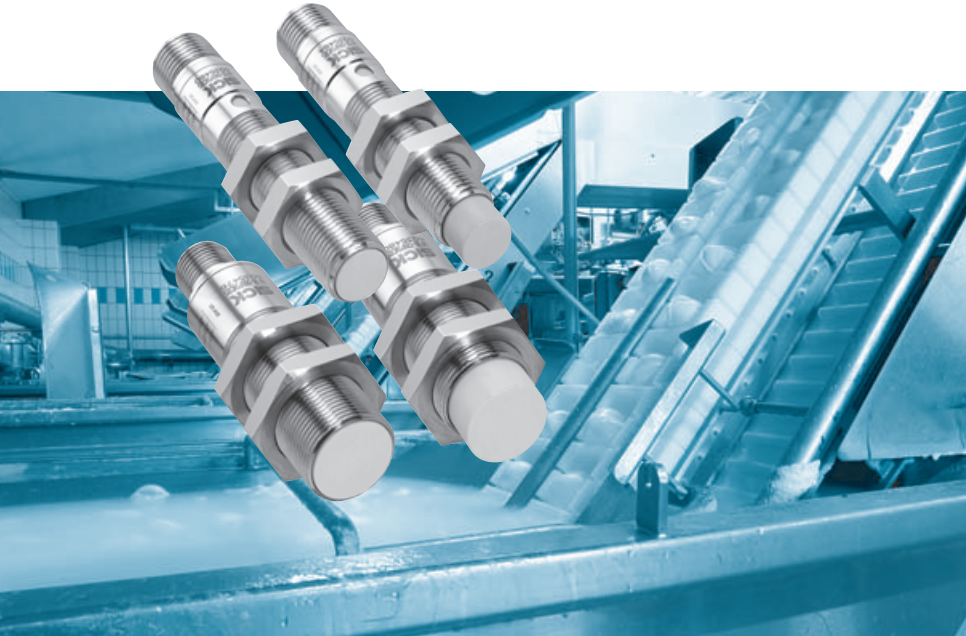


IMF Inductive sensors: Robust and powerful



Only a few suppliers can meet all these demands. At the forefront of progress: SICK's Food & Beverage sensor solutions, developed on the basis of many years' experience and collaboration with producers in this sector.

SICK sensors for the food and beverage industry are proven in harsh environment thousand of times and every day.



Automated food production poses extreme challenges for machine constructors. Cleaning processes complying with regulations place enormous loads on machine electronics, particularly on the sensors at the "front" of process control. They must withstand humidity, high process and cleaning temperatures, aggressive agents and cleaning pressures of up to 100 bar, and are still expected to work properly for many years.

Your benefit is our aim:

- Greater machine availability through reliable sensors
- Hygienic processes through appropriate sensor housing material and design
- Resistant against all common detergents – certified by independent institutes.

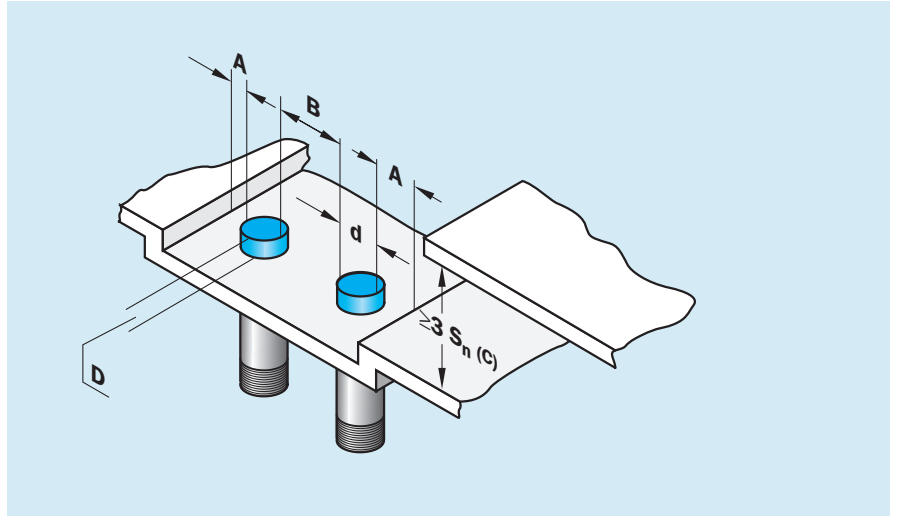
The inductive sensors for Food & Beverage have been specially developed to meet your needs. Convince yourself of the optimum mix of product performance and properties.

