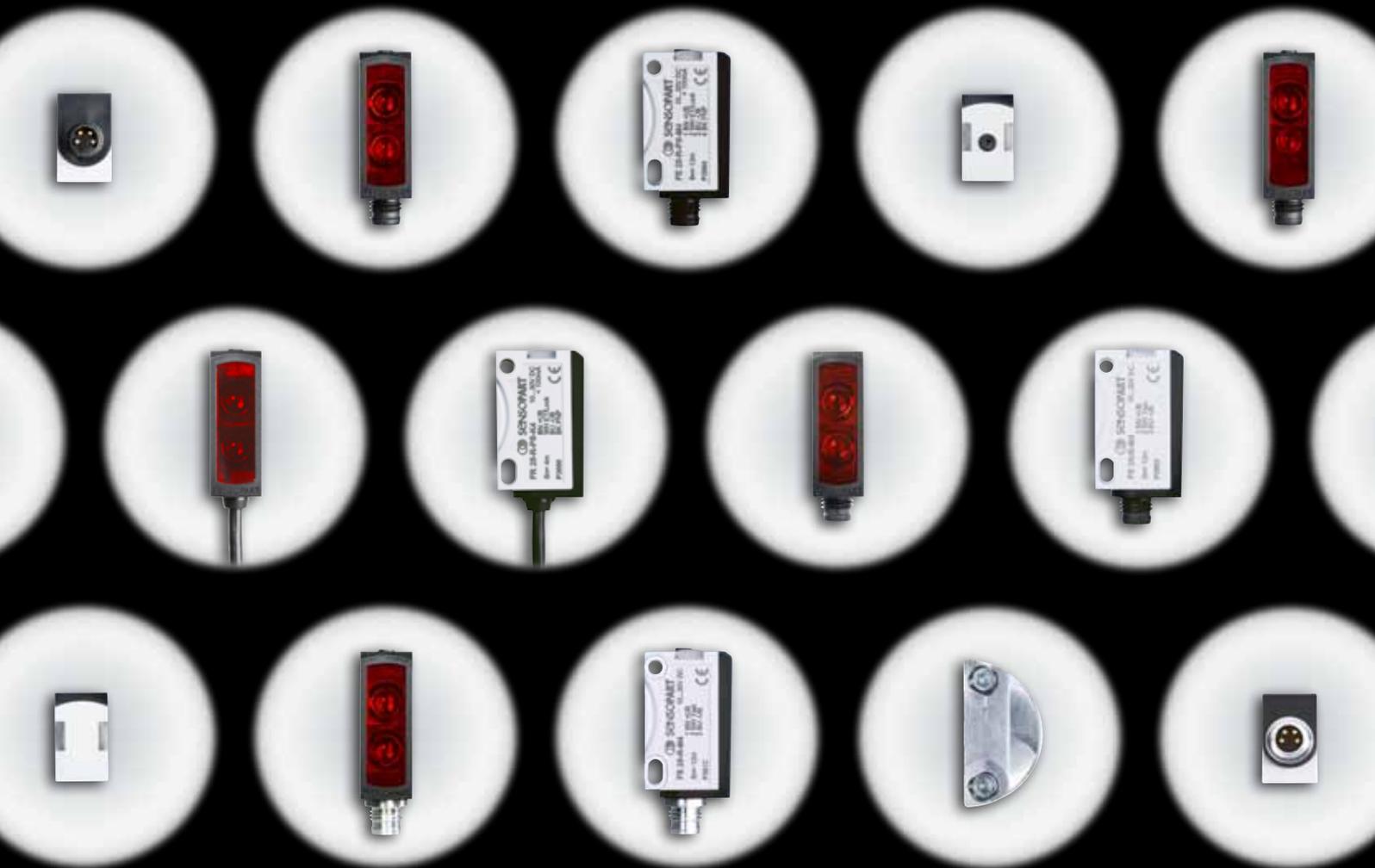


## One sensor for every case

The F 25 family of miniature sensors – one housing for a thousand applications



# One housing, many extras

Everything about this sensor is simply just right

Consistency is characteristic for the F 25 family of sensors: the housings, as well as the mounting and operating concepts, are identical for all product variants. Including the extras shown here:



