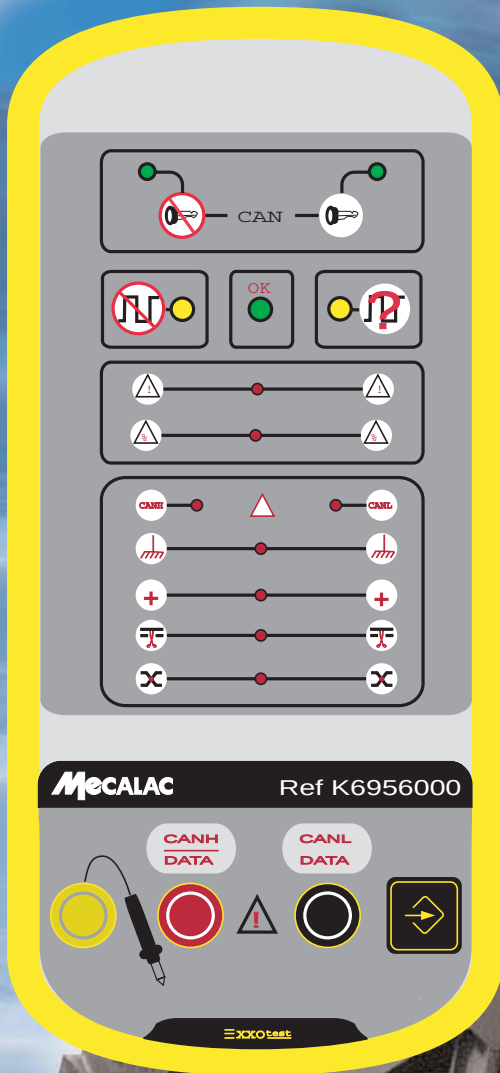


Mecalac

OPERATOR'S MANUAL



For complete inspection and diagnosis of CAN High Speed multiplex circuits



**STATEMENT AND PRECAUTIONS TO BE READ BEFORE
USING THE R CVX200 MUXMETRE**

To use the CVX200 in complete safety.
To prevent any damage to the CVX200.

