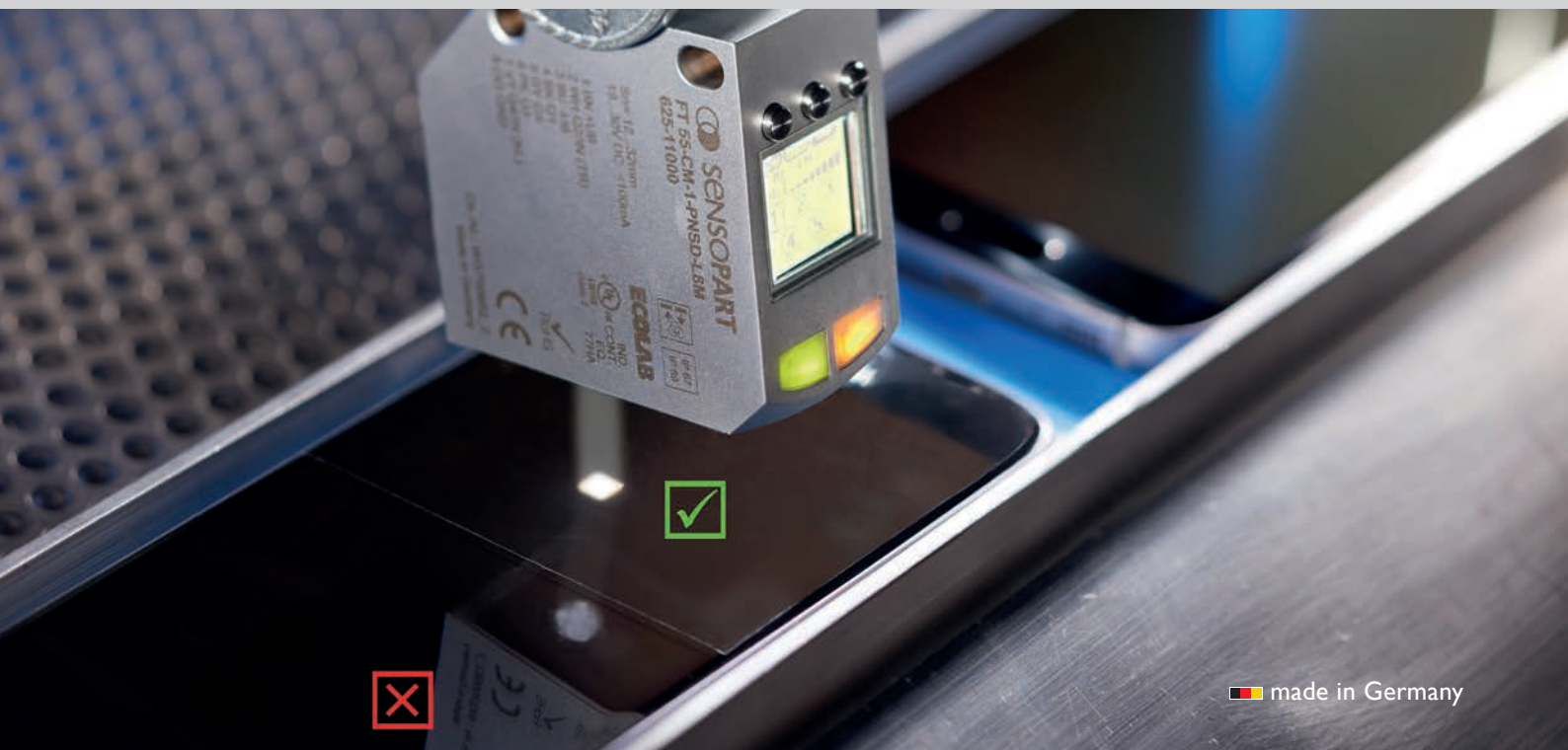# Strong performance on colored surfaces

FT 55-CM – Full-spectrum color sensor

FT 55-CM – performance, functionality, scope

Compact sensor family for reliable color detection or assignment

■■ made in Germany

The new compact color sensor from SensoPart is a true all-rounder:
The FT 55-CM color sensor offers a scope of functions and level of user-comfort that are unsurpassed in its performance class. The wide operating range – independent of distance – combined with the flexible color detection feature gives a diverse range of applications. The large integrated **LCD display** and **remote** configuration through **IO-Link** or the associated sensor software set new standards in ease of use and connectivity. This unique combination of characteristics makes the sensor ideally suited for challenging color detection and sorting tasks, for example in machine construction and in the automotive, plastics, pharmaceutical or packaging industries.