Mounting compatibility  
with previous F 20 series

 made in Germany



**Compact and elegant:**  
 Compact miniature design with glass-fibre-reinforced plastic housing in the elegant, light-grey SensoPart style.  
 (Full-scale illustration)

Nothing was left to chance during development of the F 25 family of sensors – we started from a consideration of our customers' practical needs. This can be seen from the numerous clever details, such as the patented dovetail bracket or the simple teach-in. Users thus save a considerable amount of time and gain from the ease-of-use during setup, as well as in daily operation.

Practical applicability also means that our sensors are very robust and reliable, despite their small size. We always considered the mechanical strength and long service life of all components – from the housing (made of glass-fibre-reinforced plastic), through the plug and cable connections, to the mounting accessories. The smooth, tightly sealed (IP 69K) housings can easily withstand daily high-pressure cleaning.

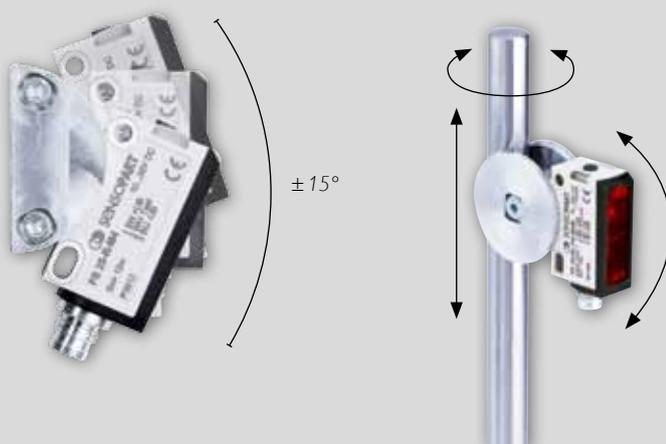


The uncluttered and careful design of the light-grey sensors impress from the very first. Then there is the excellent workmanship (made in Germany). Design, function, ergonomics: everything about the F 25 family of miniature sensors is simply just right!



**100% industrial applicability:**  
 Thanks to their well thought-out design and excellent workmanship, F 25 sensors from SensoPart are ideally equipped for harsh everyday use. The stable metal plugs can take loads of over 14 kg (140 kN).

**Uniform operation:**  
 The teach-in concept is identical for all the sensors of the F 25 series. The teach-in button can be locked after setup to prevent any unintentional adjustment.



**Simple mounting, precise adjustment:**  
 The robust dovetail brackets are particularly useful when limited space is available for installation. They allow simple and precise fine adjustment of the sensor after mounting.

Bracket (left): MBD F25  
 Bracket (right): MBD F25ST

# One housing, hundreds of variants

Discover versatility in unity

Functional principle		Type	Type of light	Adjustment	Scanning distance					
Proximity sensors	Background suppression (photoelectric proximity sensor) 	FT 25-RLH	Laser	Teach-in	120 mm					
		FT 25-RHD	LED	Teach-in	400 mm					
		FT 25-RH	LED	Teach-in	200 mm					
		FT 25-RF1/2	LED		60/80 mm					
Proximity sensors	Foreground suppression (photoelectric proximity sensor) 	FT 25-RVD	LED	Teach-in	200 mm					
		Energetic (photoelectric proximity sensor) 	FT 25-RL	Laser	Teach-in	250 mm				
FT 25-R	LED		Teach-in	800 mm						
Retroreflective photoelectric sensors	Retroreflective photoelectric sensor with autocollimation 	FR 25-RLO	Laser	Teach-in	4 m					
		FR 25-RGO2	LED	Teach-in	2 m					
	Retroreflective photoelectric sensor with double lens 	FR 25-RL	Laser	Teach-in	15 m					
		FR 25-R	LED	Teach-in	7 m					
		FR 25-RF	LED							
	Through-beam photoelectric sensor 	FS/FE 25-RL	Laser	Teach-in	20 m					
		FS/FE 25-R	LED	Teach-in	15 m					
FS/FE 25-RF		LED		6 m						
Special sensors	Functional principle	Type	Type of light	Adjustment	Scanning distance					
						Photoelectric proximity sensor with autocollimation for transparent objects 	FR 25-RGO	LED	Teach-in	2 m
						Distance sensor 	FT 25-RLA 80	Laser	Teach-in	20 ... 100 mm
							FT 25-RA60/170	LED		20 ... 80 mm / 30 ... 200 mm
						Contrast sensor 	FT 25-W	LED, white	Teach-in	12 ± 2.5 mm
FT 25-RGB	LED, red/green/blue	Teach-in	12 ± 3 mm							
Colour sensor 	FT 25-C	LED, red/green/blue	Teach-in	12 ± 3 mm						

