
DAL-69N



Load current
tester HCL-36UX
Hotstick
IR-series



Earth grounding hook
EF-5



Surge arrester
checker ALCL-80X
Hotstick
IR-series



Voltage detector
Direct contact type
DAH-36A (telescopic)



For middle voltage Distribution line

Thermal camera
attached with helmet
and/or Hotstick



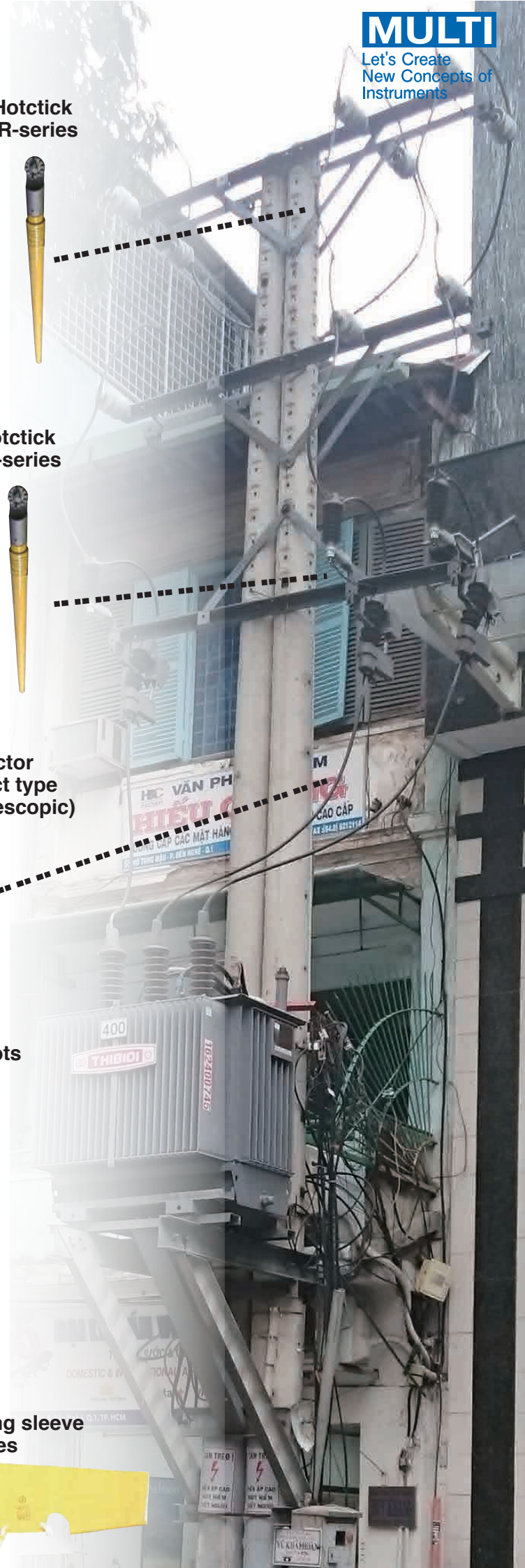
Insulating gloves
550 series



Insulating boots
240 series



Insulating sleeve
570 series



Solution view for our new current measurement instrument



HCL-36UX

Digital Current Tester for overhead line



Installation image



- 1, Check the overcurrent before live-working
- 2, Energization check under bypass working on the overhead lines
- 3, Check the imbalance of three phase on the overhead lines

ALCL-80X

Digital Arrester Clamp Tester

For checking the Surge arrester healthiness



MV distribution lines

M-340LX

Digital Leakage Current Tester for overhead low voltage service line



- 1, Measurement leakage current on the overhead lines for checking if leakage current inspection cannot be performed in the customer's facility
- 2, Measurement load current on the overhead lines for checking illegally stolen electricity

with

Safety work and Measured data storage

Longitudinal cross-section

Velcro fastener
Insulation rod



MDU-200X

MDU-200X

Display unit(Receiver) for HCL-36UX/ALCL-80X/M-140LX and etc



or

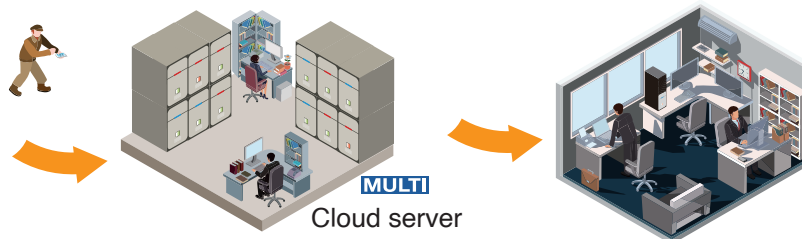
Transmits data to APP "Multi-Tracer" on the working site



[Benefit of using MDU-200X and "Multi-Tracer"]

- Measured values can be checked at hand
- Because it is not connected with the measuring instrument by physical, you can work safely
- Connect multiple measuring instruments individually

The measured value can be displayed wirelessly!



CLOUD SERVER

Instantly can check the date/time and measurement data remotely

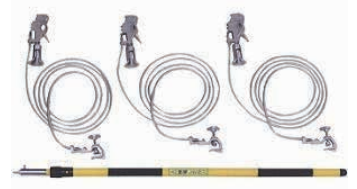
Your operation supervision office

Safety maintenance tools for middle~high voltage liveworking

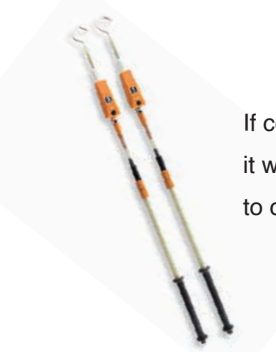
Repair work on the distribution line

There are various liveworking methods for working safely.

Partially cut the energization as appropriate when repair line with Indirect live working.



