

# Borehole modular probe/ Precursor probe

BMS/ BMS-V35/1

HQ

Art.-No. 78.00



The borehole modular probe BMS has been constructed for high-precision borehole surveying in two axes in horizontal and vertical tubes or borings. The modular construction offers the advantage that the basic probe can be adapted to the measuring tubes or borings by means of exchangeable guiding modules and can fulfil the demands of customary measurements by complementary probe modules.

For acquisition of the X-coordinates in the horizontal surveying, the precursor module is used by coupling to the basic probe. The module has an optical sensor for the measuring axes X and Y. The measured value is produced by the angle change of the precursor module to the basic module. These modules are mechanically connected to each other by a ball and socket joint. The measured values are managed by a slave-controller with calibration constants and transmitted via the existing RS485-interface.

## Technical data

Length/ Ø:	1.0 m/ Ø 30 mm
Weight:	2.4 kg
Measuring range:	± 30 °, max. ± 60 °
Linearity:	± 0.02 % f. s.
Temperature range:	-5 to +60 ° C
Guiding tubes:	max. Ø 75 mm, min. 35 mm
Resolution:	0.1 mm up to max. 30 ° opt. 0.01 mm to 10 °
Hysteresis:	0.001 % f. s.
Zero error:	± 0.005 % f. s./ ° C

## Guiding Modules

- 2-point wheel-balancers guidance for horizontal and vertical measuring tubes with guiding grooves
- 3-point single-roller guidance with insert rolling bearings
- 3-point balancers-roller guidance with insert rolling bearing
- 3-point balancers-roller guidance with sliding reels for simple borehole surveying with guide rods
- Solutions according to client's specification

## Basic probe and extension modules

- Basic probe BMS-B35/1 with the measuring axes horizontal-H, vertical- A, vertical-B and temperature sensor
- Precursor module -V35/1 with the measuring axes X and Y in reference to the basic probe
- Video module -V40/1 with colour picture super VHS and wide-angle optics
- Distortion angle module -D35/1 for torsion measurement of inclinometer guide tubes
- Calibre module -K40/1 for recording of boring and measuring tube diameters
- Compass probe -R40/1 for site measurement of horizontal borings without piping
- Temperature module -T35/1 for determination of surface temperature in borings
- Solutions according to client's specification

Fig. left borehole modular probe BMS, right precursor probe BMS-V35/1