

**SOCKET
&SEE™**

DCF200





Dead Circuit Finder

Instruction Manual & Specification



1. Safety

1.1 Equipment Markings

	Caution - refer to the instruction manual
	Construction is double insulated
	Product should be recycled as electronic waste
	Conforms to EU standards

1.2 Operational Safety

The Socket & See Dead Circuit Finder is designed for use by suitably qualified personnel familiar with electrical supply systems.

Before using your dead circuit finder please read these instructions and safety warnings. Failure to comply with the safety warnings or use of the unit in a manner not specified by Socket & See may result in serious injury or damage to equipment.

Although the DCF200 is easy to use it does require the user to have sufficient knowledge of electrical supplies to be able to identify the difference between LIVE (energised) and DEAD (un energised) cabling.

This product is for use on dead circuits only **DO NOT** connect to a live supply.

2. Description

The Socket and See DCF200 is intended for use on DEAD CIRCUITS ONLY and can be used for.

- Fuse finding - Find which MCB or Fuse is feeding the dead circuit
- Wire tracing - Trace wires through floors and walls
- Wire picking - Pick the correct wire from a bundle or loom
- Wire break detection - find an open circuit in a damaged wire
- Circuit identification - find a circuit by identifying the individual conductor

2.1 Features

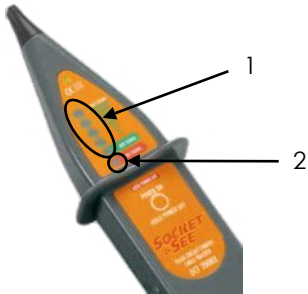
Receiver

- Simple single button operation
- Auto adjustment
- Can detect up to a meter from the cable
- Audio and visual (bar graph) indication
- Auto power off to preserve battery life

Transmitter

- Battery Powered (no mains voltage required)
- Operates with or without an earth
- Protected against accidental connection to a live circuit up to 440 V
- Auto power off to preserve battery life

2.2 Indication



1 LED BAR GRAPH

Indicates the strength of the received signal from the transmitter .

The stronger the signal the more LEDs are illuminated and the higher the pitch of the audible beeping.

2 NO SIGNAL LED

Will be illuminated and accompanied by a steady beeping tone when the receiver is scanning for a signal.

3. Usage

3.1 Battery Installation and Status

Both the transmitter and receiver must be fitted with an MN1604 or equivalent 9V battery before use (not supplied).

Transmitter:

To gain access to the battery compartment remove the four screws that secure the back of the transmitter case. Fit the battery into the rectangular bay with the foam pad at the base of the battery. The moulding will only allow the battery to be fitted in the correct orientation. To avoid any risk of static damage to components please take care not to touch any of the components on the circuit board whilst the case is open. Re-fit the back cover.

Receiver:

Unscrew the battery cover. Fit the battery and replace the cover.

3.2 Principles of operation

The transmitter injects a safe low voltage signal via the red test lead into the cable under test. The green test lead is connected to an 'earthy' point.

The receiver picks up the encoded signal and automatically adjusts its sensitivity to the strength of the signal being received to eliminate 'false' signals. The tracing signal is indicated in the form of a variable LED bar graph with an increasing / decreasing tone according to the strength of the signal received.

Best results will be obtained if the circuit you are tracing is not in close proximity to live circuits. Therefore where possible make sure all circuits are DEAD (at the Mains Switch) to concentrate the signal on the circuit you are tracing.

The user is the return signal path for the receiver so at all times keep your hold on the receiver constant. If you change your grip on the receiver you change the strength of the received signal so be consistent in the way you hold the receiver during each operation. For the same reason if the signal trace is weak it can be improved if you increase your own 'grounding' by touching the case of an earthed appliance or a nearby wall with your other hand.

An important part of setting up the transmitter for use is to ensure that the green crocodile clip is connected to as good an earth as possible. Bear in mind that if you are trying to trace a disconnected Live or Neutral conductor in a three core cable there is a good chance that the accompanying earth wire will also be disconnected and will be incapable of providing the Earth needed.

To enable easy connection to a good Earth we have included with the tester an adapter that enables you to connect the green 4mm plug directly into the

Earth of a 13A socket. If you are using it in a location where a socket is not available the crocodile clip can be used to connect the green lead to an earthy' point, such as bonded metal work or even a nail in a plaster wall.

3.3 Sensitivity and Reset Function

In use the receiver will automatically adjust its sensitivity to the maximum strength of signal received since it was last reset. The sensitivity is reset each time the 'POWER ON' button is pressed.

The indications given by the receiver are:

- SCANNING FOR SIGNAL / NO SIGNAL DETECTED: Indicated by only the 'NO SIGNAL' LED being lit whilst accompanied by a steady beeping tone.
- SIGNAL DETECTED: A higher pitched tone beeping with greater frequency; normally accompanied by one or more of the signal strength LEDs being lit.
- MAXIMUM SIGNAL DETECTED: All signal strength LEDs lit accompanied by a continuous or rapidly beeping high pitched tone.