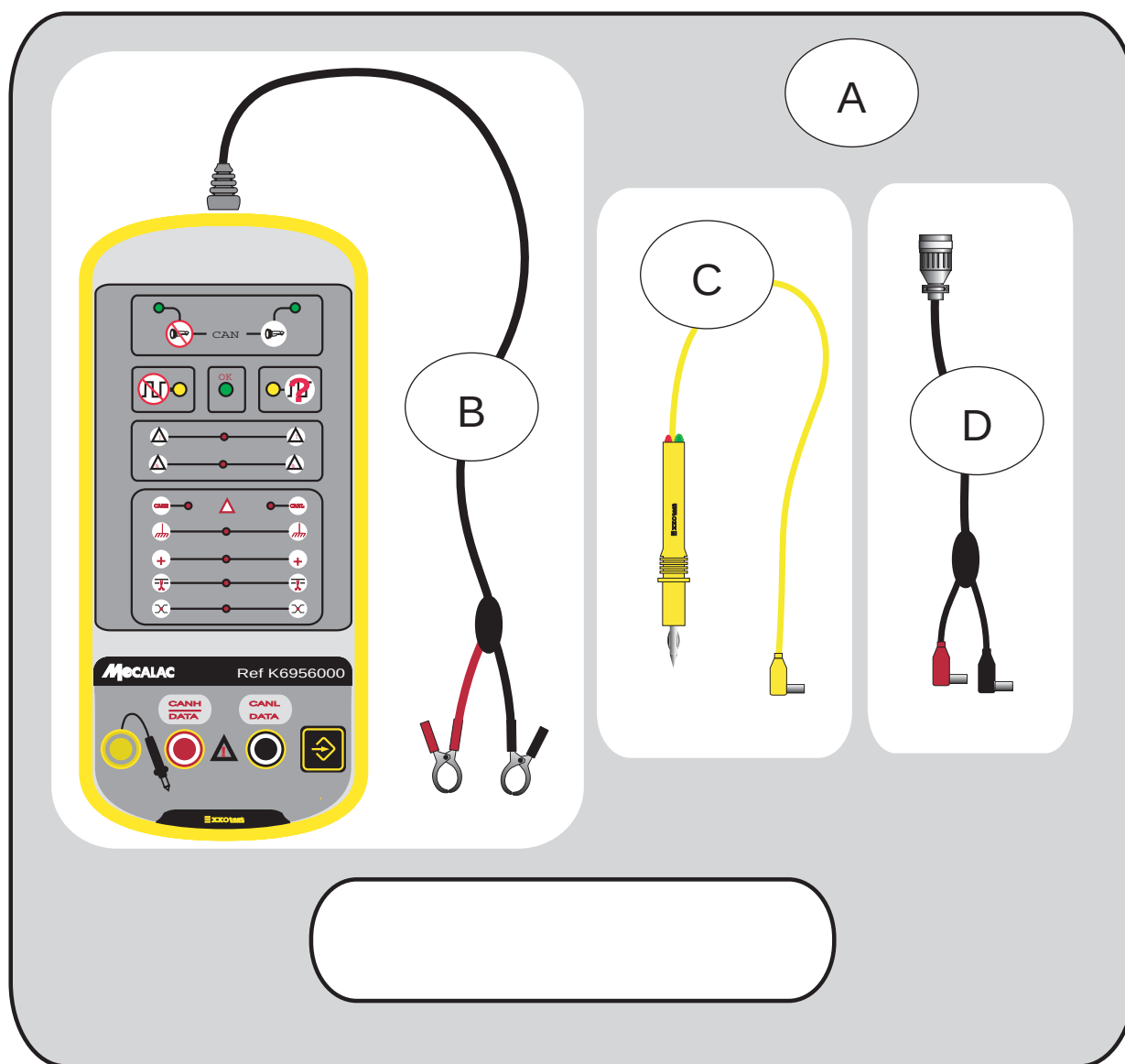
- Operate the CVX299 only in accordance with the instructions in this manual, so as to preserve its integrated protection.
- Do not operate the CVX200 if the tester or its leads are damaged, or if the tester appears not to function correctly.
- Never apply a voltage higher than 36 V.
- Do not operate the tester near explosive gases, steam or dust.
- Observe all safety instructions regarding the machine which is being tested.

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Contents of the KIT



- A - Kit Part No. K6956000
- B - Controller
- C - Tester TX12
- D - Interface cable Part No. 6956000

Connecting the tester

	Kit K6956000
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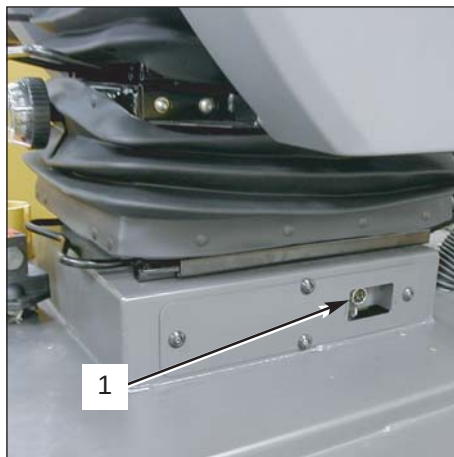


Fig. 1 Diagnostic socket (under the seat)

- 1 - Connect the tester power supply clamps to the vehicle's battery terminals.(24V)
- 2 - Connect the interface cable to the diagnostic socket on the vehicle (1 fig 1)

