Di-LOG
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PL500

Cable and Fuse Finder

GB Instruction Manual

Content **Page**

References marked on instrument or in instruction manual:

⚠ **Warning** of a potential danger, comply with instruction manual.

☞ **Reference!** Please use utmost attention.

⚠ **Caution!** Dangerous voltage. Danger of electrical shock.

⧈ Equipment protected throughout by double insulation or reinforced insulation.

CE Conformity symbol, the instrument complies with the valid directives. It complies with the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) with their valid standards.

Symbol for the marking of electrical and electronic equipment (WEEE Directive 2002/96/EC).

Introduction

The PL500 is the ideal tracing instrument for sorting out single wires in a bundle of cables, tracing lines in overhead installations, tracing and finding cables in walls and assigning fuses. Functioning by means of marking cables under test by a coded signal which is directly picked up and indicated by the receiver, exact and sensitive localisation of electrical lines and their identification can be guaranteed.The set has been built in compliance with the most up-to-date Directives EN 61010, IEC 61010 and ensures safe and reliable operation. The PL500 is a useful aid to the electrician on site, the service technician in industry and handicraft or for hobbyists working in electronics to carry out maintenance work, new installations, commissioning, and fault finding.

Features

Coded patented technology for quick and accurate:

- Sorting out of single wires in a bundle of cables and trace lines in overhead Installations.
- Tracing and finding of cables in walls.
- Assigning current circuits to fuses within fuse panels.
- Voltage range up to 250 V
- Enables the user to switch between either locating cable lines or fuses.
- Including sensitivity adjustment thereby maximizing the accuracy of both tracing and locating

Principle

The PL500 consists of a transmitter and a receiver. Similar to radio signals, the PL500 functions by means of a coded carrier sending a signal into the cable or the mains to be localised. By means of the built-in sensor, the receiver can indicate the transmitted code as a symbol on the display as well as providing an acoustic signal. The acoustic sound level automatically intensifies as the source is approached.

Scopy of Supply

1 pc PL500 Transmitter, 1 pc PL500 Receiver, 1 pc Carrying Case, 1 pc Batterie 9 V, IEC 6LR61
1 pc. Instruction Manual

Transport and Storage

Please keep the original packaging for later transport, e.g. for calibration. Any transport damage due to faulty packaging will be excluded from warranty claims. In order to avoid instrument damage, it is advised to remove accumulators when not using the instrument over a certain time period. However, should the instrument be contaminated by leaking battery cells, you are kindly requested to return it to the factory for cleaning and inspection. Instruments must be stored in dry and closed areas. In the case of an instrument being transported in extreme temperatures, a recovery time of minimum 2 hours is required prior to instrument operation.

Safety measures

The PL500 has been constructed in accordance with the safety regulations for electronic test and measurement instruments and has left the factory in safe and perfect condition. To maintain this condition, the user must pay attention to the safety references contained in this instruction manual. This instruction manual contains information and warnings necessary for safe operation and maintenance of the instrument.

⚠ The respective accident prevention regulations established by the professional associations for electrical systems and equipment must be strictly met at all times.

⚠ In order to avoid electrical shock, the valid safety and VDE regulations regarding excessive contact voltages must receive utmost attention, when working with voltages exceeding 120V (60V) DC or 50V (25V)rms AC. The values in brackets are valid for limited ranges (as for example medicine and agriculture).

⚠ Measurements in dangerous proximity of electrical installations are only to be executed when instructed by a responsible electrical specialist, and never alone.

⚠ If the operator's safety is no longer ensured, the instrument is to be put out of service and protected against use. The safety is no longer insured, if the instrument:

- shows obvious damage
- does not carry out the desired measurements
- has been stored for too long under unfavourable conditions
- has been subjected to mechanical stress during transport.

⚠ Prior to usage, inspect instrument for external damage. Prior to any operation, ensure that connecting leads used and electronic load are in perfect condition.