It is convenient to carry because the grounding-head and telescopic insulating rod can be separated.



If connects the wrong phase to wrong phase, it will occur to a serious accident, so it is important to check the phase in advance.

Receiver and Sender are wireless connection, it is very useful to check with safety operation.



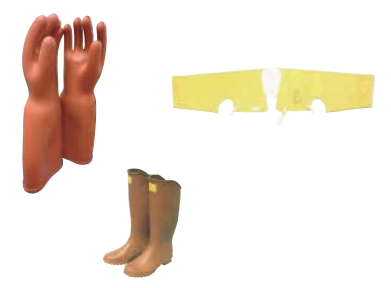
Various types of voltage detector, direct type, indirect type, and connection type, telescopic type. You can choose according to your needs.

For safe work, it can be used for overcurrent check before work and current check by bypass method.



Don't need to clamp each conductor, only insert from ground to overhead. It is very easy and efficient for measurement work.

Three phase 4line of distribution line



Good or bad flexibility affects your work efficiency and safety.

Oxide surge arrester for transformer



Grounding wire on the Oxide surge arrester on the distribution line

As the oxide surge arrester begins to deteriorate, 3rd harmonic leakage current begins to flow through the grounding wire. Easily checks this 3rd harmonics leakage current of the Oxide surge arrester without power outages in accordance with IEC60099-5 B1 method.

Car battery

If dark current(DC small current) flows for a long time, the car battery will run out. Checks this dark current, easily avoid running out of car battery.



Grounding wire on the low voltage side



Easily measures deterioration of electrical equipment without power outages by leakage current measurement. When electrical equipment deteriorates, leakage current begins to flow in the grounding wire.



As for the surge impedance measurement of the grounding system, the electricpotential will go up with inductive lightning flowing in grounding wire. The lightning surge is 1~40μs. This impedance is said as 10times the value measured by grounding resistance tester(1kHz). Measures the resistance value injecting the frequency25kHz(40μs) to the grounding wire.

Digital Clamp Current Tester for High Voltage



- +Impact resistant design
- +Can be used with most distribution conductors
- +Selectable to connect to APP "Multi-Tracer" or display unit MDU-200X

Description	Specification
Measurement	AC Load current
Range	AC 0.1A~3000A
Range switchover	2range auto(330A/3000A)
Frequency range	50~60Hz
Resolution	0.1A(0-329.9A) 1A(330-3000A)
Accuracy	±1%rdg±2dgt
A/D conversion	Integral
AC converting	True RMS values by the analog calculation
Sample rate	2 time/1s
Insulation Resistance	More than 100MΩ by DC1kV insulation tester (Between CT~Universal connector)
Withstanding Voltage	AC43.2kV/5min (Between CT and the connector) AC 70kV/5min (Between CT and the Hotstick)
Operating circuit voltage	AC36kV(50/60Hz)
Operating Temperature	-20~60°C 20~96% When using a lithium battery (without condensation) 5~45°C 20~96% When using alkaline battery (without condensation)
Temperature display	Approximate value by our APP "M-tracer"
CT shape	Type-U
CT inside diameter	55.4mm
Power supply	LR6(AA)*4ea
Motion	Power On/Off Other operations: On the APP or Display unit
Low battery Voltage indication	By LED flashing
Weight	1230g
Size	400*179.6*90.4mm
Standard	IP54H(IEC60529:1989)

Bluetooth4.2 class2 connection

Display unit



- +Record four data for the Three phase 4line measurement value
- +Hold measuring data function

Description	Specification
Receiving interval	Approx. 0.5s intervals
Power supply	LR03(AAA)*3ea
Weight	180g(including battery)
Size	76*97*50.4mm

Digital Arrester Clamp Tester



Bluetooth4.2 class2 connection

Display unit



- +Impact resistant design
- +High precise measurement for RMS and 1st and 3rd harmonics current
- +Selectable to connect to APP"Multi-Tracer" or display unit MDU-200X

Description	Specification										
Measurement	AC Leakage current, Harmonic current (Fundamental and third harmonics)										
Range	AC 1mA/10mA/100mA/1000mA										
Range switchover	4range auto(same with above range)										
Frequency range	45~65Hz(Fundamental frequency)										
Resolution	<table border="1"> <thead> <tr> <th>Range</th> <th>1mA</th> <th>10mA</th> <th>100mA</th> <th>1000mA</th> </tr> </thead> <tbody> <tr> <td>Resolution</td> <td>0.0001mA</td> <td>0.001mA</td> <td>0.01mA</td> <td>0.1mA</td> </tr> </tbody> </table>	Range	1mA	10mA	100mA	1000mA	Resolution	0.0001mA	0.001mA	0.01mA	0.1mA
Range	1mA	10mA	100mA	1000mA							
Resolution	0.0001mA	0.001mA	0.01mA	0.1mA							
Accuracy	RMS measurement :±1.2%rdg±8dgt Harmonics measurement:±2%rdg±5dgt										
Crest factor (Peak/RMS)	<3 (0-50% of the range) <2 (50-100% of the range)										
Harmonic detection	Automatic tuning filter method										
Minimum fundamental current input	More than 3% of 1mA range										
Max. input Current	AC 40A rms										
AC conversion	True RMS value detection										
A/D conversion	Dual slope integration mode										
Sample rate	2 time/1s										
Insulation Resistance	More than 100MΩ by DC1kV insulation tester (Between CT~Universal connector)										
Withstanding Voltage	AC15kV/5min (Between CT and the connector)										
Influence of the proximity magnetic field	Impact of approximately 300μA in the magnetic field of 400A/m (Varies depending on the measurement conditions)										
Operating circuit voltage	Use the surge arrester secondary side ground wire.										
Operating Temperature	0~40°C less than 80%RH When using a lithium battery (without condensation)										
Storage Temperature	-10~60°C less than 70%RH When using alkaline battery (without condensation)										
Temperature/Humidity display	Approximate value by our APP "M-tracer"										
CT shape	Split core type ZCT(Non automatic open-close)										
CT inside diameter	68mm										
Power supply	LR6*4ea										
Motion	Power On/Off Other operations: On the APP or Display unit										
Low battery Voltage indication	By LED flashing										
Weight	Undecided										
Size	400*168*86mm										