TYPICAL FT 55-CM

- Stable processes thanks to intelligent color detection regardless of distance
- Economical solutions through up to twelve storable colors or jobs
- Dependable switching behaviour through reliable glare suppression (depending on model)
- Intuitive sensor setup with integrated LCD display
- Customised adjustment to applications through digital color value output using IO-Link
- Stable processes with non-flat objects thanks to trigger mode

◈ **IO**-Link   ECOLAB   IP69   c(UL)us LISTED   CE

Versatile sensor for universal use

High precision for a diverse range of applications

Inspection of car fuses – color and material

Inspection of shiny blister packs

Distinguishing between polished and non-polished metal surfaces; foil detection on shiny surfaces

Inspection of lids or labels

Well-equipped with FT 55-CM:
The number of potential applications for the FT 55-CM is virtually unlimited. This includes precise differentiation of colors on shiny surfaces or the sorting and automatic assignment of colored objects. Due to this wide scope of performance, the sensor demonstrates outstanding ability in many sectors.
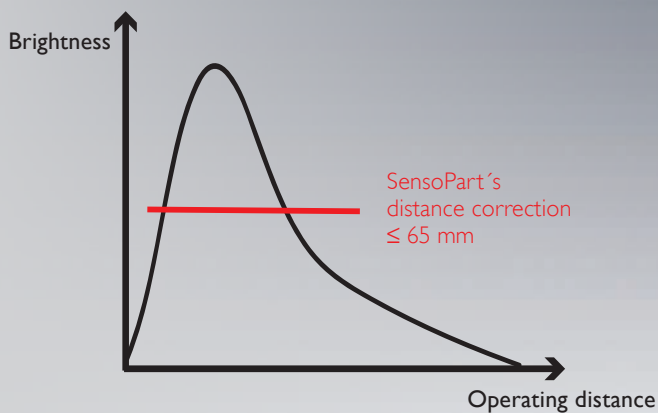

Color detection of packaging elements

Typical sectors:

➜ Automotive
➜ Machine construction
➜ Packaging
➜ Plastics
➜ Metal processing
➜ Food and beverage
➜ Pharmaceuticals

A smart color sensor bursting with talent

Stable performance in wide operating ranges

Physical Curve

Brightness

SensoPart´s
distance correction
≤ 65 mm

Operating distance

Reliable brightness detection – regardless of distance

Color sensors usually struggle with the fact that object brightness is evaluated differently according to distance.
SensoPart circumvents this problem with patent-pending distance correction technology. This enables consistent brightness evaluation across an operating range of up to 65 mm, guaranteeing stable processes, even when objects are not supplied in the correct position.

12 colors - 12 Jobs - 1 sensor

Only one sensor is needed

Many applications require multiple sensor configurations, e.g. due to the production of different object batches.
The unique option of saving up to twelve colors in the same sensor means that just one sensor can be used for diverse batches.
No external job changeover is necessary as all twelve colors are checked simultaneously.
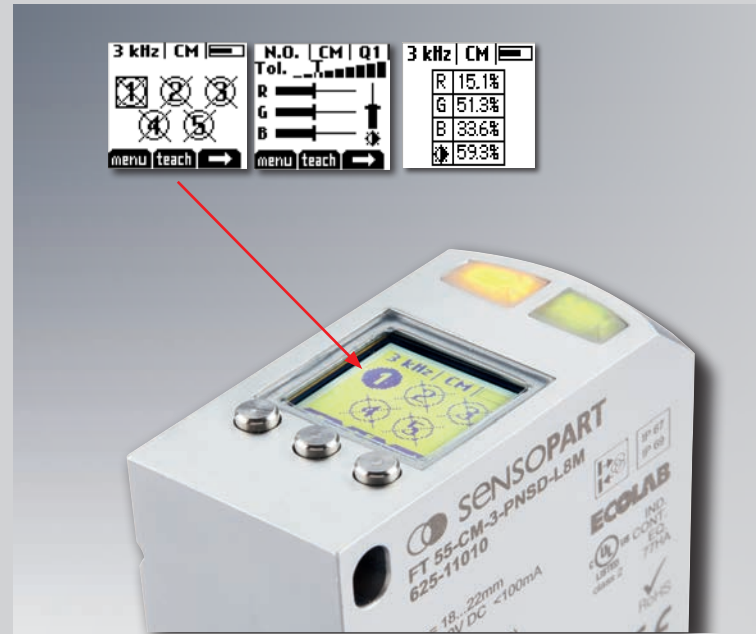Costs are, therefore, reduced thanks to hardware savings and shorter process and installation times.

