ELECTRICITY DISTRIBUTION MAINTENANCE



MADE

lectricity distribution maintenance





- MADE SA ____

167, impasse de la Garrigue 83210 La Farlède

Tél. + 33 (0) 494 083 198

contact@made-sa.com



Field of activity _

Electricity distribution maintenance Underground network locators Specific telecom equipment Power line detectors Personal Protective Equipment Defence

Manufacturing and sales -



. Long-time partners -

Enedis, GRDF, DGA, Naval Group, etc.





SUMMARY

Electricity distribution maintenance

Identification device for de-energised LV and MV cables JUPITER E	▶ p. 2
Test case for cable identifier VTPI	▶ p. 3
Power cable spiking and cutting tool PKC95	▶ p. 4
Identification device for de-energised LV and MV cables EZCI-100	▶ p. 5
Live LV cable and core identification LCI-400	▶ p. 6
MV/LV transformers tester TESTRANSFO 2	▶ p. 7
MV fuse tester HTA CF200	▶ p. 8
Check the outer sheath of buried low or high voltage cables TESTECRAN +	▶ p. 9
Broken neutral test case DRN5	▶ p. 10
Simulate a single or tri-phase current load 4.5 KW LOAD SIMULATOR	▶ p. 11
Work assistance near high risk zones GABARIT SKY LASER	▶ p. 12



Identification device for de-energised LV and MV cables



JUPITER E

FUNCTION

JUPITER E is for use on all types of de-energised LV/MV cables for :

- Cable identification
- Identifying short-circuit (SC) and open-circuit (OC) conductors
- Short-circuit continuity (SC) and open-circuit continuity (OC)

THE BENEFITS

- Guaranteed Safety Designed for de-energized networks only, fully compliant with industry standards
- Advanced Precision Optimized signal transmission and detection technology to prevent misidentification
- User-Friendly Intuitive interface and dedicated sensors for each type of measurement
- Versatile Application Works on all LV/MV cable types Long Battery Life Smart energy management for extended use
- Continuity and identification of neutral using direct reading

PRINCIPLES OF USE

JUPITER E is composed of a transmitter and a receiver which can be used on a locked out, short-circuited and earthed network.

The transmitter is connected in a substation, on a MV switchgear cabinet or LV electrical panel using 3 injection clamps (excluding screens and equipotential bonding). The receiver is used to identify the cable, check continuity, and identify open-circuit and short-circuit phases.



TECHNICAL CHARACTERISTICS

Transmitter	Receiver
 LiFe PO4 6.4 V - 1.5 Ah battery Max. autonomy : 7 h continuous Also runs on 230 V AC (on charge) 205 x 40 x 110 mm IP 54 	 4 AA 1.5 V alkaline batteries Max. autonomy : 2000 measurements 170 x 400 x 95 mm IP 54
Total weight	8.7 kg







5

Test case for cable identifier

VTPI

FUNCTION

The test case for cable identifier allows you to do the annual control of your voltage-free devices of cable identification LV/MV yourself.

The test suitcase is compatible with any types of voltage-free device of cable identification (ex : JUPITER, JUPITER +, JUPITER E, FC2000, FC2300, FC2310, etc.).

PRINCIPLES OF USE

The test case simulates a cable insulated with paper as well as a synthetic three-phase cable of 8 km in a situation of cable identification, to allow you the execution step by step of the usual cable identification functions, continuity and tracking of colors in open circuit or short circuit.

You will be able to check any functionality of your devices, for periodic control in case of punctual doubt on an operation, or in a pedagogic goal to train new agents to maintain your mastery of these devices.

You will avoid at the same time maintenance costs and inconveniences due to material unavailability, typically met during external periodic controls.



Weight	5.1 kg
Dimensions	360 x 304 x 194 mm
Temperature range	-20 °C to +55 °C
Sealing	IP 66 closed ; IP 53 opened





Power cable spiking and cutting tool

PKC95

FUNCTIONS

The PKC95 is a remote-controlled portable power tool that allows for spiking and cutting while ensuring the absence of voltage on underground network cables and limiting the spiking of a multipolar cable to a single-phase fault.