- +Hold measuring RMS/1st harmonics/3rd harmonics value at once
- +Record above data for 3phase line

Description	Specification
Receiving interval	Approx. 0.5s intervals
Power supply	LR03(AAA)*3ea
Weight	180g(including battery)
Size	76*97*50.4mm

AC Leakage Clamp Meter for lead wire with overhead low voltage distributionline

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Bluetooth4.2 class2 connection



Display unit



- +High precise measurement for leakage current
- +Selectable to connect to APP"Multi-Tracer" or display unit MDU-200X

Description	Specification	
Measurement	AC Leakage current	
Range	M-340LX:AC 3mA/30mA/300mA/20A M-140LX:AC 30mA/300mA/3000mA/100A	
Range switchover	3range auto(same with above range)	
Frequency range	50 ~ 60Hz(Fundamental frequency)	
Resolution	M-340LX:	
	Range	3mA 30mA 300mA 20A
	Resolution	0.001mA 0.01mA 0.1mA 0.01A
	M-140LX:	
	Range	30mA 300mA 3000mA 100A
	Resolution	0.01mA 0.1mA 1mA 0.1A
Accuracy	±1%rdg±5dgt	
Sample rate	2 time/1s	
Insulation Resistance	More than 10MΩ by DC1kV insulation tester (Between CT~Universal connector)	
Withstanding Voltage	AC3.7kV/1min (Between CT and the Universal connector)	
Operating circuit voltage	AC600V	
Operating Temperature	0~40°C less than 80%RH When using a lithium battery (without condensation)	
Storage Temperature	-10~60°C less than 70%RH When using alkaline battery (without condensation)	
Temperature/Humidity display	Approximate value by our APP "M-tracer"	
CT shape	Split core type ZCT	
CT inside diameter	35mm	
Power supply	LR03*3ea	
Motion	Power On/Off Other operations: On the APP or Display unit	
Low battery Voltage indication	By LED flashing	
Weight	Around M-340LX:410g, M-140LX:400g	
Size	M-340LX:217*86*Φ55 M-140LX:215*86*Φ55	

- +Record above data for 3phase line

Description	Specification
Receiving interval	Approx. 0.5s intervals
Power supply	LR03(AAA)*3ea
Weight	180g(including battery)
Size	76*97*50.4mm

M-340LX, M-140LX

MDU-200X

M-1140XR

Leakage Current Clamp Tester for Low Voltage



Bluetooth4.2 class2



- +Max data hold available
- +Cutting off currents of 150Hz or above by the Filter switch
- +Simple waveform display by connecting with APP "Multi-Tracer"

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Specification		
Overvoltage category	CAT-III 1000V, CAT-IV 600V	
AC converting	True RMS values by the analog calculation	
Sample rate	2 time/1s	
Range	Resolution	Accuracy
30mA	0.01mA	±1.2% rdg± 5 dgt
300mA	0.1mA	
3A	0.001A	
30A	0.01A	
300A	0.1A	(30A~200A) ±1.2%rdg±5dgt (200.1A~250A) ±3.0%rdg±5dgt (250.1A~300A) -5.0%rdg±5dgt
Frequency range	50~60Hz	
CT inside diameter	φ40mm	

MCL-800DXR

Leakage Current Clamp Tester for Low Voltage



Bluetooth4.2 class2



- +Max data hold available
- +Cutting off currents of 150Hz or above by the Filter switch
- +Simple waveform display by connecting with APP "Multi-Tracer"

Specification		
Overvoltage category	CAT-III 300V	
AC converting	True RMS values by the analog calculation	
Sample rate	2 time/1s	
Range	Resolution	Accuracy
20mA	0.01mA	±2% rdg± 5 dgt
200mA	0.1mA	
2A	0.001A	
20A	0.01A	
200A	0.1A	
1000A	1A	
Frequency range	50~60Hz	
CT inside diameter	74 x 80mm	

MET-10X

25 kHz fixed surge impedance tester



Bluetooth4.2 class2

- +Measurement with the big diameter CT of φ80 mm (Optional)
- +With Earth grounding resistance measurement and leakage current measurement functions
- +Remote control is possible by connecting with APP "Multi-Tracer"

CT	Range	Measuring range	Resolution	Accuracy
φ 34	Low	0.10Ω~10.00Ω	0.01Ω	0.10Ω~1.00Ω : ±0.1Ω
		10.00Ω~500.0Ω		1.00Ω~10.00Ω : ±0.5Ω
	High	10.0Ω~500.0Ω	0.1Ω	10.0Ω~50.0Ω : ±2.0Ω
		500.0Ω~300.0Ω		50.0Ω~200.0Ω : ±5.0Ω 200.0Ω~300.0Ω : ±20.0Ω 300.0Ω~500.0Ω : ±30.0Ω
φ 80	Low	0.10Ω~10.00Ω	0.01Ω	0.10Ω~1.00Ω : ±0.1Ω
		10.00Ω~300.0Ω		1.00Ω~10.00Ω : ±0.5Ω
	High	10.0Ω~500.0Ω	0.1Ω	10.0Ω~50.0Ω : ±2.0Ω
		500.0Ω~300.0Ω		50.0Ω~200.0Ω : ±5.0Ω 200.0Ω~300.0Ω : ±20.0Ω

*Condition: With the shield for Injection CT

Available earthing system: TT/In depending on the situation TN-S and TNC and TN-C-S

