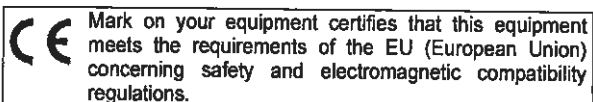


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1.Introduction

1.1 General Description


The Europrove unit is applicable for checking the operation of two pole voltage testers and multimeters.

1.2 Applied Standards

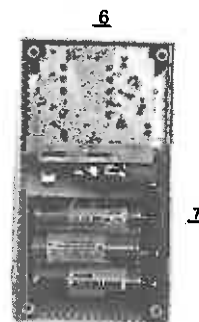
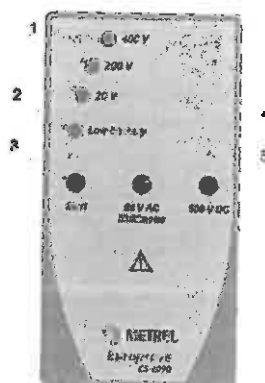
Safety	EN / IEC 61010-1
EMC compatibility	EN / IEC 61326

1.3 Warnings

In order to reach the highest level of operator safety while carrying out tests with the CS2090 Europrove please consider following warnings:

-  Warning on the unit means "Read the instruction manual with special care for safe operation." The symbol requires an action!
- Never connect outputs on live circuits!
- If the test equipment is used in a manner not specified in this User Manual, the protection provided by the equipment may be impaired!
- The Europrove unit can only be used with test leads according to EN / IEC 61010 – 31.
- Do not use the Europrove unit if any damage is noticed!
- Ensure that the unit is free from moisture and clean.
- Only a competent and authorized person should carry out any service intervention!
- The unit generates a dangerous high voltage on both outputs so all generally known precautions should be taken in order to avoid the risk of electric shock.

1.4 Europrove description



Legend:

1. Voltage indicators (LEDs)
2. Low battery indication (LED)
3. Output terminal (Start)
4. Output terminal (50 V AC)
5. Output terminal (500 V DC)
6. Screws for removing battery cover
7. Battery compartment

Figure 1 Europrove unit - legend

2 Europrove operation

2.1 Application

According to HSE and NICEIC recommendations it must be verified:

- that the installation is de-energized before carrying out electrical testing (continuity, insulation resistance).
- after reconnection of the installation back to the mains supply the presence of voltage and correct polarity of conductors should be verified.

The simplest way to perform the test is to check the voltages with a voltage checker.

Wrong results of the voltage checks could have fatal consequences hence the electrician must be 100% sure that the voltage checker works properly. The checker's operation should be verified before and after doing any test. The procedure is as follows:

Step 1: Verify correct operation of the voltage indicator

Step 2: Perform voltage check with the voltage indicator

Step 3: Verify correct operation of the voltage indicator again.

The CS 2090 Europrove is a simple and efficient tool for checking the correct operation of voltage indicators and multimeters.

2.2 Test procedure

Step 1:

The voltage checker can be tested by placing both probes in the appropriate CS 2090 Europrove output terminals

Step 2:

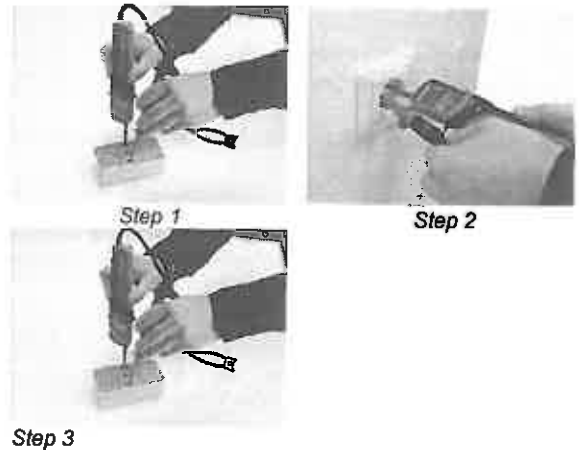
To activate the Europrove unit, the *Start* terminal contact switch must be closed.

It is good practice to make the *Start* terminal contact first. Until the other output terminal (50 V AC or 500 V DC) is closed, the voltage generator is unloaded and all voltage indicators on the Europrove unit should be lit.

