

## FWS 80 USER MANUAL

Dear customer,

Thank you for your confidence in us having purchased a geo-FENNEL instrument. This manual will help you to operate the instrument appropriately.

Please read the manual carefully - particularly the safety instructions. A proper use only guarantees a longtime and reliable operation.

geo-FENNEL  
Precision by tradition.

### SUPPLIED WITH

- Wall detector FWS 80
- 3 x AAA Alkaline battery
- User manual

### CHARACTERISTICS

- For detection of metal, wood and living wires in ceiling, wall and floor.

### Technical data

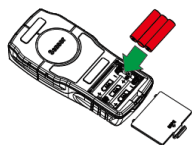
Max. measuring depth	
• Ferrous metals	80 mm
• Non-ferrous metals (i.e. copper)	50 mm
• Wires/conductors (living wires)	50 mm
• Wood stud	20 mm
Sound indication	yes
LED indication	red, orange, green
Display indication	LCD 2.2"
Indication of centre of objects	yes (wood, metal)

Illuminated display	yes
Automatic calibration	yes
Measuring unit	cm, inch
Temperature range	0°C - + 50°C
Automatic shut-off	yes
Power supply	3 x AAA
Operating time	8h
Dust/water protection	IP 54
Dimensions	149 x 70 x 30 mm
Weight (instrument with battery)	0,15 kg

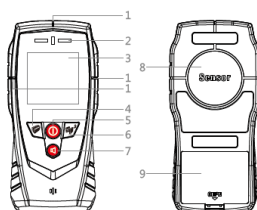
\*dependent on object type and size, as well as condition and material of the underground

### POWER SUPPLY

The FWS 80 comes with Alkaline batteries. Open the battery cover of the unit, insert the batteries and close the battery cover again.



### OPERATING ELEMENTS



1. Positioning mark
2. LED indication (red, orange, green)  
Green: calibration completed, wall detection starts  
Red: object detected, object centre localized  
Orange: object detected, object centre not localized
3. Display
4. Non-metal detection mode
5. ON/OFF key

6. Metal / AC detection mode
7. Sound on/off / Measuring units (cm/inch)  
Press the key to switch on/off the sound; keep the key pressed to switch the measuring unit cm/inch (only in metal detection mode)
8. Sensor
9. Battery case

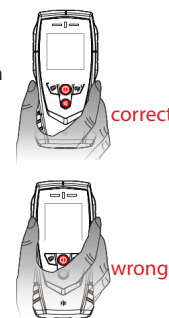
### DISPLAY INDICATION



- sound off
- error; measurement failed
- living wire detected; alarm in all modes
- battery status indication
- „approach object centre“ indication
- „object centre“ indication
- „object depth“ indication; in metal detection mode only; reference value only for an object diameter of 20 mm
- non-metal detection mode
- non-magnetic metal detected
- magnetic metal detected
- A/C detection mode
- metal detection mode

### OPERATION

When executing a detection take care that the sensor is not covered by your hand.



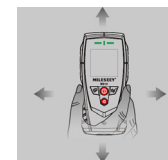
When measuring the object depth the instrument will reach the best accuracy if the object is a rebar with a diameter of 20 mm.

In all detecting modes an alarm signal will sound if a living wire is detected.

In non-metal detection mode the instrument must be moved closely over the area to be measured. When the instrument was lifted from the surface during the detection process it must be re-started with a calibration. Press the non-metal detection key.

### CALIBRATION AND DETECTION

Place the detector on the surface to be checked (i. e. on a wall) and power on the unit. When the LED indicator turns green the calibration is completed and the detection process can start.



Now move the device smoothly on the surface to be measured to start the detection process.

During the detection process the LED indication will change the colour as below:

GREEN:  
No object detected.

RED:  
Object detected.  
ORANGE:  
Object passed ; move the device back.

When the LED indication turns red and this icon appears the centre of a magnetic, non-magnetic or living wire object has been detected.

In metal detection mode also the object depth will be indicated, i. e.

When the detector detects a living wire an alarm signal will sound and the icon will flash.

### LIMITATIONS

The measuring results will be falsified or not possible if:

#### Mode

#### Metal

- the object is too small
- the object is too large (holohedral)
- there are too many ambient objects
- the object is too deep

#### Current

- the power cable is not living
- the power cable is covered by a metal cable channel
- the power cable is running in a dry wall construction with metal stud wall
- the power cable is too deep

#### Wood

- the object is too deep
- the object is located under a humid wall, wall paper with metal filament, ceramic tiles

#### General

- disturbances due to electromagnetic fields

## INTENDED USE OF INSTRUMENT

For detection of metal, wood and living wires in ceiling, wall and floor.

## CARE AND CLEANING

Handle measuring instruments with care. Clean with soft cloth only after any use. If necessary damp the cloth with some water. If the instrument is wet clean and dry it carefully. Pack it up only if it is perfectly dry. Transport in original container / case only.

## ELECTROMAGNETIC ACCEPTABILITY (EMC)

It cannot be completely excluded that this instrument will disturb other instruments (e.g. navigation systems); will be disturbed by other instruments (e.g. intensive electromagnetic radiation nearby industrial facilities or radio transmitters).

## CE CONFORMITY: According to

EN 301 489-1 V2.2.3  
EN 301 489-3 V2.1.1  
EN 303 454 V1.1.1  
EN 62311:2008  
EN50665:2017  
EN 61010  
EN 60529

## EXCEPTIONS FROM RESPONSIBILITY

1. The user of this product is expected to follow the instructions given in the user manual. Although all instruments left our warehouse in perfect condition and adjustment the user is expected to carry out periodic checks of the product's accuracy and general performance.
2. The manufacturer, or its representatives, assumes no responsibility of results of a faulty or intentional usage or misuse including any direct, indirect, consequential damage, and loss of profits.
3. The manufacturer, or its representatives, assumes no responsibility for consequential damage, and loss of profits by any disaster (earthquake, storm, flood etc.), fire, accident, or an act of a third party and/or a usage in other than usual conditions.
4. The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits due to a change of data, loss of data and interruption of business etc., caused by using the product or an unusable product.
5. The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage other than explained in the user manual.
6. The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement or action due to connecting with other products.

## SAFETY INSTRUCTIONS

- Follow up the instructions given in the user manual.
- Use the instrument for measuring jobs only.
- Do not open the instrument housing. Repairs should be carried out by authorized workshops only. Please contact your local dealer.
- Do not remove warning labels or safety instructions.
- Keep the instrument away from children.
- Do not use the instrument in explosive environment.
- The user manual must always be kept with the instrument.

## WARRANTY

This product is warranted by the manufacturer to the original purchaser to be free from defects in material and workmanship under normal use for a period of two (2) years from the date of purchase. During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or similar model at manufacturers option), without charge for either parts or labour. In case of a defect please contact the dealer where you originally purchased this product. The warranty will not apply to this product if it has been misused, abused or altered. Without limiting the foregoing, leakage of the battery, bending or dropping the unit are presumed to be defects resulting from misuse or abuse.