DAL-69

Direct contact type high voltage detector



- +Lightweight and easily portable type
- +Shock resistance by FRP

Specification	
Voltage Range	AC80~1000V, 1.5~69KV(Connect with Hotstick)
Initiation of Movement Voltage (Bare wire/voltage to ground)	Low voltage: AC 80V High voltage: AC 1500V
Frequency	50/60Hz
Indication	Continuity beeping and flashing
Flashing	Confirmable by 8000lx illuminance
Beeping	More than 50dB away from 2m
Operating Temperature	-10~40°C
Power Supply	AAA batteryR03 1.5V*2
Dimension	φ28*326mm
Weight	170g

DAL-69N

Non direct contact type high voltage detector

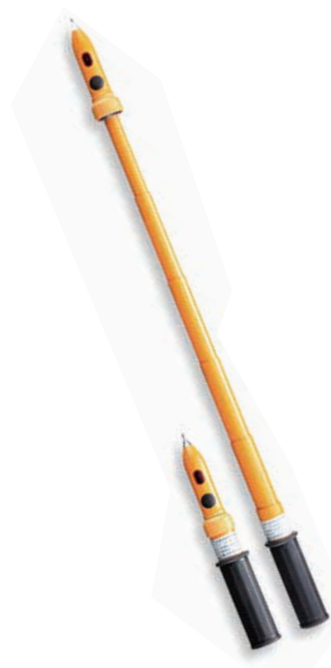


- +Lightweight and easily portable type
- +Shock resistance by FRP

Specification	
Voltage Range	AC100~1000V, 1.5~69KV(Connect with Hotstick)
Initiation of Movement Voltage (Bare wire/voltage to ground)	Low voltage: AC 100V High voltage: AC 1500V
Frequency	50/60Hz
Indication	Continuity beeping and flashing
Flashing	Confirmable by 8000lx illuminance
Beeping	More than 50dB away from 2m
Operating Temperature	-10~40°C
Power Supply	AAA batteryR03 1.5V*2
Dimension	φ28*300mm
Weight	190g

DAH-36A

Direct contact type high voltage detector



- +High voltage detection by extended rod and low voltage by retracted rod, possible to use both for high & low voltage detection by one unit.

Specification	
Voltage Range	AC80~1000V(Shorten state) 1~36KV(Extended state)
Voltage at the operation start-up (Voltage to earth)	Low voltage: AC65V±15V (Intermittent sound and flashing) High voltage: AC1000V±200V (Continuous sound and flashing)
Frequency	50/60Hz
Insulation resistance	2000MΩ or more by DC 1000V voltage-injection (between detection element and grip) in the extended state
Dielectric strength	When dry: 43.2 kV for 5 minute (between detection element and grip) in the extended state
Leakage of electric current	100μA or less, at dielectric strength test
Indication	Continuity beeping and flashing
Flashing	Confirmable by 8000lx illuminance away from 1.5m
Beeping	More than 50dB away from 1.5m
Operating Temperature	-10~40°C
Power Supply	CR2032(3V)*1
Dimension	φ41x256mm(Shorten state) x717mm(Extended state)
Weight	220g

High Voltage Phase Tester



- +Wireless connection
- +With telescopic rod
- +Auto power on function

Specification	
Voltage Range	AC 20~36V
Withstand voltage	AC 70kV/1min(Detecting hook~handle) Different phase> Continuity beeping and flashing
Phase indication	In phase> Non beeping and flashing
Phase rotation	Flashing indication for positive and reverse phase
Communication distance	Less than 5m(between sender~receiver)
Frequency	50/60Hz
Indication	Continuity beeping and flashing
Flashing	Confirmable by 8000lx illuminance
Beeping	More than 50dB away from 2m
Operating Temperature	-10~40°C
Power Supply	R6P 1.5V Battery*4
Dimension	2090mm
Weight	Approx.2500g

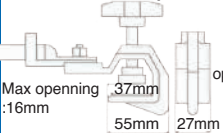
Earth grounding hooks for 3phase line



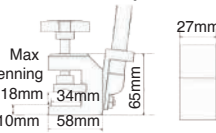
- +The cable length and cable diameter can be changed depending on the usage environment.
- +The hook and insulating rod can be separated
- +Material: Outer layer = transparent vinyl cover protective material, Inner layer = soft copper stranded wire

Specification	
Applicable Voltage	AC 77kV
Total Length	2000mm
Applicable Range for Metal Hook	Aluminum wire: 22~610mm ²
Standard grounding wire length	22mm ² ×4m
Weight	3.8kg

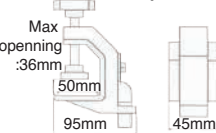
Standard earthing clamp:A-1



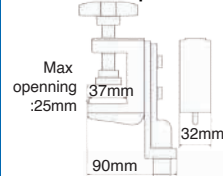
Optional earthing clamp:A-1S



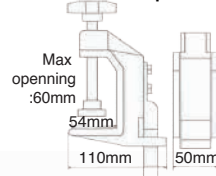
Optional earthing clamp:A-2



Optional earthing clamp:A-2S



Optional earthing clamp:A-3



Customizable wire length

Nominal cross-section(mm ²)	Finished outer diameter(mm)	Allowable current value (A, continuous)	Weight(g, per 1m)
8	Φ6.6	60	100
14	Φ9.0	100	170
22	Φ11.1	150	270
38	Φ14.0	240	430
60	Φ16.6	300	650
80	Φ18.8	350	850
100	Φ21.0	390	1080

Earth grounding hooks for 3phase line



- +The cable length and cable diameter can be changed depending on the usage environment.

