





# Table of Contents

- 1 Technical data..... 1
  - 1.1 Electrical specifications..... 1
  - 1.2 Connectors..... 2
    - 1.2.1 Input connector pinout..... 2
    - 1.2.2 Output connector pinout..... 2
- 2 Operation..... 3
- 3 Documentation Version..... 4

# 1 Technical data

## 1.1 Electrical specifications

Trigger / Retrigger level:	$\pm 10$ mV ... $\pm 2$ V (adjustable with screwdriver)
Input type	AC-Coupled, 1Hz
Input impedance	150 kOhm
Max input voltage:	$\pm 50$ Vdc, $\pm 100$ Vac
Power supply output	+5Vdc (max current depending on used DEWESoft device: eg. DEWE-43: max 800 mA)

## 1.2 Connectors

### 1.2.1 Input connector pinout

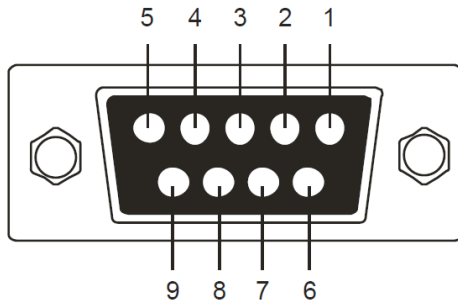


Illustration 1: 9 pin DSUB female

1	P out (+5 V)
2	Signal (Analog in from tacho)
3	n.c.
4	GND
5	+12 V
6	P out (+5 V)
7	GND
8	n.c.
9	n.c.

### 1.2.2 Output connector pinout

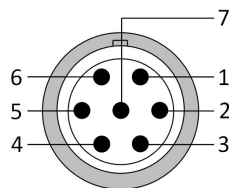


Illustration 2: 7 pin LEMO connector on cable side

1	Digital Out
2	n.c.
3	n.c.
4	n.c.
5	+5V power supply input (from e.g. DEWE-43, SIRIUS)
6	n.c.
7	GND

## 2 Operation

Connect the DS-TACHO1 with the LEMO 7pin to a DEWE-43 or SIRIUS Counter input, and on the DSUB 9pin side to your analog tacho probe signal (e.g. magnetic pick up sensor with screw, 1 pulse per revolution).

Start the rotating machine, then use a screwdriver to manually adjust the trigger level on the DS-TACHO1, see picture below.

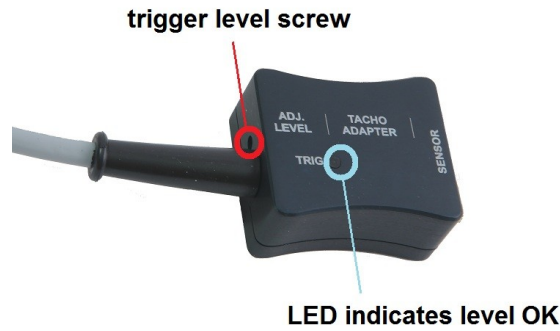


Illustration 3: How to adjust the trigger level

When the trigger is detected correctly, the blue LED will flash. Vary the RPM on the machine to check if the trigger level is ok for the whole RPM range.

The lowest detectable frequency for the counter input on the DEWE-43 / SIRIUS is 5 Hz, therefore if you have 1 puls / revolution, the lowest RPM is 300. If you need to measure lower RPM, you could increase the number of pulses per revolution (e.g. for inductive probe mount a screw every 90° on the rotating disk and then divide result by 4).

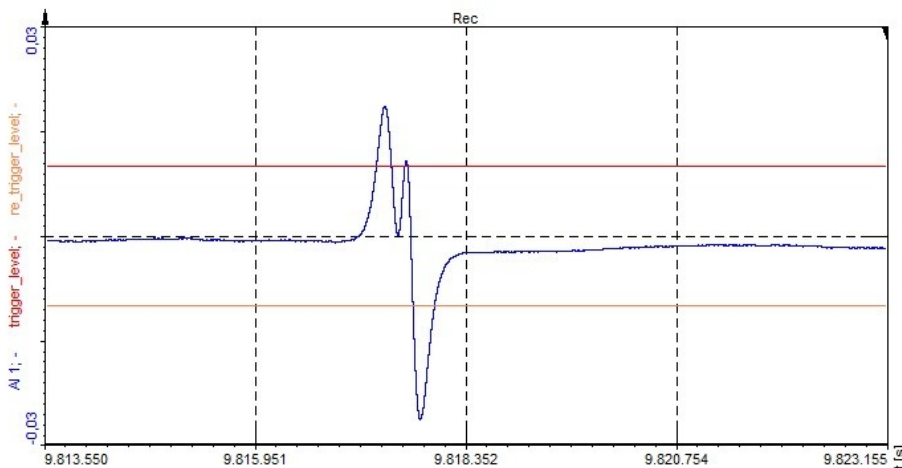


Illustration 4: Example of analog input signal

In this example you see the input signal of a magnetic tacho probe (coil), when a screw on the disk is passing by. The higher the RPM, the higher is the induced voltage, so here you have to set the trigger level low (shown in the picture +/- 10 mV).

The upper (red) line is the trigger level, the lower (orange) line is the retrigger level. The signal has to fall below the lower line to be armed for the next trigger again. This even makes it possible to correctly detect a bad signal as shown above!

### 3 Documentation Version

Last modified: Mon 18 Nov 2013, 12:22

<b>Doc-Version</b>	<b>Date [dd.mm.yy]</b>	<b>Notes</b>
1.0	26.04.13	initial revision
1.1	18.11.13	input connector changed from screw terminal to DSUB 9pin female

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For support please contact support at dewesoft.com.