⚠ The PL500 may only be used in systems complying with the nominal voltages indicated in the technical data section.

⚠ If the instrument is subjected to an extremely high electro-magnetic field, its functioning ability may be impaired.

⚠ Never try to disassemble battery cells !The battery contains highly alkaline electrolyte. Danger of causticization ! If electrolyte gets in contact with skin or clothing, rinse immediately with water. If electrolyte gets in contact with the eyes, immediately flush by using pure water and consult a doctor.

⚠ Never try to make contact between both battery cell poles, for example by using a wire connection. The resulting short-circuit current is very high and causes extreme heat. Danger of fire and explosion !

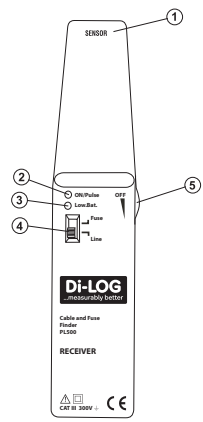
- Never throw battery cells into a fire as this could cause an explosion.
- Never expose batteries or accumulators to humidity.
- When replacing or changing the battery, make certain of correct polarity. Batteries with reversed polarity can lead to instrument destruction. Furthermore, they may explode or ignite.
- Only use batteries as describet in the technical data section

⚠ Avoid any heating up of the instrument by direct sunlight to ensure perfect functioning and long instrument life

Control Elements:

Receiver

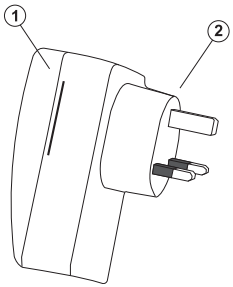
1) Sensor
2) On / Pulse
3) Low Battery
4) Fuse - Cable switch
5) On/Off- switch and Sensitivity adjustment



Control Elements:

Transmitter

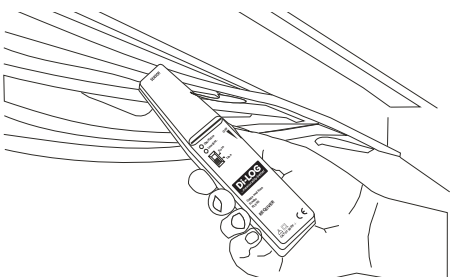
1) Handgrip
2) Plug connector



Sorting out a single wire in a bundle of cables and trace lines in overhead installations

- Switch on the instrument via the switch on/off and sensitivity potentiometer (5).
- Set selection switch between Fuse and Cable to "Cable" (4).
- Plug the transmitter into socket of respective current circuit.
- Set sensitivity via sensitivity potentiometer (5) to the highest sensitivity.
- Now approach the plugged-in transmitter with the sensor (1) and try to receive a signal. A signal received is indicated by blinking of the LED (2). At the same time an acoustic signal is audible depending on the intensity of the signal.
- Now try to locate the signal at the bundle of cables or overhead installation. If a signal is received, reduce the sensitivity level via the potentiometer (5) until the minimum reception of the signal is achieved. If required, reset the sensitivity level via the potentiometer (5), in order to retrieve the signal (see drawing below).

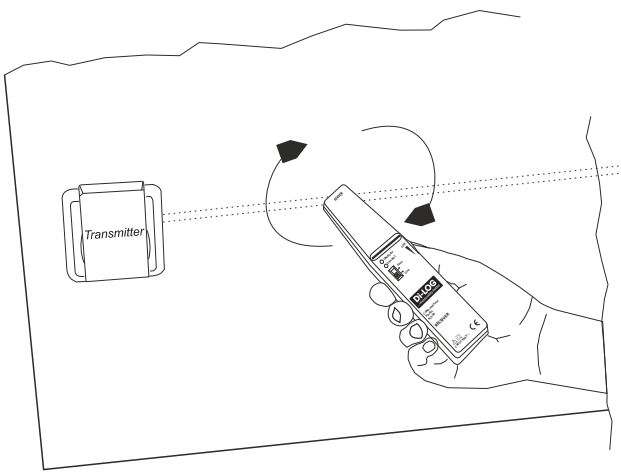
Depending on local conditions, the tracing distance amounts to approx. 0...40 cm.



