A4950 Stroboscope
pocket guide

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A4950 is handheld LED stroboscope for a wide range of machinery maintenance applications.
Stroboscope enables to ostensibly stop rotating or generally periodic (reciprocating) motion of a machine. It allows also to find out the speed of rotation or to perform synchronized measurements without having to use reflective markers on the shaft.
The A4950 stroboscope uses three ultra-bright LEDs with optical system as a source of flashes. The instrument is equipped with a colour graphic display and 3-buttons keypad. Operation is very easy and intuitive. Two standard or rechargeable AA batteries are used for powering. The A4950 stroboscope can be used also as a tachometer by connecting an external tacho probe.

Key features

- High power LEDs with lens and reflector system
- Flashing frequency range from 0,5 Hz - 500 Hz (30 RPM to 30 000 RPM)
- Flashing frequency divider and multiplier
- Control of the flash duration
- Phase shift or shift by blades function available
- Flashing controlled by internal or external triggering
- Powering for external laser tacho-probe
- Trigger output for external instrument (balancer)
- Torch mode
- Powered by 2 AA batteries
- Heavy duty case
- Tripod mounting plate

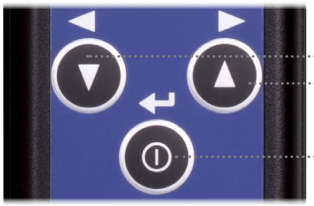
Basic Information

Top panel

TACHO IN/OUT

1 – ground
2 – output trig signal
3 – reserved
4 – tacho probe power
+5 V / 50 mA
5 – input trig signal

Buttons



Arrow buttons

Enter button

Batteries

To open the battery lid
push the hinge
from the back

Switch ON/OFF

Press the Enter button
to switch on the device

Firmware version
Serial number

Press and hold the Enter
button to switch off
the device

Basic control

Arrow buttons

- select the right or left item from the menu at the bottom
- move between items (up/down) in menu

Enter button

- switches the instrument on/off
- confirmes the selection
- selects the middle item from the menu at the bottom

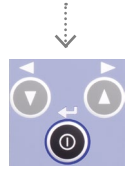
Press the left Arrow button to select this option [-10]

Press the right Arrow button to select this option [+10]

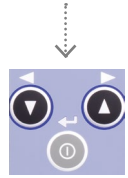
Press the Enter button to select this option [move down]

Menu

1. Switch the instrument on by the Enter button and the MENU appears



2. Use the Arrow buttons to select required Menu item



3. You can select the following items from the menu:

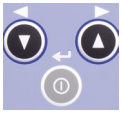
- Strobo
  to switch on and set up the stroboscope
  (see page 8)
- Torch
  to switch on the torch
  (see page 9)
- Tacho
  for speed measurement with external tacho probe
  (see page 10)
- Setup
  to set up units and other features
  (see pages 11-13)
- PWR OFF
  switches off the instrument

Strobo

Use the enter button to move down in the screen

Speed Selection

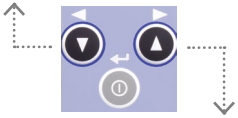
Press the Arrow buttons to adjust the speed



The adjusting step is displayed at the bottom

Divider and Multilplier

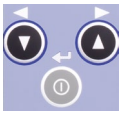
Press the left Arrow button to divide the speed value by 2 [DIV 2]



Press the right Arrow button to multiply the speed value by 2 [MUL 2]

Phase Shift

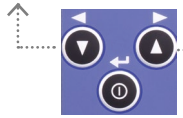
Press the Arrow buttons to adjust the Phase/Blades



You can change this option in Setup (see page 12)

Frequency Step, Setup

Press the left Arrow button to change the speed adjusting step



Go to SETUP

Press the Enter button to get back to the Speed option

Strobo Escape

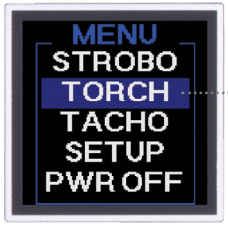
To escape strobo mode, press and hold the Enter button.