Specification	
Applicable Voltage	AC 22kV
Total Length	500mm
Applicable Range for Metal Hook	Hard-drawn copper stranded wire: 5.5~200mm ² Single wire: φ6~φ19mm
Earth Line Thickness/ Length	14mm ² 1.5m×2, 12m×1
Weight	4.5kg

570 series 240 series 508 series 550 series

EVA insulating sleeve for middle voltage use

Rubber insulating boots

Rubber insulating glove for low voltage use

Rubber insulating glove for middle voltage use



+It is very lightweight compared to rubber materials and has good workability.
 +Since the range of motion is large, work efficiency will be increased.

+Because it material is NR,
 It is soft and has excellent physical characteristics.
 +Wear it to assure safety in direct and Indirect both of live workings when use the hotstick.

Specification					
Product ID	Size	Length	Test voltage	Use voltage	State
570-2	Free		20kV/3min	17kV	
570-1			20kV/1min	7kV	
572-2	LL		20kV/3min	17kV	Now sales
	L				
572-1	M		20kV/1min	7kV	
	LL				
576-3	L		30kV/3min	26.5kV	
	M				
	S				

Sales areas: All over the world except East Asian countries

+Because it material is NR,
 It is soft and has excellent physical characteristics.
 +Wear it to assure insulating performance in Indirect live working when use the hotstick.

Specification					
Product ID	Size	Length	Test voltage	Use voltage	State
508-2	LL	28cm	5kV/3min	1kV	Now sales
	L				
	S				
508-1	LL		3kV/1min	0.6kV	
	L				
	S				

Sales areas: All over the world except East Asian countries

+Because it material is NR,
 It is soft and has excellent physical characteristics.
 +550-3 is a made-to-order product, this delivery time is long.

Specification					
Product ID	Size	Length	Test voltage	Use voltage	State
550-3	L		30kV/3min	26.5kV	Development now
	M				
	S				
550-2	L	46cm	20kV/3min	17kV	
	M				
	S				
550-1	L		20kV/1min	7kV	Now sales
	M				
	S				

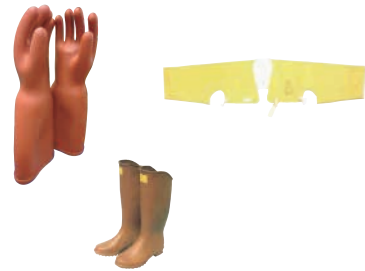
Sales areas: All over the world except East Asian countries

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Safety maintenance tools for railway



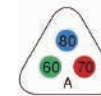
Voltage detection for DC high voltage



Good or bad flexibility affects your work efficiency and safety.



For safety maintenance work, it is important to ensure grounding to earth. Because these series are made-to-order, we can freely design length of the insulating rod and grounding wire (including thickness) up to your request.



The thermo Color label is ideal for managing heat generation at the contact part of the feeder line. It can be easily checked heat generation caused by increased contact resistance when the nut was loosened. You can also check the heat generation due to overcurrent at the parts where the feeder line is connected.



Voltage detection for AC high voltage:
Various types of voltage detector, direct type, indirect type, and connection type, telescopic type. You can choose according to your needs.

Maintenance work on the feeder line etc

Relay system for ATS(Auto Train Stop)

For Checking relay movement by signal DC current, when there were rust and sand, dry fallen leaves on the rail track, also has insulated between the rail and wheels. It is called "poor shunting". Also sometime an interference electric current flows. For example, wet ballast operates similarly to battery and produces an electric current, furthermore an electric current flows from the power line of the neighborhood. The electrical resistance is no reduction cause the train is light weight, the wheel of both sides is insulated electricity inherently. The signal current is continuously flowing in even if a rail is damaged.



Signal lamp and the electromotor of crossing

Periodic inspection of relay-controlled for railway signal lamp by DC Measurement leakage current. Electromotor for crossing generally be installed the direct winding motor Brushless motor. It may attached auxiliary equipment like the Storage battery/Braking device/Crossing control device, Because these are also controlled by DC current, it is common to perform periodic DC leakage current inspections.

Location case(LOC) and Train rail

AC Leakage current flows from the LOC to the train rail due to insulating deterioration. Checks for AC leakage current at equal distance points on the train rail so that it does not worsely affect other control equipment and facilities.

Impedance bond

AC current changed from balance to imbalance will be stopped switching control system. Possibility of the train accident that will occur, user needs to check AC load current at the point area close to the impedance bond.

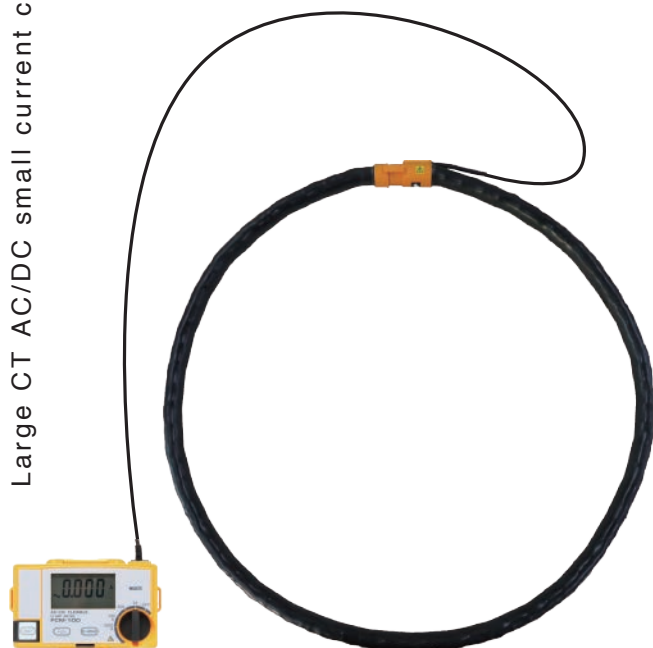


FCM-100 / FCM-400

Large CT AC/DC small current clamp meter



FCM-100



FCM-400

- +Bendable flexible clamp sensor
- +Easy accessibility to the hard to clamp object