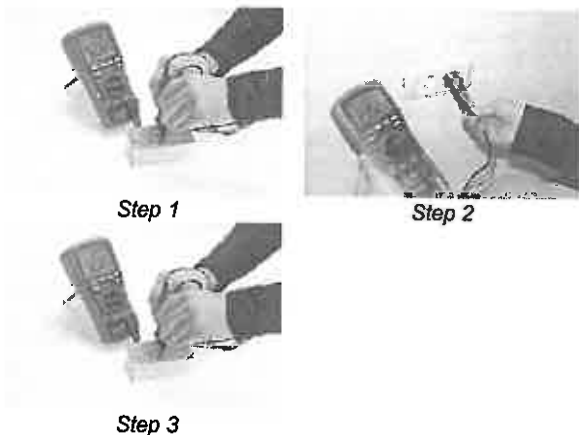
After making the second contact the generator will become loaded by the voltage checker. Some voltage checkers represents a relatively large load at the beginning so it can happen that the voltage indication is low at the beginning and rises slowly to its final value.

Step 3:

After the indication on the Europrove stabilizes, check the reading / indication of the voltage checker.



Example of Europrove test application (voltage checker)



Example of Europrove test application (multimeter 50 V AC)

Note:


- The power consumption due the test is relatively high therefore it is recommended to use high quality alkaline or NiMH batteries.
- The 50 V AC output is primarily intended to check the V_{AC} operation mode of multimeters
- The LED indication relates to the 500V output.

3. Maintenance

3.1 Battery replacement

Low battery state is indicated by Low battery LED flashing when battery voltage drops below 5.6 V approx. In this situation the batteries must be replaced to ensure voltage outputs are inline with the technical specifications. The Europrove unit uses six AA size alkaline or rechargeable NiMH battery cells.

(See figure 1)

-  The unit generates a dangerous high voltage on both outputs so all generally known precautions should be taken in order to avoid risk of electric shock.
- Do not switch on the unit during battery replacement until battery cover is replace.
- The batteries should only be replaced with the same type as defined on battery cover or in this manual.
- Ensure that the battery cells are inserted correctly otherwise the unit will not operate and the batteries could be discharged.
- All six battery cells should be changed for new when batteries are replaced.
- If the unit is not to be used for a long period of time, remove all batteries from battery compartment.

3.2 Cleaning

To clean the surface of the unit use a soft patch slightly moistened with soapy water or alcohol. Then leave the unit to dry totally before use

- Do not use liquids based on petrol or hydrocarbons!
- Do not spill cleaning liquid over the unit!

3.3 Service

In case of any malfunction or damage noticed on the unit, a competent service department must service the instrument. Contact your dealer for detailed information.

4. Standard set

- Europrove CS 2090 unit
- Instruction manual
- Warranty declaration

5. Technical specifications

Output voltage:

Output 500 V_{DC} (unloaded).....500 V_{DC} + 50 V_{AC} / 50Hz
 Output 50 V_{AC} (unloaded).....50 V_{AC} / 50Hz

Voltage, frequency accuracy.....± 10%

Short circuit current:

Output 500 V_{DC}.....< 40 mA
 Output 50 V_{AC}.....2.8 mA

Voltage indicators.....>20 V, >200 V, > 400 V

Power supply voltage9 V_{DC} (6x1.5 V battery or
 accu, size AA)

Operation.....minimal 300
 measurements, (depends
 on type of voltage checker)

Protection classification.....double insulation

Protection degree caseIP 40

Protection test outputs.....IP 20

Weight.....160 g

Dimensions (w x l x h).....68 mm x 125 mm x 40 mm

Operating conditions:

Working temperature range.....0 °C + 40 °C

Maximum relative humidity95 %RH, non-condensing

Storage conditions:

Temperature range.....-10 °C + +70 °C

Maximum relative humidity90 %RH (-10 °C + +40 °C)
80 %RH (40 °C + 60 °C)

6 Quick start guide

TEST PROCEDURE

Step 1:

The voltage checker can be tested by placing both probes in the appropriate Europrove output terminals.

Step 2:

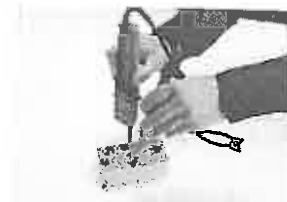
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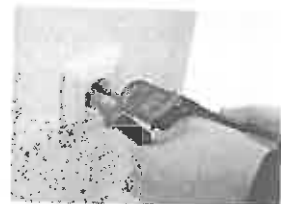
After making the second contact the generator will become loaded by the voltage checker. Some voltage checkers represents a relatively large load at the beginning so it can happen that the voltage indication is low at the beginning and rises slowly to its final value.

Step 3:

After the indication on the Europrove stabilizes check the reading / indication of the voltage checker.



Step 1



Step 2



Step 3

Example of Europrove test application (voltage checker)



Step 1



Step 2



Step 3

Example of Europrove test application (multimeter 50 V AC).



Europrove
CS 2090
Instruction manual
Version 1.1, Code No. 20 751 588