Another option is to choose the SET option on the screen Frequency Step, Setup. Select SET for Setup and select the -ESC- option.

You can connect A4950 Stroboscope to the measuring device A4300 VA3 Pro or A4400 VA4 Pro in the Strobo mode and use it as the source of tacho signal.

Torch

In Torch mode the light is still stroboscopic (with the frequency 111 Hz) so in some cases the rotating objects may seem to be not moving.



Select the Torch item in Menu

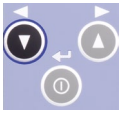
The instrument can be used as a torch in this mode

Press any button to switch off the Torch mode

Tacho

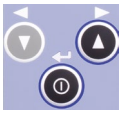
Select the Tacho item for the speed measurement with external tacho probe.

1200 Laser Tacho (optional)



Press the left Arrow button to switch on/off the Strobo

[SET] go to the SETUP



Press the Enter button to exit the Tacho mode

Setup

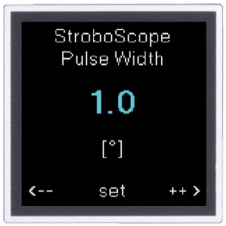
Setup menu items

Select required item with the Arrow buttons and confirm the selection with the Enter button

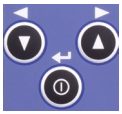
Unit

Select the unit which you will be adjusting during strobo mode or tacho mode (Hz or RPM).
The other unit will be visible during the strobo and tacho mode but you cannot adjust it.

Pulse



Adjust the Stroboscope flash duration with the Arrow buttons



Press the Enter button [set] to confirm

The number on the screen defines the flash duration in degrees regarding to the speed. It means that the flash duration 1.0° is equal to the 1/360 of one rotation time. For example when the speed frequency is 25 Hz, then time period is 40 ms, the one 1.0° flash duration is 40ms/360 = 111 µs.

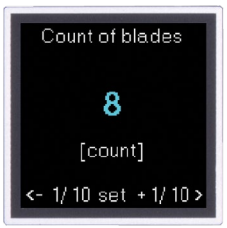
Setup

Phase

Select if you wish to define the phase shift by degrees or blades

Define the phase step in degrees. The phase step will be applied in Strobo mode.

Go back to the Strobo mode and you can change the phase here



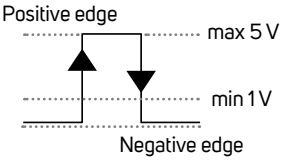
Define the number of blades of the inspected machine. The number will be used in Strobo mode.

Go back to the Strobo mode and you can change the blade here (1st, 2nd, 3rd, ...)

Now selected blades is visible and "frozen"

Signal edge

External trigger input pulse:
1 V - 5 V positive/negative edge



We can define positive or negative edge of external trigger input pulse here, it can be in the range of 1 V - 5 V (positive or negative edge).

Setup menu structure (recapitulation)

- Unit
  - Hz
  - RPM
- Pulse
  - Flash duration setup
- Phase
  - Degrees
  - Blades
- Ext.signal
  - Signal Edge
    - Positive
    - Negative

Technical data

Light source:	3 XR-E ultra-bright LED
Flash frequency range:	0,5 Hz – 500 Hz (30 RPM – 30 000 RPM)
Flash frequency resolution:	0,01 Hz or 0,1 RPM
Flash duration:	0,5° - 10° of revolution frequency
Flash intensity:	approx. 3000 lx (25 Hz/300 mm)
Phase shift:	-180° - +180°
Trigger output pulse:	3,3 V
External trigger input pulse:	1 V - 5 V positive/negative edge
Powering for external tacho:	5 V / 50 mA
Display:	colour graphic OLED display 128 x 128 pixels
Operating time:	up to 20 hours (lithium batteries)
Operating temperature:	-5 °C - 55 °C
Dimensions:	150 x 60 x 35 mm
Weight:	340 g (including batteries)
Tripod mounting:	¼"
Accessories:	laser tacho-probe (optional), trigger cable for VA3, VA4 (optional)

Notes:

Master the language of your machinery.

Adash, spol. s r.o.

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