Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

45/0 NON-CONTACT MEASURING HEAD FOR INTEGRATION · PRODUCTION LINE AND LABORATORY

CN4668

Non-contact Spectrophotometer · 45/0 · non-contact at 7.5 mm · LED + UV · 400–700 nm · Ø20 mm · 7" touch screen

CN4668 Non-contact Spectrophotometer measures colour without touching the sample: the measuring head works at 7.5 mm above the surface with 45/0 geometry — 45° circular illumination and 0° viewing, the geometry that matches visual assessment. Liquids, pastes, sauces, powders and sensitive or wet surfaces are measured as they are, without a cuvette or contact with the measuring port. The compact head is mounted above a conveyor, a filling line or a lab fixture; a measuring cycle of approx. 0.2 s keeps up with in-line quality control.

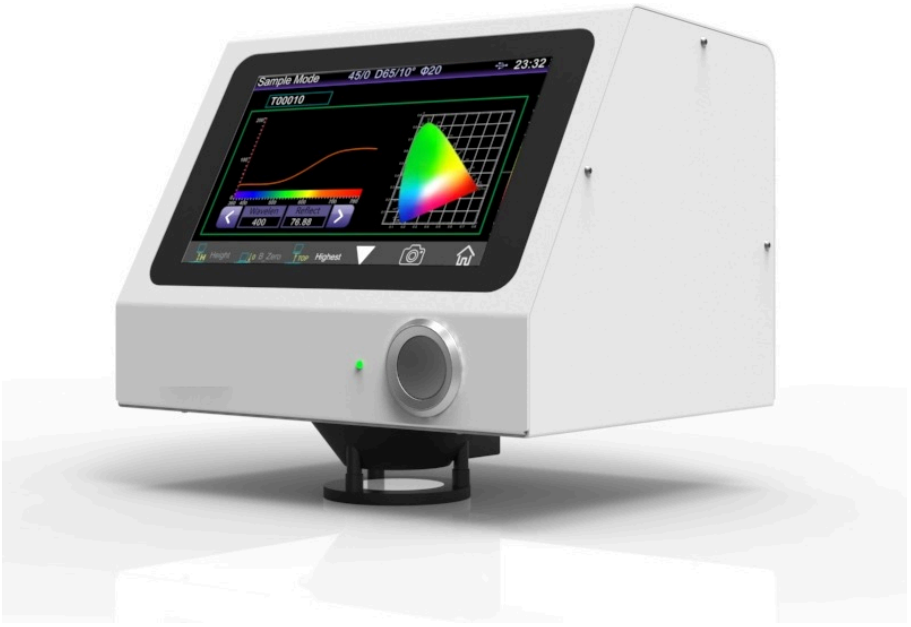
45/0 · non-contact | 7.5 mm sample distance | LED + UV | Concave grating + CMOS array | 400–700 nm / 10 nm | Ø20 mm aperture | ΔE*ab 0.03 repeatability | 7" touch screen | USB + Bluetooth

Document type: **Technical Specification Sheet**
Product: **CN4668 Non-contact Spectrophotometer**
Format: Print layout · A4 landscape

CN4668 product page | Spectroscopy & Color — overview | Spectroscopy & Color catalogue

Request quote

GEOMETRY	DISTANCE
45/0 · non-contact	7.5 mm · Ø20 mm
REPEATABILITY	**INTER-INSTRUMENT**
ΔE*ab 0.03	ΔE*ab 0.2



CN4668 · non-contact 45/0 measuring head with 7" touch screen

MODEL
CN4668

ADDRESS / HQ
Polje ob Sotli 4
SI-3255, Slovenia

CONTACT
sales@colo.si
+386 70 713 437

CN4668 · product overview

Non-contact 45/0 colour measurement for liquids, pastes, powders and sensitive surfaces — on the line or in the lab

CORE TECHNOLOGY

Non-contact 45/0 measurement — 45° circular uniform illumination and 0° viewing at 7.5 mm (±0.2 mm) from the sample; no cuvette, no contamination of the measuring port.