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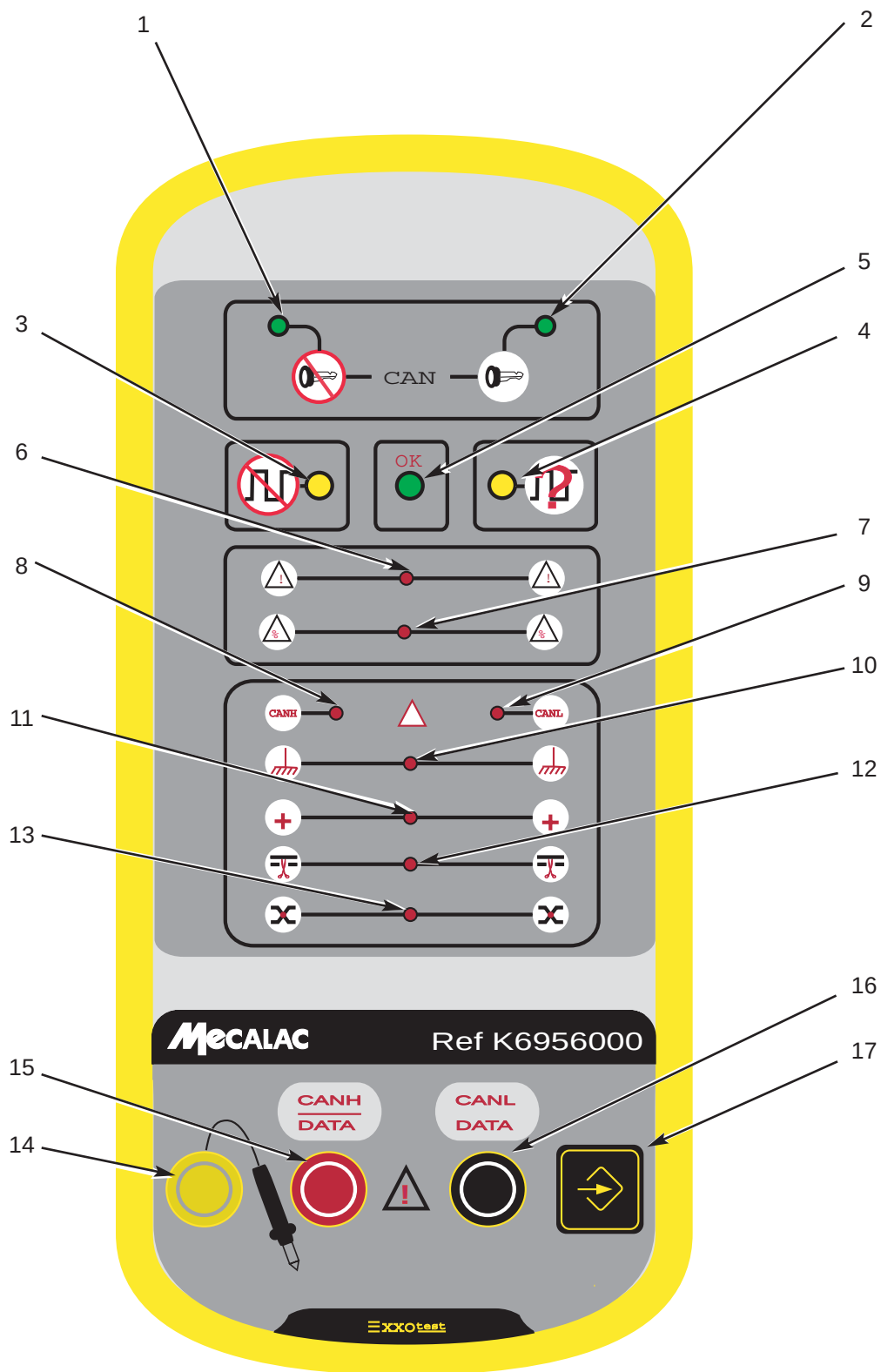


Fig. 1 Tester

Diagnostic procedure

	Diagnosis
1	This indicator lamp comes on if the tester is in static test mode (no voltage)
2	This indicator lamp comes on if the tester is in dynamic test mode (voltage present)
3	No communication (the wires 15 fig 1 and 16 fig 1 are not connected to a bus)
4	The tester detects a signal which does not correspond to the selection or it is reversed in the socket
5	Correct communication
6	Non released fields are present
7	The bus has too high a rate of load (one calculator is monopolising the bus)
8	Locating a physical fault on CAN H
9	Locating a physical fault on CAN L
10	Short circuit is "earthed"
11	Short circuit at the battery "positive"
12	Wire is cut
13	Short circuit between the lines
14	TX 12 tester connection socket (polarity tester)
15	Connection socket for the diagnostic cable
16	Connection socket for the diagnostic cable
17	Static test or dynamic test selector button

