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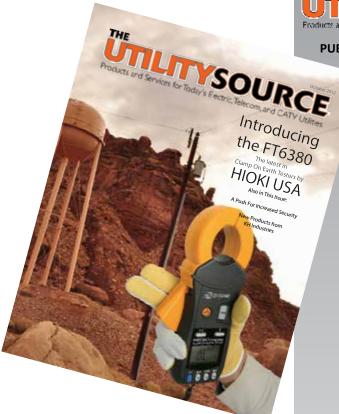
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The latest in Clamp On Earth Testers by HIOKI USA

HIOKI E.E. CORPORATION is pleased to announce the launch of the FT6380 Clamp On Earth Tester for multiple grounding use and the FT6381 featuring Bluetooth® wireless technology. The two products were developed specifically to meet the needs of customers in North America, Europe, and Asia, where there is high demand for multiple grounding measurements.

Thanks to the small size of the clamp sensor, the FT6380 and FT6381 deliver a new level of convenience especially when used in confined locations. At the same time, we have increased the size of the grip used to open the sensor, allowing the new meters to be operated with only half the force required for similar products offered by other companies. Finally, the FT6381's incorporation of Bluetooth® wireless technology allows it to be linked to Android™ handsets for report creation.

"After many years of research and development centered in the United States, we are happy to announce that the much-anticipated release of a clamp-style earth tester is finally within our reach," commented Yoshinori Furuhata, HIOKI's lead developer behind the new testers. "By minimizing the core sensor to make the instrument as small as possible, we are proud to say that we have been able to deliver a product that is absolutely incomparable to competitors. Furthermore, the FT6381 is the first ever HIO-KI product that supports report creation via Android™ technologies through a Bluetooth connection, a tremendously advantageous feature."

Need for Grounding Resistance Measurement

"Grounding" generally refers to the act of connecting an electrical device with the ground (earth) in order to zero out any potential difference. Electrical equipment must be grounded for safety reasons because ungrounded devices (that is, devices with a non-zero potential difference) may cause electric shock if they malfunction or suffer degraded components.

Utilities and service contractors need to measure grounding resistance in order to verify whether a given device has been reliably grounded. While grounding ideally eliminates any potential difference, a potential difference does in fact occur between the grounded device and the earth. This fact signals the existence of a not negligible level of resistance, which is known as grounding resistance. It is absolutely critical that we measure grounding resistance in order to ascertain whether it has been minimized to ensure optimal safety.

Advanced Features of the FT6380

1.Compact clamp-on sensor for ultimate convenience in confined locations

To date, grounding resistance testers from other manufacturers have been characterized by their heavy weight and large jaws, which complicate use of the instruments due to the difficulty of attaching them to ground wires. Responding to resulting demand for more compact sensors, HIOKI engineered a low-profile sensor just 20 mm wide for both instruments so that they can be used to measure ground wires that have been installed in cramped spaces. The sensor is 50% smaller by volume than sensors on existing competing products.

2.Larger sensor grip for improved workability HIOKI has enlarged the clamp sensor's grip so that it can be opened with just two fingers, enabling it to be operated with only half the force of existing competing products.

3.Low power consumption for extended use The FT6380 and FT6381 use approximately half the power of competing products, maximizing work efficiency because they can be continuously used for longer periods of time.

4.Bluetooth® wireless technology for connectivity with Android™ handsets (FT6381)
The FT6381 features Bluetooth® wireless technology, allowing users to display data in real time on Android™ handsets and instantaneously create reports in the field including measured values, times and dates, and position data. This technology can be used to e-mail measurement results to an administrator in a remote office in real time.

5.Onboard storage for 2,000 data points The FT6380 and FT6381 can store 2,000 data points (each including a grounding resistance value and a current value) in the field.