Concave grating and a 256-pixel dual-array CMOS image sensor — reflectance 400–700 nm with 10 nm output.

Full-spectrum LED and UV light source — no spectral gaps of a white LED; suitable for fluorescent samples.

Camera positioning — the measured spot is shown on the screen when the head is set above the sample.

Repeatability ΔE*ab 0.03, inter-instrument agreement ΔE*ab 0.2 — stable data for production-line control.

Measuring cycle approx. 0.2 s — sample, quality-control and continuous statistical mode; single or average of 2–99 measurements.

48 000 records on the instrument (18 000 sample and QC, 30 000 continuous statistics); USB and Bluetooth 5.0.

Software functions adaptable to a specific line or method on request, after evaluation of the application.

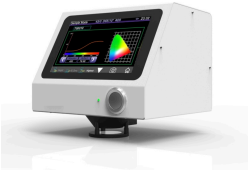
PRODUCT HIGHLIGHTS



Non-contact measuring head
Measures through a Ø20 mm aperture at 7.5 mm above the sample — nothing touches the product.



Quality-control mode
Standard and samples in one table with ΔL, Δa, Δb, ΔE, whiteness and pass/fail.



Spectral curve on the instrument
Reflectance curve 400–700 nm and colour position shown on the 7" touch screen.



Compact for installation
200 × 200 × 160 mm head, approx. 3 kg; USB and Bluetooth 5.0 for data transfer.

APPLICATIONS


Food, sauces & powders


Paints, inks & coatings


Plastics & electronics


Textiles & printing


Ceramics & parts


Cosmetics & laboratories

OBSERVERS	ILLUMINANTS	MEASURING CYCLE	STORAGE
2° and 10°	18	≈ 0.2 s	48 000 records

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CN4668 · technical parameters

45/0 · non-contact at 7.5 mm · 400–700 nm / 10 nm · Ø20 mm · 2°/10° observer

TECHNICAL PARAMETERS

Optical geometry	45/0 (45° circular uniform illumination, 0° viewing)
Standards	CIE No.15, ISO 7724-1, ASTM E1164, DIN 5033 Part 7
Measurement principle	Non-contact: the measuring head does not touch the sample
Light source	Full-spectrum LED light source and UV light source
Spectral separation	Concave grating
Sensor	256-pixel dual-array CMOS image sensor
Wavelength range	400–700 nm, 10 nm output
Reflectance range	0–200 %
Measuring aperture	Ø20 mm (Ø10 mm or Ø4 mm on request)
Sample distance	7.5 mm (±0.2 mm)
Sample height	Not limited — only the measuring head is mounted above the sample
Positioning	Camera positioning
Colour spaces	CIE Lab, XYZ, Yxy, LCh, CIE LUV, Munsell, sRGB, Hunter Lab, βxy, DIN Lab99
Colour difference	ΔE*ab, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00, ΔE (Hunter), DIN ΔE99
Colorimetric indices	Whiteness WI (ASTM E313, CIE/ISO, AATCC, Hunter), yellowness YI (ASTM D1925, ASTM E313), metamerism index MI, staining fastness, colour fastness, colour strength, opacity
Observer	2° and 10°

Illuminants	D65, A, C, D50, D55, D75, F1, F2 (CWF), F3, F4, F5, F6, F7 (DLF), F8, F9, F10 (TPL5), F11 (TL84), F12 (TL83/U30)
Displayed data	Spectral curve and values, chromaticity values, colour difference values and graph, colour simulation, pass/fail with settable tolerance
Measuring time	Fastest cycle approx. 0.2 s
Measurement mode	Single or average (2–99 measurements); sample, quality-control and continuous statistical mode
Repeatability	Spectral reflectance: standard deviation within 0.1 %; chromaticity within ΔE*ab 0.03 (1.5 s measurement, white tile, 30 measurements at 5 s intervals after warm-up and calibration)
Inter-instrument agreement	Within ΔE*ab 0.2 (average of 12 BCRA Series II tiles)
Data storage	18 000 records in sample and quality-control mode; 30 000 in continuous statistical mode; 48 000 in total
Display	7" TFT colour LCD, capacitive touch screen
Interface	USB, Bluetooth 5.0
Instrument languages	English, Chinese
Power supply	24 V, 3 A power adapter
Light source life	5 years, more than 3 million measurements
Dimensions	200 × 200 × 160 mm (measuring head)
Weight	approx. 3 kg (measuring head)
Environment	Operation 0–40 °C, 0–85 % RH (non-condensing), altitude below 2 000 m; storage −20–50 °C