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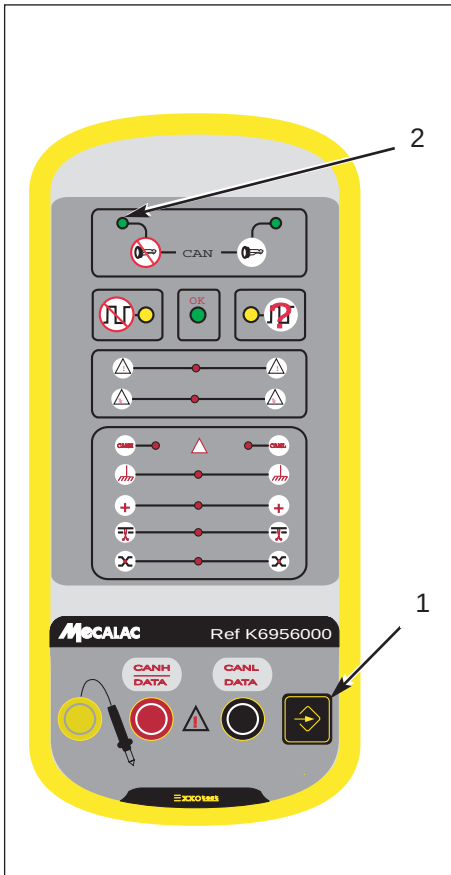


Fig. 1 Tester

Static mode



Purpose of test: check correct functioning of the CAN network



Machine not switched on

- 1 - Put the device in static test mode by pressing successively on the button (1 fig 1) until the indicator lamp (2 fig 1) lights up.

Reaction of the device:

the CAN networks are equipped with 120 Ω terminal resistances placed between the bus wires in the end calculators of the network.

This check, apart from testing the line resistances, is used to examine the physical condition of the bus (bus cut through, short circuit wire, etc)

If the test is correct, the green LED (1 fig 2) on the device will light up.

If a physical defect is found, indicator lamps corresponding to the physical errors will light up.

If one of the two wires is cut, the two LED's on the device will flash (2 fig 2).