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General Specifications

Display	LCD, max. 2,000 count, refresh rate: approx. 2 updates/sec	
Diameter of maximum measurable conductor	32 mm	
Power supply	AA-size alkaline battery (LR6) × 2	
Continuous operating time	Approx. 35 hours *With backlight off and Bluetooth® off (FT6381).	
Auto power-save function	Approx. 5 min. (from last operation)	
Operating temperature and humidity range	-10°C to 50°C, 80% RH or less (non-condensing)	
Storage temperature and humidity range	-20°C to 60°C, 80% RH or less (non-condensing, excludes batteries)	
Dust and moisture protection	IP40 (EN 60529) *With clamp-on sensor in the closed position.	
Withstand voltage	7,400 Vrms AC for 1 min., applied between case and clamp-on sensor core	
Maximum allowable current	100 A AC continuous, 200 A AC for 2 min. (50/60 Hz)	
Standard compliance	Safety: EN 61010 EMC: EN 61326	
Dimensions and weight	73 (W) x 218 (H) x 44 (D) mm, 650 g (excluding batteries)	
Accessories	Carrying case × 1, resistor for verifying proper operation x 1, strap x 1, AA-size alkaline battery (LR6) x 2, instruction manual x 1	

Resistance Measurement

Guaranteed accuracy period: 1 year

Guaranteed accuracy temperature and humidity range: 23°C ±5°C, 80% RH or less (non-condensating)

Range	Accuracy range	Resolution	Accuracy
0.20 Ω	$0.02~\Omega$ to $0.20~\Omega$	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	1Ω	±5% rdg. ±5Ω
600 Ω	400 Ω to 600 Ω	2 Ω	±10% rdg. ±10 Ω
1,200 Ω	600 Ω to 1,200 Ω	10 Ω	±20% rdg.
1,600 Ω	1,200 Ω to 1,600 Ω	20 Ω	±35% rdg.

Current Measurement

Guaranteed accuracy period: 1 year Guaranteed accuracy temperature and humidity range: 23°C \pm 5°C, 80% RH or less (non-condensating)

Range	Accuracy range	Resolution	Guaranteed accuracy frequency range	Accuracy	
Range Accuracy range	Resolution	Guaranteed accuracy frequency range	Filter off	Filter on	
20.00 mA	20.00 mA 1.00 mA to 20.00 mA	0.01 mA	45 ≤ f ≤ 66 Hz	±2.0% rdg. ±0.05 mA	±2.0% rdg. ±0.05 mA
20.00 HA 1.00 HA 10 20.00 HA	U.UT IIIA	30 ≤ f < 45 Hz,66 < f ≤ 400 Hz	±2.5% rdg. ±0.05 mA	-	
200 0 mA	00.0 mA 18.0 mA to 200.0 mA	200.0 mA 0.1 mA	45 ≤ f ≤ 66 Hz	±2.0% rdg. ±0.5 mA	±2.0% rdg. ±0.5 mA
200.0 110 10.0 110 10 200.0 110	U.I IIIA	30 ≤ f < 45 Hz,66 < f ≤ 400 Hz	±2.5% rdg. ±0.5 mA	-	
2.000 A 0.180 A to 2.000 A	0.001 A	45 ≤ f ≤ 66 Hz	±2.0% rdg. ±0.005 A	±2.0% rdg. ±0.005 A	
2.000 A	0.180 A to 2.000 A	0.001 A	30 ≤ f < 45 Hz,66 < f ≤ 400 Hz	±2.5% rdg. ±0.005 A	-
20.00 A 1.80 A to 20.00 A	20.00 A 0.01 A	45 ≤ f ≤ 66 Hz	±2.0% rdg. ±0.05 A	±2.0% rdg. ±0.05 A	
		30 ≤ f < 45 Hz,66 < f ≤ 400 Hz	±2.5% rdg. ±0.05 A	-	
60.0 A 18.0 A to 60.0 A	18 0 A to 60 0 A	I.O A to 60.0 A 0.1 A	45 ≤ f ≤ 66 Hz	±2.0% rdg. ±0.5 A	±2.0% rdg. ±0.5 A
	V.1A	30 ≤ f < 45 Hz,66 < f ≤ 400 Hz	±2.5% rdg. ±0.5 A	_	