Special features	Application examples
Most accurate small-part detection	Small-part detection against any background
Long scanning distance	Object detection against any background
	Object detection against any background
	Object detection against any background
With adjustable window function	Object detection on conveyor belts, selection of objects acc. to height
	Object detection
	Selection of coated and uncoated parts
Special features	Application examples
Switching frequency 4 kHz or 10 kHz, small-part detection from 0.2 mm	Detection of objects through narrow openings
	Object detection
Long range	Object detection
	Object detection
	Object detection
Long range	Object detection
	Object detection
	Object detection
Special features	Application examples
With DELTA function (switching threshold adaptation)	Detection of foils, clear glass and plastic
Precise small-part detection, adjustable analogue and switching output	Small-part detection (e.g. O-rings), distance measurement on robot grippers
Long measurement range, adjustable analogue and switching output	Unwinding check, dancer roll regulation, stacking height measurement, double layer detection
Switching frequency 10 kHz or 25 kHz, automatic selection of ideal transmission colour "communicating" light spot	Detection of printed marks on endless materials
Switching frequency 2.5 kHz or 10 kHz, "communicating" light spot	Colour detection on packaging and labels



Even if all the sensors of the F 25 family look identical externally, they offer an astonishing wealth of variants. You can therefore choose between numerous functional principles – from photoelectric proximity sensors with background suppression, through autocollimation retroreflective photoelectric sensors, to colour sensors. And within each of these basic principles there are, in turn, numerous functional variants.

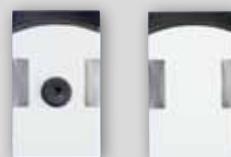
Most of the F 25 sensors are each available in a laser and an LED design. Differing types of connection and switching variants, as well as special designs such as auto-detect (which combines a real PNP and NPN switching function in a single device) expand the total selection to over one hundred different sensors. And this is just a snapshot, because new functions and variants are always being added.

Whatever the particular function or variant, the excellent performance data of all the F 25 sensors are impressive. For example, the long ranges and scanning distances, the very high switching frequencies, the minimal black-white shift or the particularly precise background suppression. So much quality and variety in a single sensor series – that is really unique!



