

MP20

Universal Metal Detector

Condensed Operating Instructions

The MP20 is fairly simple to operate. In the following all functions and features are described briefly.

Controls/Connections/Batteries

On the front panel you find a toggle switch and a volume control.



The toggle switch has a neutral central position, a momentary position for the functions ON/OFF and TUNE and a locking position to activate a second search program.

After removing the battery cover you have access to the batteries and to a small quadruple slide switch to alter initial settings of the MP20.

The connections for the COIL and the PHONES are located on the rear panel.



Even if no phones are connected, the included adapter must remain in the PHONES connector!

Selecting initial settings

The internal quadruple slide switch allows to select the following initial settings. For any alteration the MP20 must be turned off! The standard position of all switches is "OFF".

Switch 1 Enables or disables a ticking tone when there is no detection signal

OFF Ticking tone is enabled

ON Ticking tone is disabled

Switch 2 Selects static or dynamic search mode

OFF Static mode

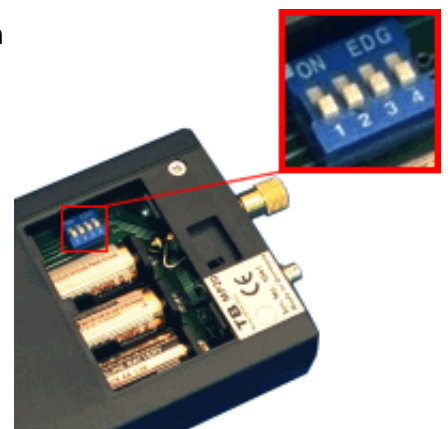
ON Dynamic mode

Switch 3 Selects features of second search program

OFF Compensating program

ON Program for larger objects

Switch 4 Not used



Turning on the MP20

The detector is turned on by moving the toggle switch to the left (ON/OFF). To avoid unwanted operation by accidentally activating the switch, it must be held in the left position for at least one second. The MP20 emits two tones, one low and one high pitched, to confirm its operation.

Now, an automatic offset tuning compensates all metal objects which are close to the coil and tunes to maximum sensitivity. For this reason ensure that no metal is close to the search coil while turning on the MP20!

When the automatic tuning is completed, the built-in speaker, respectively the headphones, are activated and the detector is ready for operation.

Operation

When approaching a metal object, the MP20 emits a continuous audible tone which increases in pitch and volume. With no metal object close to the coil, the continuous tone disappears and instead of that a ticking tone is generated.

If the MP20 becomes less sensitive (for example by altered soil conditions), the ticking tone disappears. In this case, a manual tuning should be activated (see "Static/dynamic mode").

The ticking tone can be disabled by the internal switch #1.

The VOLUME control can be used to adjust the volume of all audio signals.

When connecting headphones, the built-in speaker will automatically turn off.

Changing search programs

The MP20 has three search programs. After turning on, the universal and most sensitive program 1 is activated. This program offers the following features:

- Maximum total sensitivity
- No interference by normal soils
- Slightly affected by salt water
- Highly affected by iron mineralized soils

By the internal slide switch #3, one of the following two special programs is assigned to program 2 (see "Selecting initial settings")

a) Compensating program with the following features (slide switch #3 "OFF"):

- Total sensitivity compared to program 1 is slightly reduced
- Compensates soil with high iron mineralisation
- Rejects small pieces of tinfoil
- Not to be used in salt water

b) Program for larger objects with the following features (slide switch #3 "ON"):

- Total sensitivity compared to program 1 is reduced considerably
- Rejects tinfoil and small metal pieces
- No interference by salt water
- No interference by normal soils
- Slightly affected by iron mineralized soils

To activate program 2, turn the toggle switch to the locking position (PRGM 2). The MP20 recognizes the change and emits two high pitched tones. An automatic offset tuning follows, and then the MP20 is ready to operate with program 2.

To reactivate program 1, turn the toggle switch back to its neutral middle position. After two seconds the MP20 emits two high pitched tones, tunes again and is ready to operate in program 1.

Static/dynamic mode

The internal slide switch #2 selects static or dynamic mode.

Static mode

In the static mode, the MP20 automatically tunes to maximum sensitivity only once, namely when turning on. Should the operating conditions change while searching (e.g. soil conditions, temperature), a manual tuning might become necessary.

In this case, the toggle switch should be moved to the left (TUNE) for a moment, while the search coil is held in the correct distance from the ground. The audio tone is turned off, a retuning to maximum sensitivity follows, and finally the audio tone is reactivated.

If the search program 2 is active (toggle switch in locking position), it is enough to move the switch to the central position and back to the locking position.

Dynamic mode

In the dynamic mode, the MP20 also automatically tunes when turned on. Additionally, the sensitivity is continuously optimized while searching. All detection signals will be tuned out with a short delay, so that the detector adapts automatically to changing conditions, like different soils or temperature alterations. However, the search coil must be kept in motion while searching.

Sometimes it might be useful to disable the dynamic mode temporarily, e.g. for pinpointing a target. If the toggle switch is moved to the TUNE-position for a moment, the MP20 operates in static mode so that the target will not be tuned out even with no motion of the coil. Moving the toggle switch to the TUNE-position for a moment again, reactivates the dynamic mode.

Turning off the MP20

To turn off the MP20, move and hold the toggle switch in the left position (ON/OFF) for at least one second. You will hear two tones, one high and one low pitched, and the MP20 turns off.

Warning and error signals

Low battery warning signal

Weak batteries are indicated by a series of four short tones which are repeated every 12 seconds. When an object is detected at the same time, the warning tones are delayed by up to 60 seconds. The MP20 can be used for some more hours, however, the batteries should be replaced as soon as possible.

Offset warning signal (in static mode only)

When the MP20 becomes insensitive (e.g. by changing soil conditions), a short high pitched tone, repeated every two seconds, is emitted. If necessary, a manual tuning can be started.

Error signal

An error signal (continuous series of long tones) is emitted in the following cases:

1. Search coil is not connected or connecting cable is broken
2. Auto power off

To save batteries, the MP20 is automatically turned off if for a period of 20 minutes no detection signal has been received or the toggle switch has not been used.

In both cases the error signal is generated for 20 seconds before the MP20 finally turns off.



tb electronic GmbH · Hall-Straße 5 · D-58638 Iserlohn · Germany

Tel: +49-2371-14622 · Fax: +49-2371-14623

[Home](#)