Description			Specification		
Operating circuit voltage			Less than AC600V		
A/D Conversion			Dual slope integration method		
Sample rate			2 time/1s		
Measurement			AC/DC current		
FCM-100 Measurement range			FCM-400 Measurement range		
Range (A)	Resolution (A)	Accuracy	Range (A)	Resolution (A)	Accuracy
3	0.001		3	0.001	
30	0.01	±3%rdg±10dgt	30	0.01	±10%rdg±10dgt
300	0.1		300	0.1	
		±10%rdg±10dgt (~2500A)			
3000	1	Reference Value (2501~3000A)			
CT inside diameter			FCM-100:φ200mm FCM-400:φ450mm		

M-730

AC/DC leakage clamp meter



- +High sensitive low range leakage current
- +Suitable for measurement of DC4-20mA controlled circuit
- +Dark current measurements for automotive electronics circuit

Description			Specification		
Operating circuit voltage			Less than AC600V		
A/D Conversion			Dual integration method		
Sample rate			1 time/sec. for DC and 6 times/sec. for AC		
Measurement			AC/DC leakage current		
DC Current			AC Current		
Range (mA)	Resolution (mA)	Accuracy	Range (mA)	Resolution (mA)	Accuracy
100	0.01	±1%rdg±10dgt	100	0.01	±2%rdg±10dgt
		±1%rdg±10dgt (~±300mA)	1000	0.1	
1000	0.1	±2%rdg±10dgt (~±700mA)	10000	1	±1%rdg±10dgt
		±3%rdg±10dgt (~±999.9mA)			
Electrical field influence			Terrestrial magnetism:Less than ±2.0mA		
			Magnetization:Less than ±2.0mA by DC1.5A on/off		
CT inside diameter			φ30mm		

Attention:Analog signal output,DC 100mV fs to each range(output impedance : less than 10KΩ)

DJ-30D

Direct contact type DC high voltage detector



- +For main electrical circuit and for battery function checking in power-on
- +Measurable both of energized positive and negative electrodes

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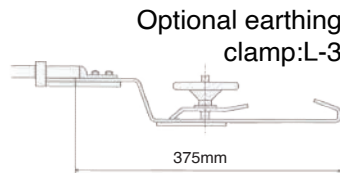
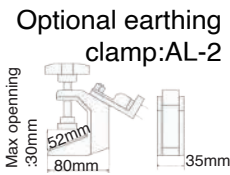
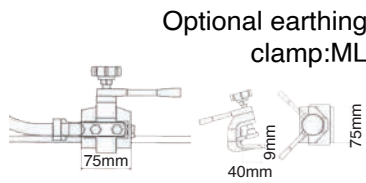
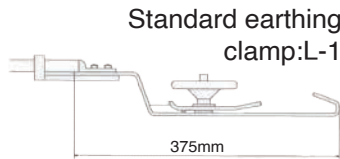
	Specification
Voltage Range	DC1k~30kV(positive/negative both of electrodes)
Initiation of movement voltage	DC1kV
Withstand voltage	AC 60kV/1min(Detecting hook~grounding clip+handle)
Frequency	50/60Hz
Indication	Continuity beeping and flashing
Flashing	Confirmable by 8000lx illuminance
Beeping	More than 50dB away from 2m
Operating Temperature	-10~40°C
Power Supply	006P Battery(6F22 9V)*1
Dimension	φ60×1570mm
Weight	Approx.1100g

N-5.Z

Earth grounding hooks for railway feeder line



- +Telescopic insulating rod with equipped tip angle change function
- +Material: Outer layer = transparent vinyl cover protective material, Inner layer = soft copper stranded wire

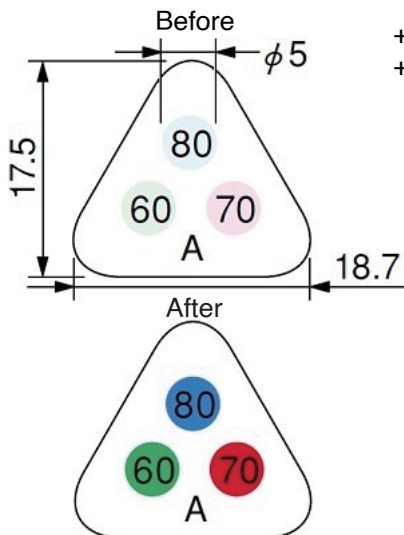


	Specification
Applicable Voltage	AC 154kV
Total Length	5500mm
Applicable Range for Metal Hook	Aluminum wire: 22~610mm ²
Standard grounding wire length	AC:22 or 38mm ² *8m DC:60mm ² * 8m
Weight	Approx.4500g

Nominal cross-section(mm ²)	Customizable wire length			Weight(g, per 1m)
	Finished outer diameter(mm)	Allowable current value (A, continuous)		
8	Φ6.6	60		100
14	Φ9.0	100		170
22	Φ11.1	150		270
38	Φ14.0	240		430
60	Φ16.6	300		650
80	Φ18.8	350		850
100	Φ21.0	390		1080

H70B

Irreversible type Thermo Color Sensor



- +It is very cheap and can be used by pasting it in various places
- +Complete irreversible Thermo Label / Accuracy: ±2°C

Temperature	Other model number specification		
	Tone of Color Change	Quantity	MOQ
H50D	50/60/70 °C	White→Brown/Green/Red	100pcs
H60A	60/70/80 °C	White→Green/Red/Blue	
H70B	70/80/90 °C	White→Red/Blue/Black	
H80E	80/90/100 °C	White→Blue/Black/Brown	
H90F	90/100/110°C	White→Black/Brown/Green	

Safety maintenance tools in distribution electric room

For power outage work



To ensure safety works when power outage, worker wear it make sure no electricity condition.

