

# SIMPLE MONITORING DENSITOMETER SD-01

## Features

The instrument is designed for measuring optical density of all processed black-and-white films, typically in quality control of film processing in industrial (NDT) and medical radiography. Though generally any negative picture may be used for this purpose, if exposed under standard conditions, a more convenient way is to evaluate pre-exposed Fomatest SC 981 strips or to make own sensitometric strips if a sensitometer is at the disposal. Readings are directed to a computer and readily used for archiving and/or subsequent data processing.

## Technical description

The densitometer does not contain a light source. A measured radiograph or a test strip is placed on a light table (film viewer). The densitometer is connected to a computer that provides both for power supply and for data processing. The device consists of a handy plastic case with a reading sensor and incorporated microprocessor, with functional and auxiliary circuits performing signal reading, power supply and data matching and processing. Geometry of the sensor element assures for the desired perpendicularity between the sensor axis and film plane, as well as for precise focusing at the measured spot. A single bifunctional push button activates either data transfer to the computer (short depression) or zero setting (long depression). A beep indicates successful data transfer.

On the computer side, an active programme module provides for proper port setting, densitometer power feed, data reading and processing in a way common for classical densitometers – i.e. automatic zero setting, calibration – slope adjustment and density readings display. Acquired density values are further used as input data for subsequent calculations – in programmes for sensitometric curve plotting, sensitometric parameters evaluation, analysis and diagnostics of processing procedure, data acquisition and archiving. The computer used should be a common PC standard device with a free serial port.

## Package contents

- SD-01 Densitometer complete – incl. a cable with CANNON DB 9 connector
- Setup standard strip (transparent,  $D \cong 2.5$ )
- Basic programme software (3.5" floppy)
- Operation instructions

## Special accessories

- 9/25 pin reduction for connection to 25-pin port
- Extension 1.5m cable with CANNON DB 9 connectors
- Software for quality control of film processing in medical or industrial radiography



## Technical parameters

Range of measured densities	0 – 4 D
Accuracy	$\pm 0,02$ (0 – 2,5 D) $\pm 0,04$ (2,5 – 4,0 D)
Reading aperture (measured spot diameter)	3 mm
Brightness of a viewer screen (film illuminance)	1000 – 30000 Lx
Zero compensation	automatic
Dimensions (without cables)	approx. 150x40x22 mm
Weight (without cables)	approx. 100 g
Voltage	none (power supply through a computer port)
Serial communication	COM1 – COM4
Connector needed	Cannon DB9 (or DB 25 through 9/25 reduction)
Cable length	approx. 1,5 m
Metering cycle (1 reading time)	approx. 1 s
Operation system	WIN 3.1, WIN 95/98
Disc space requirements (basic software)	approx. 650 kB
Data carrier	Floppy disc 3,5"