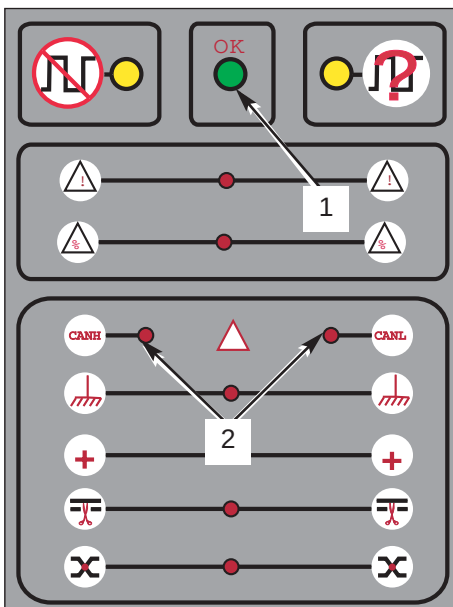


Fig. 2 Controller

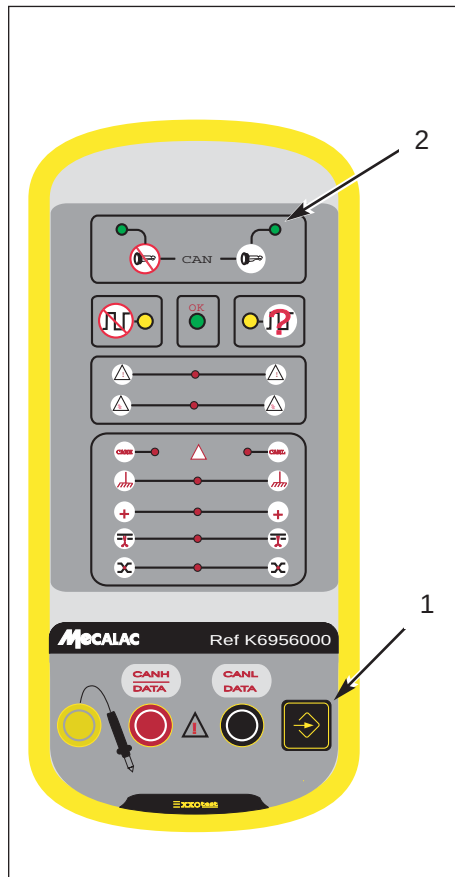


Fig. 1 Controller

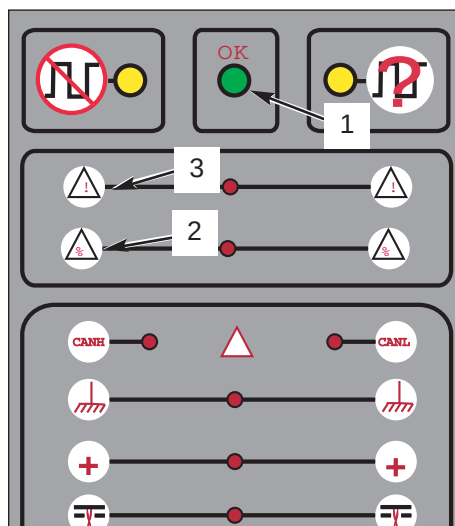


Fig. 2 Controller

Dynamic mode



Machine switched on.

1 - Put the tester in dynamic test mode by pressing repeatedly on the button (1 fig 1) until the indicator lamp (2 fig 1) lights up.

Reaction of the device:

If no defect is found, the green LED (1 fig 2) on the device will light up.

Possible errors:

Bus overload warning (2 fig 2).
one or more calculators are monopolising the network communication.

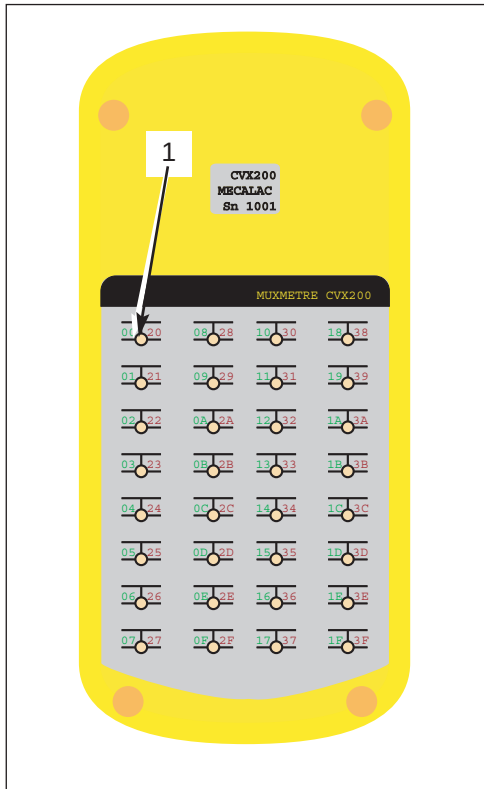
Protocol errors (3 fig 2).

A field with an invalid format is detected on the network. This field has not been released by the other calculators present.

Causes can be as follows:

- One single calculator is present on the network.
- One or more calculators are operating with an incorrect flow (problem of a clock outside tolerance, calculator not suitable for the network).
- Problem of unscheduled interference in the network.

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Identification of calculators present



Note: This is found using the indicator lamps located on the back of the device (example 1 fig1).