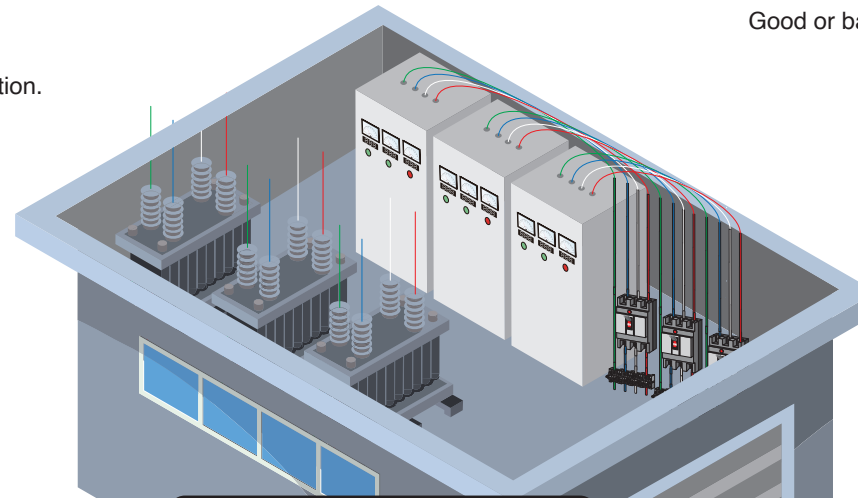


Various types of voltage detector, direct type, indirect type, and connection type, telescopic type. You can choose according to your needs.

For live line work



Good or bad flexibility affects your work efficiency and safety.



Deterioration causes heat generation. Can check the heat generation without contact by thermography. With this shape, you can use both hands freely.

Non-contact inspection

Transformer primary side

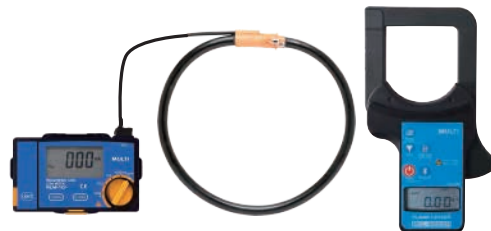


Checks whether middle and high voltage distribution three phase is imbalance or not.

DC4-20mA controlled circuit



The control systems in the power plant are driven by DC. Those systems difficultly stop the electricity for insulation resistance measurement, End-user is checking an insulation level of the control systems by measurement DC leakage current.



Low voltage three-phase line

Easily measures deterioration of electrical equipment without power outages by leakage current measurement. When electrical equipment deteriorates, leakage current begins to flow on the low voltage three-phase line.

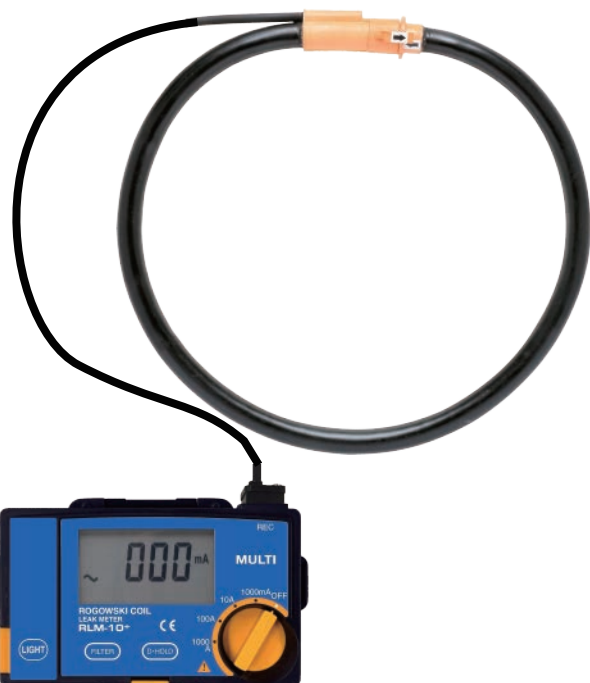


If there is a minute void defect in the insulator of an electric device, the electric field will concentrate on that points and a weak discharge will occur. This is called partial discharge, which deteriorates the insulating strength and may lead to dielectric breakdown after a long period of time. Insulation defects are inspected by measuring the weak pulse signal associated with such partial discharge.



Prevents power quality deterioration and the condenser explosion accident due to harmonics generation.

- +Low-pass filter equipped, it can be cut the noise which is over 150Hz frequency.
- +Even Coreless Coil but Least Influence from External Magnetic Field and Residual Current
- +Superior Flexible CT enables Leakage Current Measurement
- +Backlight Function useful for measurement in the dark place



Flexible AC Leakage/Load Current Tester

Description		Specification
Operating circuit voltage		Less than AC 600V
A/D conversion		Dual Integration Mode
AC converting		True RMS values by the analog calculation
Sample rate		2 Times/sec.
Range	Resolution	Accuracy
1A	0.1mA	$\pm 3\% \text{rdg} \pm 5 \text{dgt}$
10A	0.001A	
100A	0.01A	$\pm 2.5\% \text{rdg} \pm 5 \text{dgt}$
1000A	0.1A	
Output		Signal Output $\pm 2\%$ F.S.
Influence of Residual Current		Less than 0.25A (at AC 50A, the point where influence is most receivable)
Frequency range		50~60Hz
CT inside diameter		$\phi 210 \text{mm}$ (total length approx. 650mm)

- +Harmonics and leakage current measurements
- +Up to 25th harmonics current and voltage measurements
- +True rms reading for ACA and ACV
- +Data-hold and Auto power off function
- +Conform to IEC safety requirements