FT 55-CM – easier than ever

Intuitive sensor configuration

Intuitive, user-friendly setup using LCD display

The primary focus was on simple and intuitive use during the development phase of this sensor. To ensure simple access to all its functions and their ease of use, SensoPart has opted for a large LCD screen featuring soft keys, in place of the standard cryptic 7-segment display, for enhanced user comfort.
The instant feedback of current values ensures precise, fast and intuitive setup of applications.

Easy-to-read LCD display simplifies setup

Digital color value output through IO-Link

All versions of the FT 55-CM sensor are equipped with an IO-Link interface. This enables fast and user-friendly communication for setup purposes and switching between different sensor configurations.
Difficult applications can be accurately analysed and configured via the digital color value output.
The sensor can be connected directly to a Windows PC via USB using the optional SensoIO configuration tool for even greater comfort.
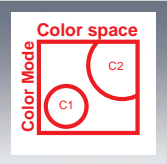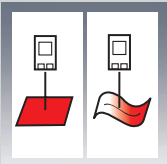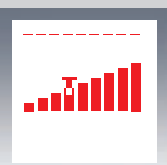

SensoIO - a configuration tool for IO-Link sensors with corresponding software interface

It's not just the hardware that makes the difference.

The sensor can be perfectly adapted to each application in just a few clicks.

Overview of software functions

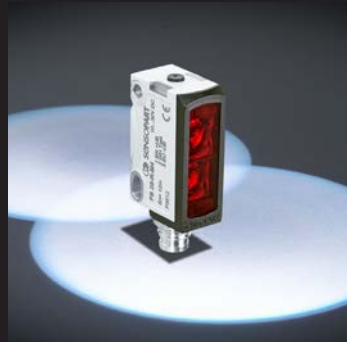|		
Color space — Color Mode (C1, C2) **Color space** — Best Fit (C1, C2)	**Sensor modes** Color mode (CM) Inspection and evaluation of colors. Best fit (BF) Sorting and assignment of colors	**Color mode** checks whether a taught color is available within given tolerances. **Best fit** mode requires the teach-in of at least 2 colors. The sensor then decides which of the two is the closest to the color currently viewed.
	Teach Fast teach Detailed teach	Fast configuration possible directly from start screen.
	Teach modes Color point Color ranges	Color ranges can be recorded through a pauseable teach-scan. Ideal for non-flat objects or color gradients
	Settings Tolerances; brightness detection speed; link or exclude colors	9-level tolerance settings. Adjustable speed and averaging rate.
	Smart functions Counter; delay; one shot; NO/NC (per Q); autodetect / PNP/ NPN	Useful additional functions integrated into the sensor, e.g. for counting objects.
IO-Link	**Inputs and outputs** Trigger IO-Link Binary output	Switching outputs linked with logical operators for more colors. Digital color value output via IO-Link.

The right version for every application

The new generation of color sensors exists in a total of six versions, carefully adapted to different applications. CM-1 has an integrated polarizing filter that is perfectly suited for shiny surfaces.

CM-3 is the ideal solution when a small slight spot is required, e.g. for contrast mark detection. If the sensor is to be installed at longer distances from the object, CM-4 offers a vast operating range of up to 150 mm.

Order reference	Range	Featurel	Outputs	Colors	Article n.
FT 55-CM-1-PNSDL-L5M	18 to 32 mm	Glare suppression	3	7	625-11001
FT 55-CM-3-PNSD-L8M			5	12	625-11010
FT 55-CM-3-PNSDL-L5M	18 to 60 mm	Small lightspot	3	7	625-11011
FT 55-CM-3-PNSDL-L4M			1	1	625-11012
FT 55-CM-4-PNSD-L8M			5	12	625-11020
FT 55-CM-4-PNSDL-L5M	20 to 150 mm	High range	3	7	625-11021
FT 55-CM-4-PNSDL-L4M			1	1	625-11022

We look ahead

Yesterday, today and in the future

SENSOR TECHNOLOGY

"We gauge ourselves not by what is possible today, but by our vision of what can be achieved" – this has been our motto since the foundation of SensoPart in 1994. Our goal is to always be a step ahead and to be able to offer our customers the most innovative sensor for industrial automation.

With our easy to integrate VISOR® Vision sensors and our compact laser sensors with an amazing background suppression made in Germany, we stick up to this motto.

Get ready – we still have a lot of ideas for the future.

Light barriers	Vision sensors
Proximity switches	Smart cameras
Laser sensors	Vision systems
Miniature sensors	Object detection
Distance sensors	Object measurement
Color sensors	Color detection
Contrast sensors	Code reading
Anti-collision sensors	Lighting
Slot sensors	Lenses
Fibre-optic amplifiers	
Inductive sensors	
Capacitive sensors	
Ultrasonic sensors	