3.4 Cable Tracing

In ideal conditions the receiver can trace a signal over half a meter away from the cable being traced. The effects of wood, plaster (especially if damp) or screened plasterboard will reduce the signal. Earthed metal conduit may shield it completely.

Once the transmitter has been turned on and connected to the conductor under test the receiver should be turned on or reset whilst being held away from the circuit. Slowly bring the receiver towards the circuit until it recognises the test signal. This is normally indicated by a sudden change from a NO SIGNAL indication to a MAXIMUM SIGNAL indication.

It is important to only bring the receiver as close as is necessary for it to recognise the signal and to stop at this point and move the receiver away from the circuit. You will notice that the receiver now indicates varying signal strength as you move further from or closer to the distance at which it recognised the signal.

The receiver will now operate at a maximum sensitivity which is ideal for cable tracing.

Do not touch the cable that you are tracing (even the outer insulation) with your other hand or you will effectively short out the signal you are tracing.

For the reasons mentioned above it is important to keep your grip on the receiver consistent whilst tracing a circuit.

If at any stage the receiver is brought into close proximity with the circuit under test (including the red test lead) the sensitivity will adjust automatically to the stronger signal and thereafter give a positive indication only when a similarly strong signal is received, i.e. when it is very close to the circuit.

If this happens and you need to increase the sensitivity to continue tracing the circuit (for instance where a cable in surface mounted conduit disappears behind a dry lined wall) you will need to remove and reset the receiver before repeating the signal recognition process described above.

As it is possible for the test signal to bleed into neighbouring conductors, particularly at points of poor insulation, best results will be achieved by grounding other neighbouring conductors where possible. If this cannot be done it is recommended that upon having traced a cable to its remote point a check is made to ensure that it is the required circuit and that you have not followed an induced signal in a neighbouring cable.

You can do this by resetting the receiver and touching it onto the cable immediately next to the red clip. This will have the effect of de-sensitising the receiver so that it only responds to a very strong signal. Without resetting the receiver touch the cable at the remote point and a maximum or close to maximum strength indication should be given.

3.5 Fuse Finding

Open all breakers or remove fuses even if dead. Otherwise all circuits will have a signal on them. If you are familiar with live circuit fuse finders the principles are similar but it is worth experimenting with the position of the DCF200 receiver sensor tip relative to the breaker as it is different to live circuit fuse finding.

3.6 Cable Sorting

To trace individual cables in a multi conductor bunch completely avoid touching any other wires even the outer sheaths with your other hand as this will effectively short out the signal you are tracing.

In any situation where there are multiple conductors optimum results will be obtained by grounding or earthing all other conductors except the circuit under test. IT IS ESSENTIAL TO ENSURE THAT ALL CONDUCTORS ARE DEAD BEFORE DOING THIS.

3.7 Finding a Break in a Cable

Again avoid holding or touching the cable with your other hand. Trace the cable slowly and at the point the signal falls off you are within about 0.5 metres of the break (or more likely the disconnection).

3.8 Functions

Transmitter Functions

Power on button: Short press to turn the unit on. Long press to turn the unit off.

When connecting the transmitter to a conductor check the colour of the 'POWER ON' LED.

GREEN: Everything is good

RED: Hazard. The leads have been connected to the mains or a conductor with voltage on it. Remove the leads and check the voltage with a voltage Indicator and ensure the conductor is dead before re-testing.

ORANGE: Short circuit. The Red and Green leads are connected to the same circuit. Remove the Green lead and attach it to Earth or Neutral.

FLASHING: Low battery

Auto shut off after 30 minutes. Battery life of approximately 60 hours.

Receiver Functions

Short press to turn on; Short press (when in operation) to reset memory. Long press to turn off.

Bar Graph: Peak signal tracking with bar graph

Flashing: Low battery

Beeper: Relative (peak tracked) strength is indicated .
 Continuous tone = The strongest signal since reset.
 Intermittent beep = weak compared with peak signal.
 Absolute strength indicated by pitch (tone). Higher tone = stronger signal.

At power up or reset the receiver waits for a signal to wake up.
 Auto shut off after 3 minutes.

Self Test Put the transmitter on the bench with both wires separated. Hold the receiver and switch on. Tracing either wire should indicate well (as they are both giving a signal). Reset before use.

4. Maintenance and Service

If required, clean with a damp cloth and mild detergent. Do not use abrasives or solvents. Take care not to allow water into the unit.

Access to the protective fuse is gained through the battery compartment.

Contact Socket and See for parts and technical assistance.

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Specification	
Operating Voltage	9V DC
Overtoltage Category	Protected against accidental mains connection up to 440 V
Power supply	Transmitter 9V 6F22 Battery Receiver 9V 6F22 Battery
Weight	950g
Dimensions	260H x 230W x 70D (mm)

Ordering Information

Item	Supplier Code
Easy Fuse Finder	SOC/FFCB100UKA
Easy Fuse Finder (Inc additional 2-way lead set)	SOC/FFCB200UKA
Dual Voltage Fuse Finder Kit	SOC/FFCB1140UK
Dead Circuit Finder	DCF200
Combined fuse and dead circuit finder kit (FFC200/DCF200)	SOC/FFCDCFKIT

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