Digital AC Harmonics Leakage/Load Clamp Tester

Description		Specification
Safety standard		Category II 600V or Category III 300V
A/D conversion		Dual slope integration mode
AC converting		True rms responding
Harmonics detection		Synchronous filter (Min input: More than 5% of fs)
Sample rate		2 Times/sec
Range	Resolution	Accuracy "A"
400mA	0.1mA	
4A	1mA	$\pm 1.0\% \text{rdg} \pm 8 \text{dgt}$
40A	10mA	
300A	100mA	$\pm 1.0\% \text{rdg} \pm 1\%$ of full scale
400mV	0.1mV	$\pm 1.0\% \text{rdg} \pm 8 \text{dgt}$
400V	100mV	
4000 Ω	1 Ω	$\pm 1.0\% \text{rdg} \pm 8 \text{dgt}$
Affection of magnetic field		3mA or less (at 100A nearby conductor)
Harmonics measurement accuracy (In case of more than 4% harmonics is included against fundamental input)		
1~9th	$\pm 1\% \text{rdg} \pm 5 \text{dgt}$	$\pm ("A") - ("B")$
10~19th	$\pm 2\% \text{rdg} \pm 5 \text{dgt}$	$\pm ("A") - ("B")$
20~25th	$\pm 5\% \text{rdg} \pm 5 \text{dgt}$	$\pm ("A") - ("B")$
Effect error by neighboring harmonics "B"		
2~6th	Error: 1.5%	Max content for neighboring harmonics: 65%
7~8th	Error: 2.5%	Max content for neighboring harmonics: 41%
9~14th	Error: 4%	Max content for neighboring harmonics: 20%
15~20th	Error: 8%	
21~25th	Error: 15%	Max content for neighboring harmonics: 10%
Crest factor		< 3 (0~50% of range) < 2 (50~100% of range)
Frequency range		45~65Hz
CT inside diameter		$\phi 40 \text{mm}$

Ultrasonic type discharge detector



Made in Japan

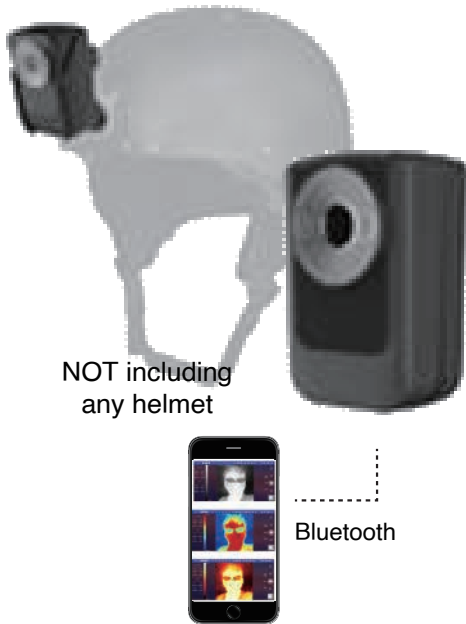
- +Due to its excellent directivity(halfwidth) by LED light, it is possible to easily detect the inside of a circle with a diameter of 12cm from a position 1m away.
- +The discharge occurrence level is displayed in 5 dB units

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	Specification
Reception frequency	40kHz±1kHz
Reception sensitivity	40dB~85dB(When the distance between the detection point of failure and the instrument is 1.0m)
Display resolution	5dB
Measurable distance	50/60Hz
Reception level display	1m~2m(Distance between the detection point of failure and the instrument)
Power supply	LED display
Operating Temperature	AAA batteries x 4ea
Storage Temperature	10°C ~40°C, less than RH85% (w/o condensation)
Power Supply	10°C ~50°C, less than RH85% (w/o condensation)
Dimension	Φ66*215mm
Weight	Approx. 280g

Made in Taiwan

Thermo camera for field working



NOT including any helmet

Bluetooth

Only Android 4.1 and above available

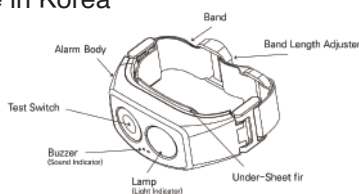
- +It can be mounted on a safety helmet or safety harness by using the "GoPro" type Swivel mount and used without taking your hands off when working.
- +Can checks the temperature of the object at a distance from the camera by using a smartphone with the APP installed.

	Specification
Function	Take Photo, Record Video, Time Lapse, Lock Temp. Range, Emissivity adjust
Infrared Measurement Range	-40~700°C (-40~1292°F)
Infrared Accuracy (Tamb=20~26°C)	±2% of reading, or 2°C(4°F) whichever is greater
Thermal Sensitivity	0.1°C (0.1°F)
Emissivity	0.95 default adjustable 0.1 to 1.0 step .01
Spectral Range	8~14um
Thermal Image Resolution	32 * 32 pixels
Image Resolution	640 * 640 pixels
Frame Rate	33 * 33 degree
Field of View	8Hz
Measurement distance	15cm~3m
Thermal image palette	Ironbow, Hot metal, Rainbow, Jet (Ice), Grey (White-hot, Black-hot)
Battery (for > 4 hours)	890mAH 3.7V Li-ion rechargeable battery
Dimension/Weight	64*42*28 mm/55g
Operation temperature	0~65°C < 90RH%
Storage Temperature	-40~85°C < 70RH%
Certificate	CE, IP54, RoHS, FCC

High Voltage Wrist Alarm



Made in Korea



- +Reduced malfunction rate through front and side sensing antennas
- +Corrosion protection through waterproof and anti-corrosion treatment

	Specification
Operating distance	AC 220V : In contact with live wire 3.8 kV : about 40cm ± 10% 6.6 kV : about 60cm ± 10% 22.9 kV : about 110cm ± 10%
Sound	above 65dB (60cm Standard)
Weight	about 40g
Size	75W x 25H x 25D
Battery type	CR2032 Lithium 1ea