- No hydraulics : limited maintenance
- Same power for cutting and opening
- Autonomy : 50 cuts

USE PRINCIPLE

- Tool for spiking and cutting
- Autonomous tool : wireless remote use
- Tool status indications on the remote control
- Quick blade change in case of live spiking
- Light and sound signals for end of cut, opening, and fault
- Indicator light on the tool for control
- Electronic tool lock if the battery charge is insufficient for a complete cycle

TECHNICAL CHARACTERISTICS



- Sleep mode for battery protection
- Power section with greased screw, no maintenance
- 2 operating channels for multiple tools on the same site
- Network preservation with spiking function and grounding braid
- 2 strapping handles

Cutting diameter	Ø 95 mm
Maximum cutting section	3 x 240 mm ² copper NFC33-226
Cutting and opening force	110 kN
Power supply	25.2 V 3 Ah Li-Ion batteries (x 2)
Charging time	15 min
Autonomy	50 cuts
Dimensions (L $x W x H$)	720 x 120 x 260 mm
Tool weight with battery	19.9 kg
Patented equipment	
Approved by Enedis	

CONDITIONING

- 1 PKC95 spiking and cutting tool
- 1 bidirectional remote control
- 2 batteries 25.2V 3 Ah Li-Ion
- 1 rapid battery charger
- 1 grounding rod
- 1 grounding braid with clamp
- 1 insulation mat 0.7 x 1 m approved by Enedis
- I spare blade

- 2 elastic rings
- 1 pliers for elastic rings
- 1 blade cleaning brush
- 1 hammer for grounding rod
- 1 fixed and waterproof operating manual
- 1 wheeled storage case
- Total weight : 36 kg





4

Identification device for de-energised LV and MV cables



EZCI-100

FUNCTION

The EZCI-100 is a portable, self-contained safety device for the electrical distribution network ; it enables easy identification of de-energized MV or LV cables isolated from the network.

THE BENEFITS

- Simple and didactic
- Digital design
- Robust
- Small footprint (total weight 2.1 kg)

PRINCIPLES OF USE

The EZCI-100 consists of a generator and a receiver, packaged in a carrying case.

The generator injects an identification signal and connects between 2 conductors of the cable to be identified.

The receiver detects the signal and identifies the cable in question by means of a bar graph and an audible signal indicating the intensity of the signal received.

TECHNICAL CHARACTERISTICS

Transmitter

- Dimensions : 233 x 94 x 85 mm
- Weight : 0.55 kg (1.10 kg with batteries)
- IP : IP 54 transmitter case
 - IP 20 transmitter cable and alligator clip
- Batteries : 8 x MN1400 type C, alkaline manganese (not supplied)
- Output signal : pulsed or continuous
- Visual indicator : 1.28" OLED display indicating
- Audible indicator : internal audible signal indicator sounder

Dimensions : in carrying case 258 x 243 x 117.5 mm

Weight: 2.10 kg (2.75 kg with batteries)

Receiver

- Dimensions : 130 x 76 x 26 mm
- Weight : 0.35 kg (0.40 kg with batteries)
- IP : IP 54 receiver case
- Battery: 1 x 9 V MN1604 6LR61, alkaline manganese (not supplied)
- Pick-up : connected to receiver with fixed coiled flexible cable
- Visual indicator : 1.28" OLED display indicating
- Audible indicator : internal audible signal indicator sounder









Live LV cable and core identification

LCI-400

FUNCTIONS

- Identifies cables and cores
- Gives phase rotation
- Live LV
- Simple to use
- Visual and audible signal
- Improved efficiency
- Enhanced safety

USE PRINCIPLE

The LCI-400 is used to identify a live 115/220/400 V cable on which it is intended to work, and one or more of the cores in it. By correctly identifying LV cables, it reduces the risk of inadvertently opening an HV cable.

The system transmitter is connected downstream of the point of interest to draw a complex current signal down the cable, and a hand-held receiver displays the information required to identify the cable and cores upstream by analyzing the signal. The transmitter can be connected to each phase (preferred), phase-to-phase, for example at a link-box, or phase-to-neutral. It automatically configures itself to the connection in use.

Leds indicate the presence of the supply (115 V, 230 V or 400 V), and the phase rotation sense.