SICK

Installation notes

Installation in metal

The following notes are necessary to get proper operation.



d = Outer diameter of the sensor

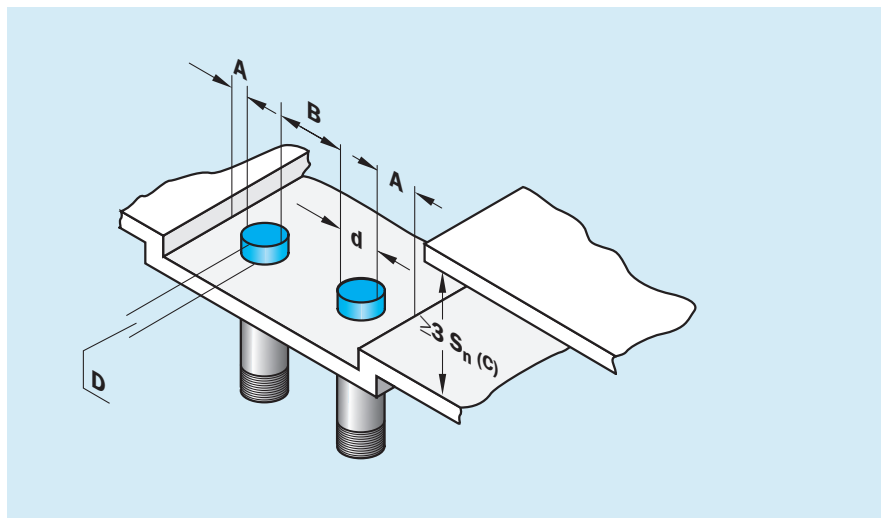
Type	Metal-free zone [mm]
IMF12-02B...	$A \geq 6, B \geq 12, C \geq 6, D \geq 0$
IMF12-04N...	$A \geq 12, B \geq 24, C \geq 12, D \geq 6$
IMF12-04B...	$A \geq 6, B \geq 12, C \geq 12, D \geq 0$
IMF12-08N...	$A \geq 12, B \geq 24, C \geq 24, D \geq 12$

Reduction factor R_m

The following are reference values, which may vary from type to type:

St37	$R_m = 1$
Stainless steel	$R_m = \text{approx. } 0.7$
Aluminium	$R_m = \text{approx. } 0.3$
Copper	$R_m = \text{approx. } 0.25$

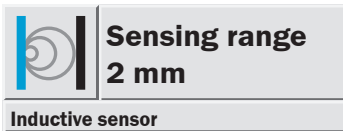
The following notes are necessary to get proper operation.



Type	Metal-free zone [mm]
IMF18-05B...	$A \geq 9, B \geq 18, C \geq 15, D \geq 3.6$
IMF18-08N...	$A \geq 18, B \geq 36, C \geq 24, D \geq 12$
IMF18-08B...	$A \geq 9, B \geq 18, C \geq 24, D \geq 1.8$
IMF18-12N...	$A \geq 18, B \geq 36, C \geq 36, D \geq 16$

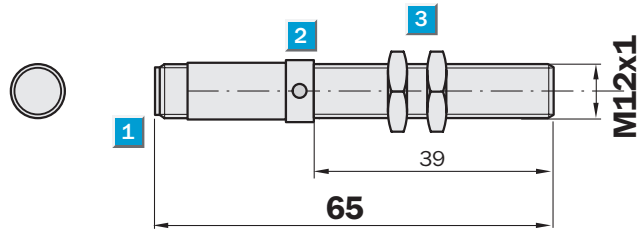
The following are reference values, which may vary from type to type:

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Copper	$R_m = \text{approx. } 0.25$



- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K und IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing

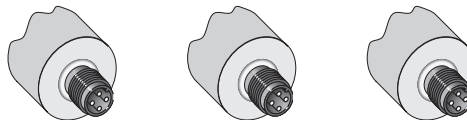


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x), width across 17, stainless steel (316L/1.4404)

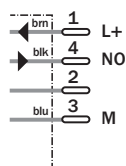


Connection type

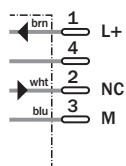
IMF12-02BNSVC0S	IMF12-02BNOVC0S	IMF12-02BNPVC0S
IMF12-02BPSVC0S	IMF12-02BPOVC0S	IMF12-02BPPVC0S



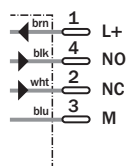
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories

- Mounting systems
- Stainless steel 316L/1.4404
- Connecting cables
- "Food & Beverage", M12, 4-pin
- Extension cables
- "Food & Beverage", M12, 4-pin
- Sensor splitter-box
- "Food & Beverage"

Technical data		IMF12	02BPS VCOS	02BNS VCOS	02BPO VCOS	02BNO VCOS	02BPP VCOS	02BNP VCOS				
Sensing range S_n	2 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	2,000 Hz											
Dimensions	M12x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	20 Nm											

1) At I_A max.

