

SH 2003

Photoelectric Scanning Head SH 2003



Application

The SH 2003 photoelectric scanning head is suitable for use with both LED impulse electronic meters and Ferraris meters, selectable via a switch. Due to its high performance and robust construction it is suitable for both test consoles and portable systems.

Rotor disk scanning of Ferraris meters

The pulsed green light beam allows optimal recognition of differing disk marks, including red, black, matt and gloss. The signal output from the beginning to the end of the black mark is at a positive high level.

LED scanning of static meters

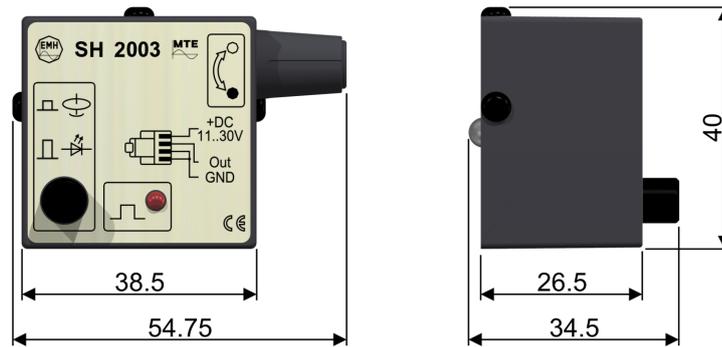
Optical impulse signals from electronic meters can be received and evaluated using the SH 2003 scanning head. The optical output of the electronic meter must have the following criteria:

1. The impulse length must be greater than $60 \mu\text{s}$.
2. With an LED signal having a space ratio 1:2, the frequency must be less than 500 Hz.
3. The wave-length of the received signal must be within the range 500 - 1000 nm.

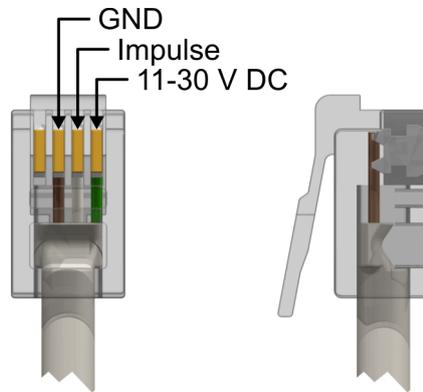
The impulse output of the scanning head delivers a positive impulse of approximately 1 ms on receipt of an LED signals impulse.

Technical Data SH 2003

Supply voltage:	11 - 30 V DC
Housing:	Hard Plastic
Weight:	approx. 30 g
Dimensions:	



Max. current consumption:	< 30 mA	(Without output load at disk mark scanning)
Max. current consumption:	ca. 5 mA	(Without output load at LED scanning)
Output impedance Ra:	ca. 470 Ω	(At high and low level)
Max. output voltage:	9.5 - 28.5 V	(Depending on supply voltage)
Connection:		



Rotor Disk Scanning

1. Provide a load so that the rotor disc of the meter under test rotates.
2. Select the switch position (of the scanning head), so that a green light beam appears.
3. Position the scanning head so that the green beam focuses on the disc.
4. Adjust the scanning head in such a way, that there is a gap of approx. 2 cm between the front panel of the meter and the scanning head.
5. Adjust the sensitivity knob until the LED flashes. The optimal position is 1/4 to 1/2 of a revolution, clockwise from the start position from when the LED flashes. The flash frequency is proportional to the disc rotation speed.

LED Scanning

1. Provide a load so that the impulse LED of the meter under test flashes.
2. Select the switch position (of the scanning head), so that a green light beam appears.
3. Position the scanning head so that the green beam focuses in the middle of the impulse LED output of the meter under test.
4. A distance of 0 - 10 cm should exist between the scanning head and the meter.
5. Switch over to LED scanning mode. The green beam disappears.
6. The sensitivity knob has no function in LED scanning mode.