TECHNICAL CHARACTERISTICS

Transmitter	Receiver
 115/230/400 V AC ~ 2 A ; 50/60 Hz (self setting) 	 2 6LR61 dry batteries
• 410 x 340 x 205 mm	• 225 x 100 x 31 mm
• IP 2X	• IP 2X
• IP 54	• IP 21
• 8.1 kg	• 0.45 kg









Ć



SCAN ME for more information

MV/LV transformers tester

TESTRANSFO 2

FUNCTIONS

TESTRANSFO 2 is a small, self-powered, hand-held device which is used to check the functionality of a three-phased transformer disconnected from the network. Usable on all distribution transformers, it automatically performs a sequence of tests taking only two minutes to confirm whether the transformer is functional or not.

USE PRINCIPLE

TESTRANSFO 2 automatically checks 19 critical points of your transformer to prevent any possible default before installation. These tests include :

- Wiring continuity (open-circuit, short-circuit)
- Transformation ratio of the three phases
- Waveform coherency on HV/LV sides

The software allows the user to display a one page report, or to save it in pdf format.

It is possible to save up to 10 measurement reports in the TESTRANSFO 2 memory.

TECHNICAL CHARACTERISTICS

Detectable defects :

- Integrated protections when triggered
- Broken windings
- Short-circuit between phases
- Short-circuit between phases and neutral
- Short-circuit between neutral and ground
- Transformation ratio









SCAN ME for more information



MV fuse tester

CF200

FUNCTIONS

CF200 performs a measurement of the fuse resistance. This measurement is based on the 4 wire measurement method with automatic compensation of the temperature effect on the result. The fuse tester consists of a rigid case, including :

- An operating panel
- Two measuring clamps
- A self-test system
- A temperature sensor

USE PRINCIPLE

The fuse test is performed in 4 steps :

- Power on (with automatic self-test)
- Connection of the 2 measuring clamps to the fuse
- Selection of the fuse type from a selection menu
- Measurement of the fuse resistance and immediate display of the result

The type of fuse to be tested is selected from the on-board data base holding the following parameters :

- Voltage
- Amperage
- Trade Mark
- Identifier



The database is generated using a management PC software which can be updated by the user and transferred to the tester through a USB connection.

TECHNICAL CHARACTERISTICS

Ranges	5 m Ω to 2.5 Ω
Accuracy	0.1 mΩ
Tolerance	12.5 % (detection of 1 cut wire out of 8)
Maximum number of fuses in memory (database)	Up to 3000
Test current	200 mA
Weight	2.6 kg
Dimensions	304 x 270 x 144 mm
Operating temperaure	-20 °C à +55 °C
Power supply	2 x 9 V battery 6LR61
Maximum number of measurements without changing the batteries	2200 measurements
Standard	IEC-1010-1, CAT I 3V
Degree of protection	IP 52

SCAN ME for more information



Check the outer sheath of buried low or high voltage cables

TESTECRAN +

FUNCTIONS

TESTECRAN+[™] is used to check the outer sheath of an underground medium or low voltage cable, by measuring the insulation resistance between the screen and earth. If a faulty condition is found, corrective measures must be taken in order to ensure ongoing good cable function. It is a handheld device supplied in a carrying case with its earth peg and connecting cables.

USE PRINCIPLE

The opération of TESTECRAN+™ is conpletely automatic. Once connected, a push-button starts the measurement procedure : Battery Voltage checkSelf TestDischarge of the cable screenIndication of the cable screen status : OK or FaultedFinished. If the cable is operational, a green LED lights up, otherwise a red oneflashes and a buzzer sounds.

TESTECRAN+[™] is protected against a charged cable, thus there is no need to discharge the cable before connecting. During the charging of the screen a LED flashes every second giving an approximate indication of the length of the cable based on 1 km (0.6 mile) for every 12 seconds, depending on cable and ground conditions.

Power	4 batteries 1.5 V
Dimensions	150 x 80 x 30 mm
Weight	0.6 kg







Broken neutral test case

DRN5

FUNCTION

DRN5 is a load accessory for low-voltage network under voltage, aimed at helping operators in their research, localization and fixing of broken neutral. DRN5 is in the form of an unbalanced load three-phase suitcase 5 kW, secured electrically and thermally. It can be used on any access point of the low-voltage network under voltage, after disconnection of subscribers, and it allows to quickly highlight the existence of a broken neutral or not.

DRN5 is also used to check after repairing, right before the reconnection of the subscribers.

PRINCIPLES OF USE

DRN5 connects easily to any access point of the low-voltage network under voltage via its crocodile grips and charges each phase following unbalanced values.

