GapTester

Timesaving and convenient method for adjusting the correct gap of an eddy-current proximity probe

Instruction Manual © November 2015

Contents:

1. WARNINGS

The instruction manual is an integrative part of the product delivery and the overall security concept of the product. Please read the instruction manual carefully before using the product, and keep it available for future reference. Non-observance of warning information excludes the manufacturer from liability! The measuring system is only allowed to be put into operation by qualified personnel who have previously read the information provided in this instruction manual. In case of doubt, the prevailing conditions of the area of application and the resulting requirements have to be examined by an expert before operation can be commenced.

Correct transportation, appropriate storage and professional assembly, operation and maintenance must be provided in order to ensure perfect functioning.

2. SCOPE OF SUPPLY (KS02-08/10)

- 1 **GapTester**
- 3 batteries (installed)
- 1 BNC connection cable
- 1 BNC adapter
- 1 instruction manual

3. ADJUSTMENT OF THE GAP SETPOINT

The **GapTester** can be adjusted for two voltage values (8 V resp. 10 V). For this first the 4 screws have to be loosened The adjustment can be changed via a jumper on the board. The factory setting corresponds to 8 V (jumper open). Jumper closed corresponds to 10 V.

After turning on the **GapTester** the adjusted voltage is indicated as follows: in case of an 8 V adjustment all horizontal LEDs blink for 1 second; in case of a 10 V adjustment all vertikal LEDs blink for 1 second. The jumper can even be changed during operation, the device will turn off then.

4. MEASURING SETUP

The **GapTester** has to be connected with the GAP output of the vibration transmitter / oscillator / proximitor (vibration module). Therefor the **GapTester** is provided with a BNC test cable as well as a BNC adapter.

Most vibration modules are equipped with a BNC connector to grip the raw signal for a FFT analysis. With this BNC connector you can also grip the GAP voltage. In this case the GAP voltage can be measured by using the BNC connector. If there is no BNC connection, the **GapTester** has to be connected to the terminals GAP (+) and COM (-), using a standard measuring cable with flying leads or with test prods.

5. ADJUSTING THE CORRECT PROBE GAP

In order to have both hands available for the adjustment the **GapTester** can be fixed on a suitable surface with a strong magnet on its backside.

Switch on the **GapTester** by pushing the "ON"-button. Subsequently you should register the automatic function test: all LEDs flash once in a row. If the **GapTester** doesn't measure a voltage > 3.0 V for more than 30 seconds it switches off automatically. The capacity of good batteries lasts for over 100 hours of operation.

The LEDs show the GAP voltage as follows. If all three green LEDs light up, the adjustment of the probe gap is optimal. One green LED already signals an acceptable probe gap. The adjustment is carried out by turning the adjusting sleeve of the probe holder; the required direction of rotation is shown below the LED-Display.

JUMPER OPEN (GAP setpoint 8 V):

GAP voltage	Display **GapTester**	Comments for adjustment of correct probe gap
0,0 … < 3,0 V	red LED left (flashing)	low voltage! **GapTester** switches off after 30 sec.
3,0 … < 6,0 V	red LED left	turn adjusting sleeve CCW!
6,0 … < 7,0 V	yellow LED links	further CCW!
7,0 … < 7,5 V	1 green LED	acceptable adjustment - further CCW!
7,5 … < 7,8 V	2 green LEDs	good adjustment - further CCW!
7,8 … < 8,2 V	**3 green LEDs**	**optimal adjustment of the probe gap!**
8,2 … < 8,5 V	2 green LEDs	good adjustment – further CW!
8,5 … < 9,0 V	1 green LED	acceptable adjustment - further CW!
9,0 … < 10,0 V	yellow LED right	further CW!
10,0 … < 13,0 V	red LED right	further CW!
13,0 … < 20,0 V	red LED right (flashing)	high voltage! Turn adjusting sleeve CW!

CW = clockwise, CCW = counter-clockwise

JUMPER CLOSED (GAP setpoint 10 V):

GAP voltage	Display **GapTester**	Comments for adjustment of correct probe gap
0,0 … < 3,0 V	red LED left (flashing)	low voltage! **GapTester** switches off after 30 sec.
3,0 … < 8,0 V	red LED left	turn adjusting sleeve CCW!
8,0 … < 9,0 V	yellow LED links	further CCW!
9,0 … < 9,5 V	1 green LED	acceptable adjustment - further CCW!
9,5 … < 9,8 V	2 green LEDs	good adjustment - further CCW!
9,8 … < 10,2 V	**3 green LEDs**	**optimal adjustment of the probe gap!**
10,2 … < 10,5 V	2 green LEDs	good adjustment - further CW!
10,5 … < 11,0 V	1 green LED	acceptable adjustment - further CW!
11,0 … < 12,0 V	yellow LED right	further CW!
12,0 … < 13,0 V	red LED right	further CW!
13,0 … < 20,0 V	red LED right (flashing)	high voltage! Turn adjusting sleeve CW!

CW = clockwise, CCW = counter-clockwise

6. CHANGE OF BATTERIES

- Open **GapTester** by unlocking the 4 screws on the front side
- Take off the front cover

→ **BEWARE: mind the cable connection between casing and front cover!**

→ **CAUTION: do not touch the electronics inside the GapTester!**

- Remove batteries (non-rechargeable!) and replace them by new batteries
- Put front cover back on the casing; make sure that the cables inside are placed in the free space next to the battery holder
- Close **GapTester** by locking the 4 screws on the front side

7. TECHNICAL DATA

GAP-voltage	0 … 20 V, 25 Vmax
Internal resistance	1,3 MΩ
Voltage supply	3 pieces 1,5 V primary cells (Mignon, AA / LR06)
Protection class	IP54
Dimensions	103 x 64 x 45 mm
Weight	150 g (without batteries)

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