Locating and tracing of cables in walls

- Switch on the instrument via the switch on/off and sensitivity potentiometer (5)
- Set selection switch between Fuse and Cable to "Cable" (4).
- Plug the transmitter into socket of respective current circuit.
- Set sensitivity via sensitivity potentiometer (5) to the highest sensitivity.
- Now approach the plugged-in transmitter with the sensor (1) and try to receive a signal. A signal received is indicated by blinking of the LED (2). At the same time an acoustic signal is audible depending on the intensity of the signal.
- Now try to locate the signal by circling movements at the wall (see drawing below). If a signal is received, reduce the sensitivity level via the potentiometer (5) until the minimum reception of the signal is achieved. If the signal decreases when tracing along the wall, you have either increased the distance from the actual cable installation or the cable has been installed deeper into the wall at this point. If required, reset the sensitivity level via the potentiometer (5) in order to retrieve the signal.

Depending on local conditions, the tracing depth amounts to approx. 0...40 cm.



Assigning Fuses

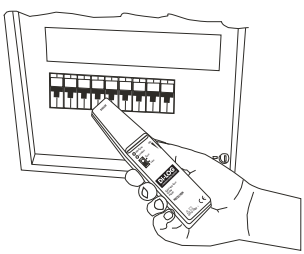
⚠ When connecting in live circuits, the safety prescriptions must absolutely be respected.

⚠ The detection or assignment of the fuse strongly depends on the wiring realised within the distribution. To obtain a result as precise as possible, the cover should be removed and the supply line to the fuse should be traced.

⚠ Safety cut-outs of different manufacturers have different installation positions for magnetic coils. If no evident signal can be found by the receiver in the position shown below it is advised to modify the position by 90° towards the left or the right.

- Switch on the instrument via the on/off switch/ensitivity potentiometer (5).
- Set selection switch between Fuse and Cable to "Fuse" (4).
- Plug the transmitter into a current circuit socket to which the fuse is to be assigned.
- Set sensitivity level to maximum sensitivity via the potentiometer (5).
- Now approach the fuses with transmitter sensor (1) and try to receive a signal. A signal received is indicated by the symbol "H" on the display as well as the blinking of the LED (2). At the same time an acoustic signal is audible depending on the intensity of the signal.
- If a reception signal is received at several fuses, reduce the sensitivity level via the potentiometer (5) until the minimum reception of the signal is achieved. Repeat this procedure until only one fuse indicates a reception signal. This fuse protects the socket to which the transmitter has been connected. Please make sure that in rare cases a fuse assignment may be considerably impeded due to the internal wiring of the current distributors (see drawing below).

The tracing depth amounts to approx. 0...10 cm.



Maintenance

When using the instrument in compliance with the instruction manual, no special maintenance is required.

Should operational problems occur during daily use, our consulting service (phone 0800 / 018 6711) will be at your disposal, free of charge.

For any queries regarding the instrument, please always quote product designation and serial number, both marked on the type shield label on instrument rear.

If functional errors occur after expiration of warranty, our after sales service will repair your instrument without delay.

Cleaning

If the instrument is dirty after daily usage, it is advised to clean it by using a humid cloth and a mild household detergent.

⚠ Prior to cleaning, ensure that instrument is switched off and disconnected from external voltage supply and any other instruments connected (such as UUT, control instruments, etc.).

Never use acid detergents or dissolvants for cleaning.

Battery Replacement

⚠ Prior to storage battery replacement, disconnect the instrument from any connected test leads.