The case does automatically the measure of the 3 voltages,

which algebraic sum allows to quickly detect a broken neutral if this value is not null.

- Delayed load cycle, automatic and secured
- Thermal protections in case of overheating
- Electrical protections via differential circuit breaker and fuses
- Connection to the ground not necessary, class 2
- Detection light of broken neutral
- Switch for the selection and visualization of measured voltages
- Possibility to connect an echometer for the localization of the defect

Power supply	230/400 V AC - 50/60 Hz
Dimensions	474 x 415 x 214 mm
Weight	10 kg
Degree of protection	IP 22
Consumption	5 kVA
Principle of operation	Technology with resistors







Simulate a single or tri-phase current load

4.5 KW LOAD SIMULATOR

FUNCTION

The 4.5 kilowatts current load simulator aims to load the electrical network to help testing industrial electricity meters during installation.

It helps to reduce the response time of operators.

PRINCIPLES OF USE

The connections to the 3 phases and neutral are made easily using "crocodile" clips. The measurement terminals are on the front face of the case. One LED indicates that a cycle is in progress, another indicates the end of the cycle. A switch on the front face enables loading each phase by resistors to simulate a load of 1.5 kW or 4.5 kW. This same switch also allows loading phase 1 with three resistors of either : 1.5 kW, 3 kW or 4.5 kW. A digital indicator on the front face displays the power taken. The injection by the instrument is automatically stopped after 12 min. This 4.5 kW loading simulator features thermal protection to avoid overheating.

No earth connection is necessary, as the set insulation is to Class 2.

The case is protected against connection inversions between phase 1 and neutral (power supply).

Power supply	230/400 V AC
Dimensions	474 x 415 x 214 mm
Weight	10 kg
Degree of protection	IP 22
Consumption	6.5 A per phase
Principle of operation	Resistive technology load







Work assistance near high risk zones

GABARIT SKY LASER

The GABARIT SKY LASER is designed to monitor boundaries and objects. It is complementary to classic signage around a works zone near structures considered to be hazardous (HVA/HVB lines, live transformers, HV lines, railway lines, etc.). The purpose is to create :

- Either a horizontal plane.
- Or a virtual wall that is not to be crossed.

This monitoring is provided using a laser scanner (LIDAR).

If the virtual barriers are crossed, audible and visible alarms are triggered.

The audible and visible alarms can also be sent to repeater boxes.

FUNCTION

The active laser scanner is a two-dimensional, contactless detection system that sweeps a freely programmable zone. Using an invisible infrared laser beam, the detection is immune to parasite light, even in total darkness.

This laser detection solution operates effectively in all weather conditions masking of ambient factors (fog, rain, etc.), lighting, size and type of object.





Work in a substation

SCAN ME for more information





_ MADE SA ____

167, impasse de la Garrigue 83210 La Farlède

Tél. + 33 (0) 494 083 198

contact@made-sa.com



Our news -

Find all our documentation and news : www.made-sa.com ∎ut Follow us : Facebook in LinkedIn YouTube 8 E ЫĒ In order to improve its products, the MADE company reserves the right to modify, at any time and without any notice, the products described in this documentation. @ Reproduction and communication prohibited without written authorization from MADE.

catalog_Elec_V6.00EN_MARS2025

POWER LINE DETECTOR Specific telecom equipment ELECTRICITY DISTRIBUTION DFFFNCF MAINTENANCE UNDERGROUND NETWORK LOCATOR electricity distribution maintenance DEFENCE power line detector PERSONAL PROTECTIVE EQUIPEMENT underground network locator specific telecom equipment ELECTRICITY DISTRIBUTION MAIN-TENANCE POWER LINE DETECTOR Specific telecom equipment DEFENCE UNDERGROUND NETWORK LOCATOR electricity distribution maintenance power line detector SPECIFIC TELECOM EQUIPMENT PFRSONAL PROTECTIVE EQUIPEMENT underground network locator ELECTRICITY DISTRIBUTION MAINTENANCE **POWER** DETECTOR SPECIFIC TELECOM EQUIPMENT DE-FENCE power line detector UNDERGROUND NETWORK EQUIPMENT power line detector PERSONAL **PROTECTIVE EQUIPMENT** electricity distribution maintenance specific telecom equipment **DEFENCE** power line detector **PERSONAL PRO-**TECTIVE EQUIPMENT underground network locator DEFENCE

