

# ULTRASONIC DETECTOR

## USD 3801 / 3802

with optical sight



External partial discharges at high-voltage electrodes (corona) possess an acoustic spectrum, which extends to the ultrasonic region. Because of the strong directivity of high-frequency sound waves, ultrasonic detectors do not only allow detection, but also the localization of corona discharges, for instance, in switch yards, high-voltage test set-ups or transmission lines. The ultrasonic detector USD 3801/3802 operates at a frequency of approx. 33 kHz that is particularly suitable for external partial discharge detection. The combination of a highly directional ultrasonic microphone and a parabolic reflector system allows an exceptional directivity of the acoustic sensitivity. The microphone output signal is picked up by a selective amplifier and transformed into an audible signal. This allows a simple evaluation of the partial discharge intensity by headphones.

The excellent acoustic directivity of the ultrasonic detector can be successfully exploited through optical sights paraxial to the acoustic axis:

Type USD 38O1: Laser sight for indoor applications and outdoor use during night.

Type USD 38O2: Optical gun sight for daylight outdoor use.

### Technical Specifications:

Parabolic mirror	320 mm Ø, F = 75 mm
Selective ultrasonic receiver	fo = 38 kHz, B = 2 kHz
Detectable sound pressure at 10 m	app. 1 mPa, min
Divergence angle	± 5°
Volume control, combined with ON-switch	0 - 100%
Head phones: cylindrical connector	6.3 mm Ø
Battery power supply	9 V

### USD 38O1:

Laser-sight output power (no eye hazard)	app. 0.5 mW
Light beam diameter at 10 m	app. 20 mm
Lengths	325 mm
Weight	1250 g
Laser power-supply with battery compartment ON switch, indicator light and shoulder strap	8*Baby - 1.5 V
Dimensions	155*45*175 mm <sup>3</sup>
Weight	1200 g
High-voltage cable	SHV, 1.5 m long

### USD 38O2:

Gun sight with reticle	4*20
Length	375 mm
Weight	1250 g

### Accessories:

Headphone	
Handle, combined with desktop tripod	
Transportation case, aluminium W*H*D	485*365*375 mm <sup>3</sup>