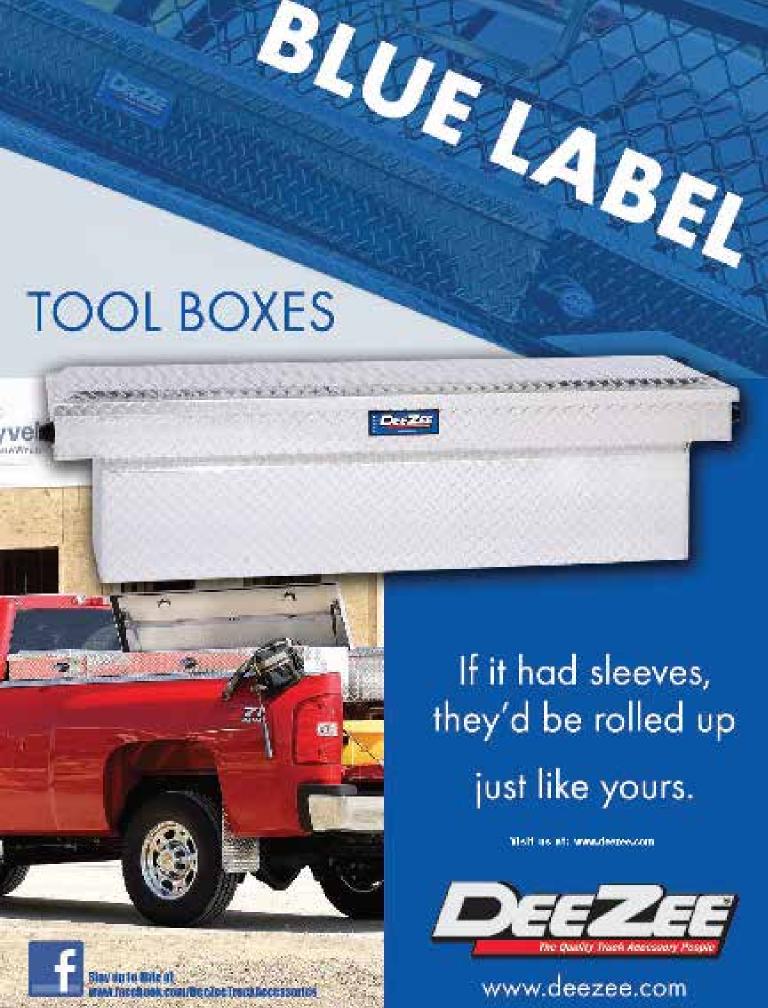
-A Push for Increased Security-

Vandalism, theft, and the potential for sabotage or acts of terrorism have motivated the electric generation and transmission industry to seek viable security solutions. In doing so, they face unique challenges because of the way the industry is structured. Companies must secure their facilities and protect physical and electronic assets while managing access to their properties over geographically widespread regions.

The Federal Energy Regulatory Commission (FERC) and the North American Electric Reliability Corporation (NERC) have established enforceable security standards to prevent electronic and physical attacks that could cripple the energy industry, which is a critical part of our nation's in-

frastructure. As a result, a growing number of utility managers are turning to "smart key" solutions to not only meet these standards but to improve overall security.

Smart key solutions provide utilities with the ability to increase access control at remote locations or areas where pulling hardwiring is not feasible. This type of system is comprised of locks, padlocks, and keys, all of which are electronic. Power for the locks comes from the battery in the key. Smart key access control software packages offer system managers the ability to program the electronic keys with access schedules, view a log of lock and key activity, and create custom audit reports.



