

Break Down Voltage Measurement

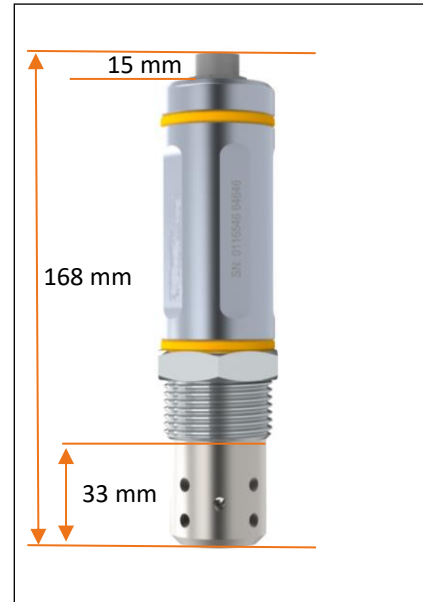
MicaSonic BDVB Oil-Stick

1. Application

This product is designed exclusively to measure online the break down voltage, water content and temperature of a mineral transformer oil.

2. Description

The main measurement module is located in the metal housing. The measurement zone is made of Anodized Aluminium. The holes in the measuring zone allow filling the internal sensors with transformer oil. The BDVB device is equipped with a 1 inch thread which allows assembling the device at the target place. The device can be mounted in any position. A free oil flow must be provided at the measurement zone. The cable plug socket is placed on the top of the unit. The connection between the device and the host is provided by the delivered cable. The user should connect the device to a computer, or a similar device, via the TCP-IP (LAN-Cable). Cable is provided.



3. Technical specifications

Performance	
Breakdown voltage (BDV)	10kV to 120kV (ca. 5%)
Water Content (Wc)	2.0 ppm – 80 ppm (ca. 2%)
Temperature measurement range	-40°C to 120°C
Accuracy	±0,2°C typical
Measurement interval (selectable)	0.1s (via MODBUS)
Operating environment	
Ambient temperature range	-20°C to 70°C
Oil temperature range	-20°C to 85°C
Operating pressure	Up to 3bar
Inputs and outputs	
Power supply	7.5V – 14.5V (12.0V recommended)
Digital output	Digital protocol
PC interface	MODBUS TCP/IP
Internal data logging capacity	64 latch buffer cache chains
General	
MODBUS cable	Ca. 1,5m length
Housing material	EN-AW-6063
Mechanical connection	R 1"
Measuring zone material	EN-AW-7075

MICAFLUID AG, Schweiz

Performance	
Housing classification when assembled	IP68
Control software (Windows 7 or later)	Ver. 2.0
Absolute maximum ratings	
Maximum operating voltage	15.0V
Operating temperature	-40°C to 100°C
Maximum pressure	5bar
Storage temperature (without MODBUS cable)	-65°C to 150°C

We recommend the use the power supply system 787-1011 of Wago Contacttechnik GmbH & Co. KG, or equivalent, to keep the compliance with EU directives.



Stress above those listed under "Absolute maximum ratings" may cause permanent damage to the device.

BDVB Oli-Stick Basic has been tested by an accredited unit according to EN61326-1, a Class A measuring instrument. The accredited unit confirm the complies with the following regulatory requirements:

- EN 61000-4-2: 2011
- EN 61000-4-3: 2014
- EN 61000-4-4: 2013
- EN 61000-4-5: 2014
- EN 61000-4-6: 2014
- EN 61000-4-11: 2007
- CISPR11: 2015 + AMD1: 2016, EN55011: 2016 + A1: 2017, EN55011: 2016 + A1: 2017-06
- EN 60950-1: 2007 + A11: 2009 + A1: 2011 + A12: 2011

[kV]														
100			+/- 4%							+/- 5%		>5%		
90			+/- 2%											
80														
70														
60														
50			+/- 1%							+/- 3%				
40														
30														
20														
10														
	10	20	30	40	50	60	70	80	90	100	[°C]			

Table 1 Breakdown Voltage Measurement Range Accuracy v. Temperature