⚠ Never try to disassemble battery cells !The battery contains highly alkaline electrolyte. Danger of causticization ! If electrolyte gets in contact with skin or clothing, rinse immediately with water. If electrolyte gets in contact with the eyes, immediately flush by using pure water and consult a doctor

⚠ Never try to make contact between both battery cell poles, for example by using a wire connection. The resulting short-circuit current is very high and causes extreme heat. Danger of fire and explosion!

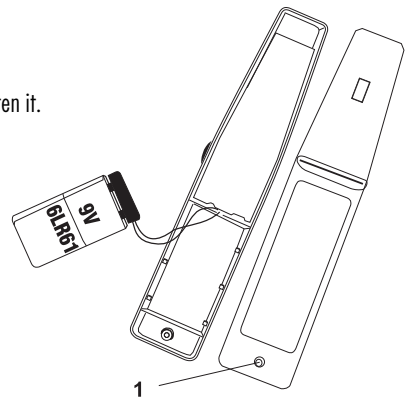
- If the red LED (3) is illuminated, proceed with the battery replacement as follows (see drawing below):
- Switch off the instrument.

- Loosen the screw in the instrument rear (1).
- Carefully open the casing.
- Remove the discharged battery and insert the new battery

⚠ Only use batteries as described in the technical data section!

⚠ Reverse polarity of batteries may destroy the instrument. Furthermore, they may explode or ignite.

- Carefully close the casing.
- Insert the screw and retighten it.



⚠ Please consider your environment when you dispose of your one-way batteries or accumulators. They belong in a rubbish dump for hazardous waste. In most cases, the batteries can be returned to their point of sale. Please, comply with the respective valid regulation regarding the return, recycling and disposal of used batteries and accumulators.

⚠ If an instrument is not used over an extended time period, the accumulators or batteries must be removed. Should the instrument be contaminated by leaking battery cells, the instrument has to be returned for cleaning and inspection to the factory.

⚠ If an instrument is not used over an extended time period, the accumulators or batteries must be removed. Should the instrument be contaminated by leaking battery cells, the instrument has to be returned for cleaning and inspection to the factory.causes extreme heat. Danger of fire and explosion !

Technical Data (valid for 23°C ± 5°, for less than 80% relative humidity)

Transmitter

Voltage range: .....100V...250 V
Power consumption: .....approx. 1 W
Frequency range:.....50...60 Hz
Transmission frequency:.....approx. 8 kHz
Transmitter frequency: .....approx. 10 Hz
Temperature range: .....-10 °C...+40 °C
at max. 80% relative humidity
Dimensions: .....approx. 70 x 55 x 86 mm
Weight:.....approx. 65 g
Power supply:.....from mains
Overvoltage category: .....CAT III / 300 V
Pollution degree:.....2
Protection class: IP20

Receiver

Tracing depth for fuse assignment: .....approx. 0...10 cm, depending on local conditions
Tracing depth for cable location: .....approx. 0...40 cm, depending on local conditions
Sensitivity setting:.....via on/off potentiometer
Low battery indication: .....approx. 7.5V
Switching fuse/cable: .....manually via the push-button
Temperature range: .....-10°C...+40°C at max. 80% rel.humidity
Dimensions: .....22 x 162 x 34 mm
Weight:.....approx. 100g
Overvoltage category: .....CAT III / 300 V
Pollution degree:.....2
Protection class: IP20
Power supply:.....9 V block battery, IEC 6LR61, Alkaline only
Applicable Directives and Standards: .....EMC: EN 50081-1 and EN 50082-1, EN50082-2
Low Voltage Directive: EN61010-1

24 months' guarantee

The instruments are subject to stringent quality controls. If, in the course of normal daily use, a fault should occur, we provide 12 months' guarantee (only valid with invoice). Faults in manufacture and materials will be rectified by us free of charge, provided the instrument has not been tampered with, and is returned to us unopened. Damage due to dropping, abuse or misuse is not covered by the guarantee.

Our Service Department will promptly repair any faults that occur outside the guarantee period.

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