ITC Holdings Inc., headquartered in Novi, Michigan, is the nation's largest independent electric transmission company serving an area of nearly 80,000 square miles in five states, and is responsible for providing power to more than 13 million people. ITC has taken extraordinary steps to secure their physical assets in order to maintain the reliability of their bulk electric system, and meet Critical Infrastructure Protection (CIP) standards.

Facing threats of vandalism and theft due to the high price of copper and other metals on the open market, ITC implemented a comprehensive security system, which includes a command center that is staffed around the clock, an alarm system, security cameras, and an integrated online access card system.

The challenge ITC faced was securing assets in remote locations. ITC was looking for a secure access control solution that could be integrated with the sophisticated systems they already had in place. Additionally, they wanted an access control system that could bring key control and an audit trail to these remote sites. Robert Blickensdorf, ITC Security Manager, says, "We needed a system that would eliminate the risks associated with the duplication of keys and assist us with CIP compliance by tracking contractors and employees that go into locations that contain critical cyber assets."

After thorough research, ITC chose to implement CyberLock, a smart key access control solution comprised of electronic cylinders and programmable keys. The CyberLock system is ideal for remote locations because it requires no power or wiring for installation. ITC replaced their mechanical cylinders with CyberLock electronic cylinders on their RTU and NetShelter cabinets, control-house doors, and secured their TMedic boxes and perimeter fence gates with electronic padlocks.

ITC issued electronic keys to contractors and employees in the field that needed access to substations and other sensitive areas. Each person's key is programmed with the access privileges they need to do their particular job. "The electronic lock system provides a two-pronged approach to controlling physical access to our electronic assets. First, we can control who we issue a key to and how the key is to be used by that person. Second, we can track that person's activity at the different sites," stated Blickensdorf.

ITC's vision to have the best security measures in place to protect the reliability of their grid continues to grow. As government standards evolve and new security threats emerge, ITC is in a strong position to respond quickly and decisively.

Seattle Public Utilities, in Seattle Washington, supplies water to 1.4 million people and businesses in the greater Seattle area. Nearly all this water is from the 90,000-acre Cedar River Watershed and the 13,300-acre South Fork Tolt River Watershed in eastern King County. Seattle Public Utilities (SPU) prides itself on providing a protected environment for the fish and wildlife resources of the Cedar and Tolt River watersheds, while also providing a reliable source of high quality drinking water for the community. SPU is unique in the fact that they are a closed watershed. The City of Seattle



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After 9-11, SPU was tasked by the Federal Government to meet Critical Infrastructure Guidelines for municipal water supplies. Darian Davis, Watershed Protection Manager, says, "We needed to find a way to track and electronically document traffic in and out of our facilities and watershed areas." While SPU wanted to comply with Federal guidelines, the biggest driver to increase security was to maintain their limited filtration status. "In order to maintain our limited filtration status we must take certain security measures to secure the water supply. We are inspected annually to ensure we are adhering to the high-level security regulations," stated Davis.

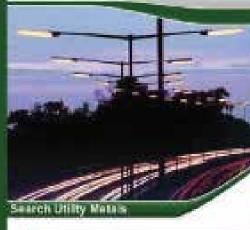
SPU began to develop a security plan for securing all their assets. In the beginning stages, SPU had discussed installing security cameras and

automated gates at all entrances to the watershed. After further evaluation, it was determined that the plan was not feasible to deploy at all entrances as there is no access to power or communication lines. SPU was able to install automated gates on the few entrances to the watershed that did have power and proceeded to research a solution for securing the rest of the gated entrances throughout the watershed.

SPU looked for a system that would provide accountability and control at their remote locations. After assessing several access control systems on the market, SPU selected the CyberLock system. "We installed CyberLock electronic padlocks on 22 gates throughout the Cedar River watershed and have even installed them as a back-up on the automated gates in case we loose power," said Davis.

