



Sensors in hygienic and washdown design
Certified for the food and beverage industry

Smart sensor solutions for the food-handling area and splash zone



Unique *proTect+* impermeability design
guarantees a complete seal even after many temperature cycles, a long product life and consequently high reliability



Stainless steel V4A housing with protection class IP 69K
makes for great mechanical strength and long product life



ECOLAB tested and FDA compliant
for reliable resistance to cleaning agents and consistent use of food-grade materials



Consistent hygienic design
of the sensors and mounting hardware complies with the design guidelines for hygienic applications, permits use in the immediate vicinity of food, and simplifies machine certification



Wide temperature range
allows versatile use and results in long product life, even in the face of high temperatures, e.g., CIP processes



Laser inscription
ensures that the sensor can always be identified

Unique *proTect+* impermeability design for maximum product life

Baumer hygienic sensors have a unique impermeability design. It ensures that these sensors meet the protection classes IP 68 / IP 69K, even after many temperature cycles.

Long-term seal

Temperature shock test in water and air over the entire temperature range

Hose-proof and withstands high-pressure cleaning

Meets the highest IP requirements for the areas of application



Excellent resistance

Selected materials with high resistance to materials such as cleaning agents and oils

Impermeability by design

Optimized mechanical interfaces and manufacturing processes

Inductive sensors

How they excel

- Long-term sealing properties at temperatures from -40 to +100 °C (*proTect+*)
- Hygienic design allows for food-grade cleaning
- Resists contaminants and cleaning agents
- Analog inductive sensor IWRR with uniquely large operating temperature range (-40 to + 70 °C)

Hygienic design Series IFBR



Washdown design Series IFRR



Technical features

Ambient temperature	-40 to +80 °C (for brief periods up to +100 °C)
Connection type	Cable (PVC), M12 plug
Function display	LED
Protection class	IP 68 / IP 69K <i>proTect+</i>

Proximity switches							Distance sensor		
Type		IFBR 06	IFRR 08	IFBR 11	IFRR 12	IFBR 17	IFRR 18	Type	IWRR 18
Diameter / thread		ø 6,5 mm	M8 x 1	ø 11 mm	M12 x 1	ø 17 mm	M18 x 1	Thread	M18 x 1
Rated sensing distance	shielded:	—		4 mm		8 mm		Measuring distance	7 mm
	unshielded:	3 mm		6 mm		12 mm		Resolution	< 5 µm

Mounting hardware in hygienic design Hlxx-1H



- For all hygienic sensors
- Backward compatible with M8, M12, M18 sensors
- Self-locking, mounting hardware cannot come loose by itself



Connectors ESW 33AF (right angle)/ESG 34AF (straight)



- M12 plug
- PVC sheathing
- Length: 2 m, prefabricated at one end



Photoelectric sensors

Highlight: SmartReflect™ – the light barrier without reflector

For maximum process reliability

- Most secure object detection due to the barrier principle
- Reflector as the weak spot is eliminated – machine part serves a counterpart for sensor
- No functional impairment due to contamination

For reduced operational costs

- Time savings during installation, as no separate reflector/receiver is necessary
- No regular reflector exchange necessary
- Extensive cleaning of the reflector is superfluous

Washdown design Series FxDR



Hygienic design Series FxDH



Technical features

Ambient temperature	-30 ... +60 °C
Setting	Remote Teach-in
Connection type	Cable (PVC), M12-plug, M12 cable plug
Communication	IO-Link (optional)
Protection class	IP 68 / IP 69K <i>proTect+</i>

	Diffuse sensors with BGS*		SmartReflect™		Retro-reflective sensor		Contrast sensor		Distance sensor	
Type	FHDH 14	FHDR 14	FNDH 14	FNDR 14	FPDH 14	FPDR 14	FKDH 14	FKDR 14	FADH 14	FADR 14
Sensing distance	400 mm		800 mm		3500 mm		12,5 mm		400 mm	
Response time	< 1,8 ms		< 1,8 ms		< 1 ms		50 µs		< 5 ms	
Light source	Red light		Red light		Red light		White light		Red light	

*Background suppression

Reflector FTDR 051E051



Stainless steel reflector FTDR 050R060



(optional for SmartReflect™)



Stainless steel reflector FTDR 017W035



(optional for SmartReflect™)



Sensors in hygienic design for the food-handling area

For filling honey packets, the carrier trays for the tubs are positioned beneath the filler nozzles using inductive sensors. Even cleaning the system with hot water does not impair the product life of the sensors.



In filling systems, yogurt cups are positioned for the filling process using photoelectric sensors. The sensors meet the hygiene regulations of the food industry and can simply be integrated into the system.



Sensors in washdown design for the splash zone

In beverage filling systems, inductive sensors check the position of valve levers on conduit pipes. While doing this, the sensors defy the toughest water jet cleaning.



A retro-reflective sensor counts the correct number of filled beverage bottles for the following packing process. The retro-reflective sensors in a stainless steel housing ensure a quick and reliable process.



Additional applications

- Profile measurement for determining volume
- Detecting covers and caps
- Creating buffer areas
- Monitoring sorting gates
- Recognizing print marks

Baumer products are used in many areas of the food and beverage industry

Production areas

- Processing
- Storage
- Filling and bottling
- Packing
- Quality control
- Materials handling

The range of products

- Pressure sensors
- Temperature sensors
- Level monitoring sensors
- Conductivity sensors
- Force and strain sensors
- Photoelectric sensors
- Inductive and capacitive sensors
- Ultrasonic sensors
- Vision sensors
- Encoders
- Actuators and positioning drives
- Industrial cameras



You will find additional information and data sheets for our food and beverage sensors on the Internet at www.baumer.com/food-beverage

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