CN4668 · delivery, installation and series

Standard delivery, installation data and comparison of the non-contact series

DELIVERY AND INSTALLATION

Standard delivery

Instrument	CN4668 non-contact measuring head with 7" touch screen
Calibration	Standard white calibration board, black calibration cavity
Power and data	Power adapter 24 V / 3 A, USB cable
Documents	User guide

Installation data

Mounting	Head above the sample, conveyor or fixture; sample height is not limited
Distance	Sample surface at 7.5 mm (±0.2 mm) from the head
Aperture	Ø20 mm standard; Ø10 mm or Ø4 mm on request
Data	USB or Bluetooth 5.0 to the control system or PC

Non-contact series — which model?

Model	CN4668	CN4660	CN4560	CN4520
Version	**Measuring head for integration**	Measuring head for integration	Benchtop with stand	Benchtop with stand
Geometry	**45/0**	d/8	45/0	45/0
Aperture	**Ø20 mm**	Ø20 mm	Ø20 mm	Ø20 mm
Sample distance	**7.5 mm**	7.5 mm	7.5 mm	7.5 mm

All models: non-contact measurement, concave grating with 256-pixel CMOS array, 400–700 nm, 0–200 %, 7" touch screen. Measuring heads (CN46xx) are built into a line or fixture; benchtop models (CN45xx) stand on the lab bench with their own stand. 45/0 for colour as seen by the eye; d/8 when gloss should not influence the result.



CN4668 · measuring head, side view

Typical samples

Liquids and pastes: sauces, juices, creams, paints and inks — measured in an open container or on the line.

Powders and granules: spices, pigments, flour, plastic granules — no pressing against a port.

Sensitive surfaces: wet, soft, sticky or freshly coated samples, foods and cosmetics.

Fluorescent samples: measured with the full-spectrum LED and UV source.

CN4668 · configuration and support

Ordering information, configuration checklist and contact

MEASUREMENT WORKFLOW, CONFIGURATION AND SUPPORT



CN4668 · quality-control mode with colour difference and pass/fail

Ordering information

Model	CN4668 Non-contact Spectrophotometer
Geometry	45/0, non-contact at 7.5 mm
Aperture	Ø20 mm (Ø10 mm or Ø4 mm on request)
Installation	Measuring head for a line, fixture or laboratory stand

Configuration checklist

Samples: liquid, paste, powder or solid; surface, colour range and fluorescence.

Installation: on a line or in the lab, distance to the sample, line speed and measuring interval.

Colour data: colour space, ΔE formula, illuminant, observer and indices you report; data transfer to your system.

SUPPLIER AND SUPPORT

COLO Lab Experts
Polje ob Sotli 4, SI-3255, Slovenia

Selection guidance: send your sample type and how it is presented to the instrument — we confirm the model, aperture, installation and delivery time with the quotation.

QUICK CONTACT

colo.si

sales@colo.si

+386 70 713 437

COLO.SCIENCE · COLOUR MEASUREMENT SUPPORT

Measuring colour on the line or without touching the sample?

Send your sample type, how it moves past the instrument and the colour data you report — we propose the model and confirm it with the quotation.

Request quotation | sales@colo.si | +386 70 713 437

Specifications are subject to change without notice. Values refer to standard laboratory conditions.