**Large variety of connections**

- M8 plastic plug
- M8 metal plug
- 2 m cable
- 150 mm, M8 or M12 pigtails



**Simple operation**

Choice of teach-in or fixed focus

# A single housing, a thousand applications

A sensor from the F 25 series seldom comes alone



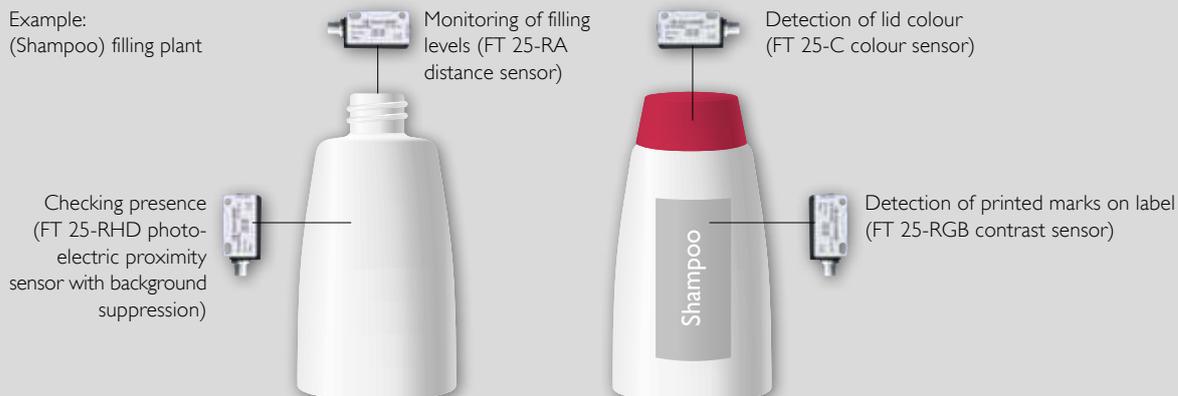
## One housing for all tasks

Only one CAD set is required for the differing tasks in a filling plant – in addition, the F 25 sensors have a uniform operating concept and simplify integration as well as mounting and setup.

## Colour detection

The main task of the FT 25-C RGB colour sensor is to detect a defined colour. Thanks to its high switching frequency it can also be used for very rapid applications.

Example:  
(Shampoo) filling plant



Thanks to its numerous variants, the F 25 series can be used in numerous factory automation processes – from small-part detection in assembly robots, through the checking of completeness, to the detection of printed marks. It is not unusual to find several F 25 sensors with differing functions in a single process.

In such cases the sensor family's uniformity pays off: having the same housing for all variants simplifies the work of plant constructors who only require one identical CAD data set for the various sensor functions; and helps operators who can rapidly and easily commission their sensors thanks to the uniform mounting and operating concept. Ultimately, this represents a significant time and cost advantage.



**Detection of small parts:**

The FR 25-RLO is the expert for small-part detection. Even objects of just a few tenths of a millimetre are reliably detected.



**Detection of transparent objects:**

The FR 25-RGO photoelectric proximity sensor has been especially designed for detecting transparent objects. It offers absolutely precise and reproducible switching behaviour thanks to its autocollimation principle and automatic adaptation of the switching threshold (the DELTA function).



**Object detection:**

Whether in handling or in assembly, whether large or small objects made of paper or metal – FT 25-RHD and FT 25-RLH photoelectric proximity sensors with background suppression reliably detect the most varied of objects – even with interfering backgrounds.



**Detection of contrast marks:**

With a switching frequency of up to 25 kHz, the F 25 contrast sensor offers maximum process reliability – even with ultra-rapid processes in printing machines.

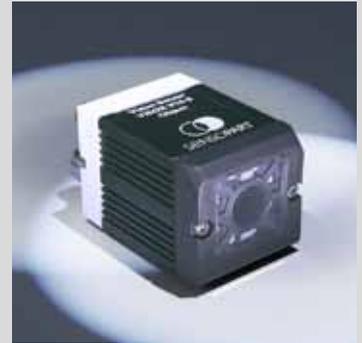


**Distance measurement:**

The FT 25-RA distance sensor with analogue output and high repeat accuracy is principally used for measurement and regulatory tasks, for monitoring or measuring filling levels, or for precision tasks.

# We look ahead

Yesterday, today and in the future



“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.

## SENSOR TECHNOLOGY

- Light barriers
- Proximity switches
- Laser sensors
- Miniature sensors
- Distance sensors
- Colour sensors
- Contrast sensors
- Anti-collision sensors
- Slot sensors
- Fibre-optic amplifiers
- Inductive sensors
- Capacitive sensors
- Ultrasonic sensors

## VISION

- Vision sensors
- Smart cameras
- Vision systems
- Object detection
- Object measurement
- Colour detection
- Code reading
- Lighting
- Lenses

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