

# FrontColour 10™ ON-LINE COLOUR METER



- Used for plastics, pulp, pigments and paints, printing, boards, papers, most solid materials and most fibre materials
- Installed to many positions in production machines
- Simple to use, accurate readings, excellent stability
- Small size, light weight
- A self-contained system, powerful DSP technology is used for signal processing
- Measurement by CIE 1964 10°  
Illuminant: A / C / D50 / D55 / D65 / D75  
Colour system CIE L\*a\*b\*, Lu'v' and L\*u\*v\*
- Gives common colour variables and TAPPI R457 brightness plus more
- One sensing head, self-calibrating optics
- USB, RS232, analog outputs 5 V (4) and 4-20 mA (1)
- Conforms to CIE 15:2004 and CIE 176:2006 requirements
- Reel counter

2024-18

**VISILAB**  
SIGNAL TECHNOLOGIES

FrontColour™ is a registered trademark and IRMA-7™ and Visilab™ are trademarks of Visilab.  
All rights reserved. Copyright © by Visilab Signal Technologies.

## Main Features

- targeted for QC, testing and research, applications in pulp, paper and board industry, textiles, felts, pigments, plastics, minerals, paints and coatings
- analyzing X, Y, Z, chromaticity coordinates x,y,z- CIEL\*a\*b\*, Lu'v' and L\*u\*v\*, Yellowness J, TAPPI brightness R457, CIE whiteness W, CIE Tint, colour differences for L\*, a\*, b\*, v', u\*, v\*, chromaticity, hue, saturation. Also a special Primary reflectance data R( $\lambda$ ) is obtained. Geometry is 0°/45° CIE 1964 10° observer, D65, A, C, D50, D55 or D75 illuminants
- uses a CCD spectrometer as a detector for analyzing the spectra, the architecture compensates against the light source and other variations. The spectrometer resolution is about 1.6 nm. A category B device
- superior stability, based on proven technology of Visilab
- in laboratory the FrontColour program can be used via USB/RS232/Bluetooth, all data for archival, statistics and reporting
- spot size 8.75 mm in diameter allows small-scale measurements, size dictated by standards and distance
- LED light source with wideband excitation of 420 - 760 nm and a separate UV excitation 390 - 420 nm is user adjustable
- operating distance: 50 mm one headed observation
- extremely long service interval - designed to run 24/7

## Data logging features

- all DCS analog interfaces are updated once per sec minimum, raw speed 2 / sec
- reel counter interface and reading added to data headers in files
- data acquisition speed 2 points /s minimum for all variables, output 2 points/s to interfaces typically
- the **FrontColour** program allows continuous data

acquisition on-line with data archival and analysis. It has graphic displays for incoming data, a big number display, recipe system for optimizing small colour differences etc. The meter runs automatically without any computers. PC can be used for data acquisition and configuration. The operating mode (illuminator etc.) is changed with the PC quickly

## Interfaces and physical properties

- analog outputs** 0..5 V (4) for any output variable, 4-20 mA (1), both scalable
- USB** for a PC directly in the box
- regular **RS232** via cable at 9600 (max. 40 m) or 115200 (max. 5 m) via RS232/USB converter
- an **input** for incrementing a reel counter (TTL type closing switch input)
- wireless communication via 100 meter Bluetooth, the dongle for the PC included
- operating voltage 24 V 15 W
- dimensions 120x270x270 mm, weight 3.5 kg
- IP67 enclosure for harsh environments
- power supply unit for 110 - 240 VAC mains is included. It has connectors for DCS interfaces.
- the **Frontcolour** is a licensed program with plenty of features, belongs to the instrument, operating in Windows 11/10/8/7 with 32/64 bit versions. It has a support program **FrontColourConfig** for making any bigger configuration changes and calibrations

- Mounting by four holes on the top face, M10 or M8
- Observation window near one corner of the bottom plate
- laser pointers for aiding in accurate positioning while installing in requiring conditions
- holders for flat samples, colour tiles, wavelength calibrator and reflectance standard

## Ambient conditions

- operating +5 ... +60 C with air purge
- overheating protection turns the meter to LowPower
- fully temperature compensated
- IP67 case, purge air through the cabinet
- optical windows can be cleaned if water condensation or dust, air purge used for keeping it clean
- clock battery is replaced every 7 years if used

## Optional accessories

- a dust cover for more difficult conditions
- Spectralon reflectance standard, NIST traceable
- colour standard set, NIST traceable
- wavelength calibration light source
- USB extension lead 3 m

## Your nearest dealer:

**VISILAB**  
SIGNAL TECHNOLOGIES

**Visilab Signal Technologies Oy**  
Sepäntie 4, Monninkylä, FI-07230, Askola,  
Finland  
Tel. +358-45-6354885  
[www.visilab.fi](http://www.visilab.fi)  
e-mail: [info@visilab.fi](mailto:info@visilab.fi)