In addition to the remote watershed gates, SPU has secured storage units and utility sheds with CyberLock padlocks. The CyberLock system allows SPU additional control over the access given





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to their contractors, employees, and researchers throughout the watershed. "Being able to program each person's electronic key to open specific locks that allow them to do their job is a real benefit. Also, the audit trail the locks and keys provide is a good investigative tool when there is an incident on watershed property," says Davis. He adds, "CyberLock is an important part of Seattle Public Utility's security plan-of-action that enables our watersheds to meet federal guidelines for securing critical infrastructure."

Cedar River water meets or exceeds all federal standards for drinking water. More than 50 samples are tested daily, before and after treatment at Seattle Public Utilities water quality lab for a variety of waterborne disease indicators, minerals, chemicals, and contaminants. SPU has aggressively addressed potential security risks before they become problems and have implemented proce-

dures and systems to minimize their exposure to incidents. The security infrastructure they have put in place is not only manageable and efficient, but serves as a model for other water districts.

-A Comprehensive Plan-of-Action-

By addressing security weaknesses and finding viable solutions for the day-to-day problems, utilities can lessen their exposure to a terrorist attack, vandalism, and theft. In order to form a robust security program, utilities should consider a comprehensive plan-of-action that includes a combination of fencing and gates, exterior lighting, CCTV cameras, electronic access control, intrusion alarms, security guards, and law enforcement support. With today's advances in security technology, utilities have the ability to implement integrated systems that provide physical security, accountability, and, most importantly, key control.







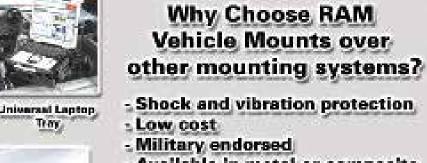




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KH Industries has developed a new, versatile dash mount controller for its recently introduced NightRay H3 Spotlight. The new wireless controller is designed to be permanently mounted in the vehicle with industrial fasteners which simplifies installation and eliminates the need for a hard wired controller.

Models Available:

775-20KFDM: Wireless NightRay, Par 46 H3 Spotlight only, with new dash mount controller

NR-775-20DDW: Dual Controlled NightRay, Par 46 H3 Spotlight only, with new dash mount controller and handheld key fob.

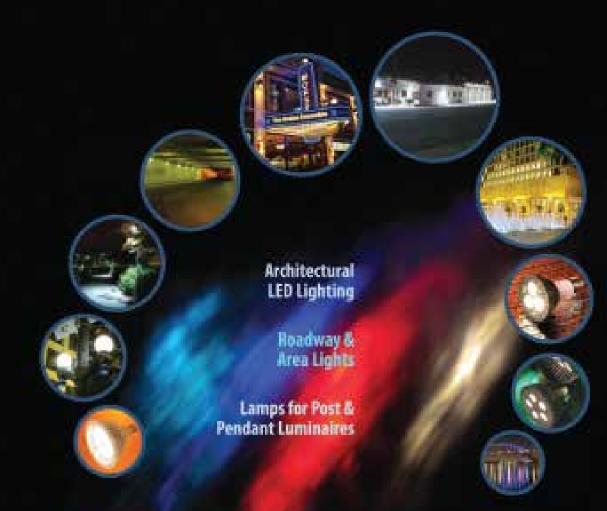
NR-20KFDS: Dash mounted Wireless Controller (can be programmed to any wireless NightRay Spotlight.

NightRay vehicle mounted spotlights were designed specifically for the rigors of the utility industry and over the years have become the worklight of choice for utility power lineman. Because of NightRay's rugged design, the spotlights are also used by the U.S. Military and Department of Defense, Fire and Rescue agencies, oil and gas industries, towing, and marine and fishing operators.

For additional details, visit: www.khindustries.com/ NightRayH3Spotlight. Or call: 716-312-0088.

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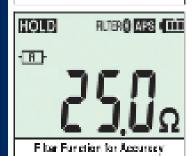
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