PRESS RELEASE

Cable fault pin-pointing and tracing: faster and accurate with the new AFP audio frequency probe

Sulz (Austria), August 2022 – Where's the cable? Where exactly is the fault? Measurement engineers now get a much faster and satisfactory answer to both of these questions as BAUR has now added the AFP audio frequency probe to the protrac® system to provide valuable functions for cable fault pin-pointing and tracing with audio frequency. The AFP audio frequency probe has a 3D Space coil, which simplifies handling and delivers more accurate results. This in turn speeds up both the cable tracing and the pinpointing short-circuits between phases. In fact, the audio frequency probe has four coils – the fourth coil is used for the depth measurement, which can be done as a direct measurement or by the 45° angle method. Using these two measurement methods, it is possible to reliably determine the laying depth, even in difficult conditions. This reduces the risk of imprecise, lengthy excavations and potential cable damage.

The AFP is easy to operate: there is no need to manually align coils or the receiver, and all important information can be captured and verified in a single sequence. Operators are able to use the minimum, maximum, C-Max or twist and minimum distortion methods process to carry out their task. Assistance is provided during tracing by the Tracing Compass function and the Deviation Alert, which indicates interference (e.g. by overhead lines), avoiding leaving the correct route. The BAUR 3D History Track is another innovative and helpful display function. It presents the data of the 3 coils over the lapsed time period, simplifying the twist and minimum measurement and thus the determination of lay length, joint or fault positions.

The all-in-one system

The new BAUR AFP audio frequency probe completes the available range of tracing and cable fault pin-pointing solutions. With the CU control unit, the AGP acoustic ground probe, the new AFP audio frequency probe, the SVP step voltage probe and optional Bluetooth® headphones, the protrac® system now offers everything the operator needs, as the clearly uncluttered set supports:

- Acoustic/magnetic pin-pointing with surge voltage generator
- Twist method for locating short-circuits in 3-phase cables
- Minimum distortion method for locating short-circuit faults in coaxial cables.
- Tracing with all known methods (minimum, maximum, C-Max)
- Measuring probe for locating sheath and earth faults

More information at https://www.baur.eu/en/protrac







Printable images can be found under [this link](#).

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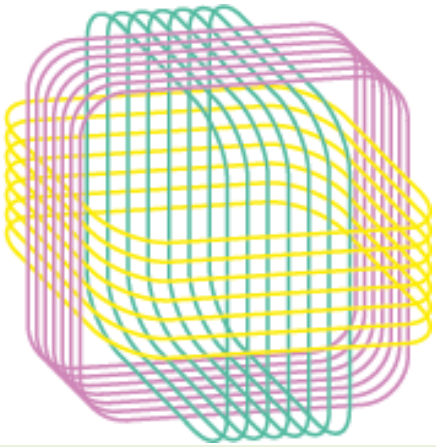
========== **Product features in detail** ==========

Simply select instead of aligning manually

The AFP audio frequency probe makes tracing and fault location easier. Due to the 3D Space coil, there is no need to align the probe or coils for any method.
The Minimum and Maximum method and the C-Max method can be selected at any time. This makes operations easier and saves time.



3D Space coil makes work fast and precise

At the core of the new AFP audio frequency probe lies the 3D Space coil, whose three coils are arranged along the x-, y- and z-axes. As they are positioned at identical distances to the cable, their directly comparable signals do not require lengthy analysis.

The 3D arrangement of the AFP Coils eliminates the need for mechanical alignment. As the AFP always provides the measured values of all coils to the protrac control unit, the maximum, minimum and C-Max methods are always available. (The C-Max method combines the maximum signal and the minimum signal so that the amplitude and its maximum are easier to determine.)

The parallel evaluation of the coil measurement values is also the key to the Tracing Compass function, which displays a deviation from the actual cable route on the protrac CU (control unit), providing the operator with a recommended direction correction.

The smart way of getting things done

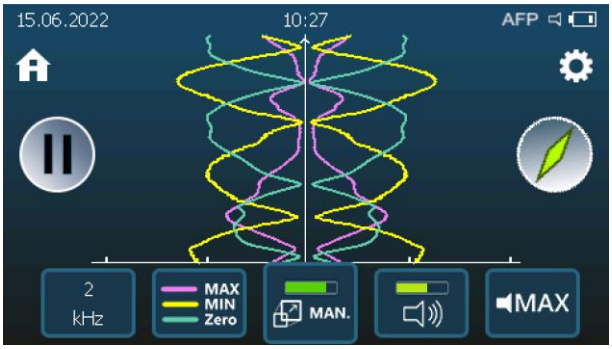
Twist method, minimum distortion, mapping or joint detection – in all of these scenarios, the operator is able to rely on the assistance of digital technology. Digital evaluation delivers results that are easy to read, increasing the accuracy and speed of work conducted in the field. This additional precision accelerates the pin-pointing of faults.

Eliminates misdirection

Unforeseen changes in the cable position or external influences – such as that caused by an overhead line – have often led the users into a wrong direction when tracing. The Deviation Alert function helps the user stay on track. This function compares upper and lower coil signals and warns in case of a distorted or unlogical signal. Above all, this saves time during tracing and fault identification if the track of the cable is improperly documented.

A look back for more far-sighted operation

The 3D-History Track visualises complex, time-dependent data in the simplest of ways. This simplifies the application, especially during the difficult process of locating short-circuit faults with the twist or minimum distortion method, as the key data and their changes are displayed over a long, adjustable time period, making changes easy to recognise.



No unnecessary, expensive excavations

By the availability the two depth measurement methods – direct and 45°, it is possible to identify possible field distortions. Inaccurate depth measurements are revealed, and the results of both depth measurement can be compared. This increases the reliability of the depth measurement results, making it possible to keep excavation and road work to a minimum. This reduces the risk of imprecise excavations – and thus the danger of causing damage while excavating.

Two types of depth measurement

The fourth upper coil is used for the direct depth measurement. The AFP supports both the direct depth measurement, for which the sensor is located directly above the cable and the depth calculated based on the difference between upper and lower coil, as well as the 45° measurement based on the minimum method for detecting any unsymmetrical field.

Bluetooth® instead of tangled cables

Both the data transmission between the AFP and the protrac CU, as well as the audio stream from the probe to the headphones use Bluetooth®. By the Bluetooth® short-range radio connection, there is no need for any cables, which means there are no problems with broken cables or loose connectors. Non-existent cables cannot be lost.

Keep your ears open in traffic

If wearing the headphones is uncomfortable, the loudspeaker integrated in the protrac CU offers an alternative. It is safer for use in traffic, as it provides the users with the audio signals without being shielded from ambient noise.

Gets through the day with you

The protrac pin-pointing and tracing system and its sensors have ample battery capacity. One battery charging session typically lasts for more than a day. To ensure the equipment is always ready for use and to make it convenient to charge, the vehicle transport mount provides a secure transport and charging of the components, having them ready for use when arriving on site.

Multiple benefits: faster, more cost-effective and more reliable

The innovations of the AFP audio frequency probe accelerate tracing and pin-pointing of faults, and provide easy and reliable use. This is of benefit to all, the user in the field, as well as the asset manager and the energy customers. Thanks to the new features, the work on site is carried out significantly faster, excavations are better prepared, the time to a fault repair is shortened, and most important, the costs can be reduced. The customer supply is much fast back on line. The easy use of the 3D-Space coil and the use of functions such as the Tracing Compass and Deviation Alert makes the work of the users in the field far easier and prevents them from spending unnecessary time on tracing and cable fault pin-pointing.