Fig. 1 Controller

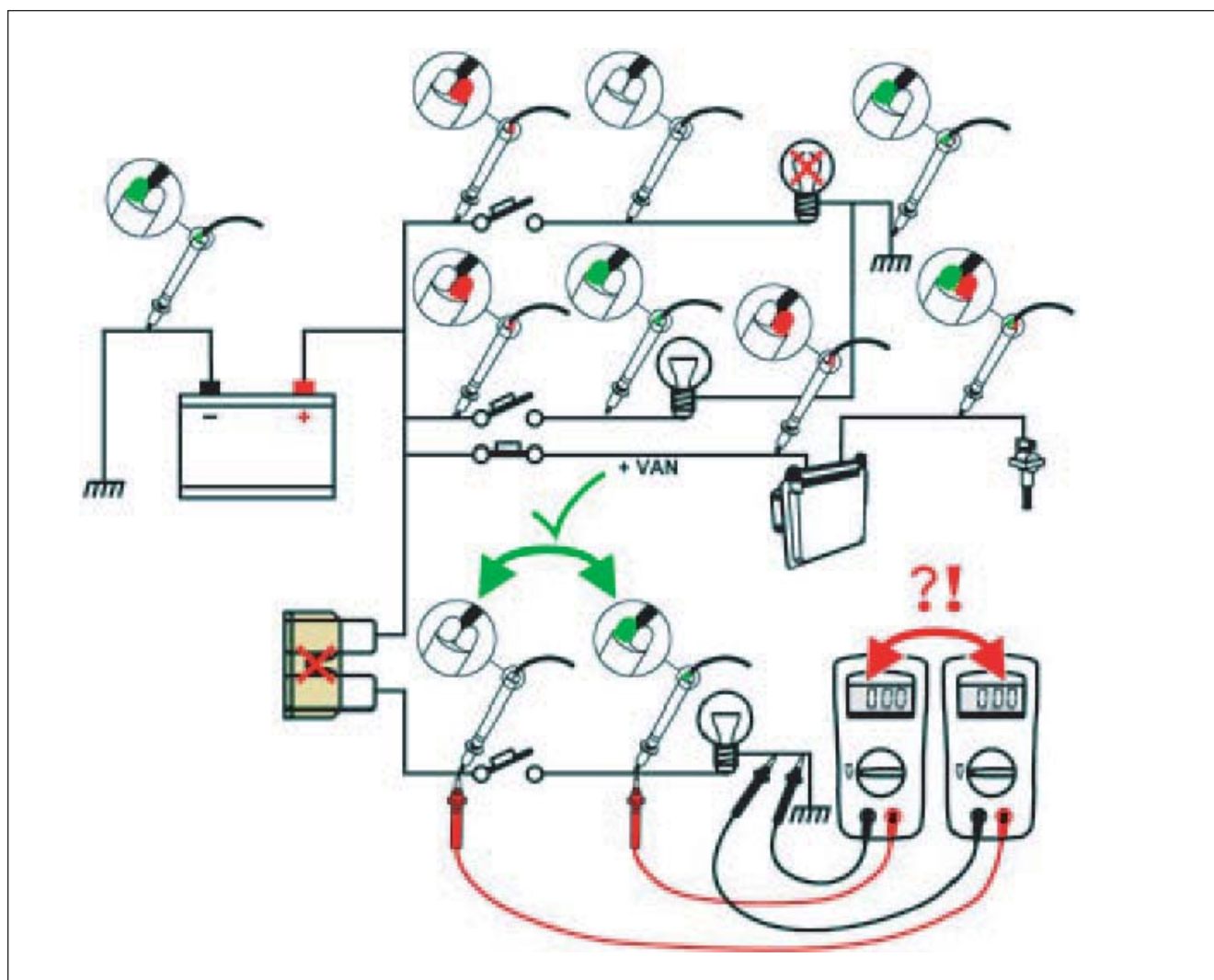
714 MW	
Code	Calculator
00	Engine calculator (under cab floor)
01	Instrument panel calculator (cab instrument panel screen)
02	Chassis calculator (under the chassis)
03	Upperstructure calculator (under cab floor)

714 MC	
Code	Calculator
00	Engine calculator (under cab floor)
01	Instrument panel calculator (cab instrument panel screen)
03	Upperstructure calculator (under cab floor)

Interpretation of the indicator lights on the TX12

TX 12 tester	
indicator lamps	Interpretation of LED's
GREEN	The measurement is connected to the battery earth
Red	The measurement is connected to the battery positive
GREEN and red	(Pulses): Frequency control (injectors, multiplex bus)
Lamps extinguished	No voltage, no positive, no earth: connection cut off


Special features:
 It's better than a multimeter ! The TX 12 tells you the difference between a point connected to earth and a point "in the air" (not connected to earth or to the battery)



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