2) Without load

3) Of S_r

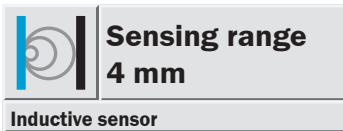
4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

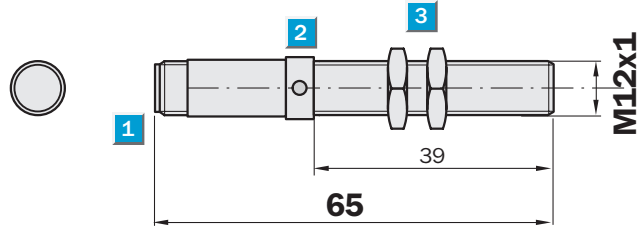
7) Pulsed

Order information	
Type	Order no.
IMF12-02BPSVCOS	6035452
IMF12-02BNSVCOS	6035453
IMF12-02BPOVCOS	6035454
IMF12-02BNOVCOS	6035455
IMF12-02BPPVCOS	6035215
IMF12-02BNPVCOS	6035216



- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K und IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing

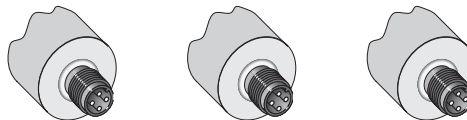


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x), width across 17, stainless steel (316L/1.4404)

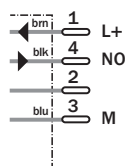


Connection type

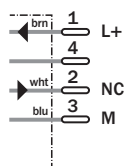
IMF12-04BNSVC0S	IMF12-04BNOVC0S	IMF12-04BNPVC0S
IMF12-04BPSVC0S	IMF12-04BPOVC0S	IMF12-04BPPVC0S



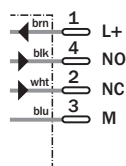
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories

- Mounting systems
- Stainless steel 316L/1.4404
- Connecting cables
- "Food & Beverage", M12, 4-pin
- Extension cables
- "Food & Beverage", M12, 4-pin
- Sensor splitter-box
- "Food & Beverage"

Technical data		IMF12	04BPS VC0S	04BNS VC0S	04BPO VC0S	04BNO VC0S	04BPP VC0S	04BNP VC0S				
Sensing range S_n	4 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	2,000 Hz											
Dimensions	M12x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	20 Nm											

1) At I_A max.

2) Without load

3) Of S_r

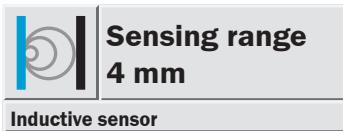
4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

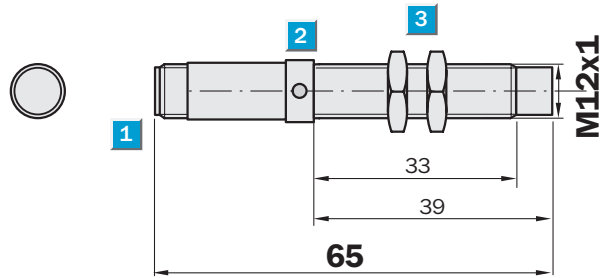
7) Pulsed

Order information	
Type	Order no.
IMF12-04BPSVC0S	6035460
IMF12-04BNSVC0S	6035461
IMF12-04BP0VC0S	6035462
IMF12-04BNOVC0S	6035463
IMF12-04BPPVC0S	6035219
IMF12-04BNPVC0S	6035220



- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K und IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing

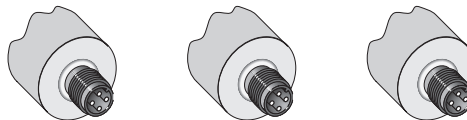


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x), width across 17, stainless steel (316L/1.4404)

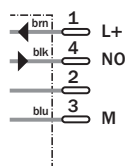


Connection type

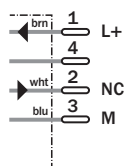
IMF12-04NNSVC0S	IMF12-04NNOVC0S	IMF12-04NNPVC0S
IMF12-04NPSVC0S	IMF12-04NPOVC0S	IMF12-04NPPVC0S



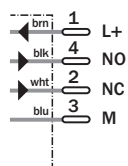
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories

- Mounting systems
- Stainless steel 316L/1.4404
- Connecting cables
- "Food & Beverage", M12, 4-pin
- Extension cables
- "Food & Beverage", M12, 4-pin
- Sensor splitter-box
- "Food & Beverage"

Technical data		IMF12	04NPS VC0S	04NNS VC0S	04NPO VC0S	04NNO VC0S	04NPP VC0S	04NNP VC0S				
Sensing range S_n	4 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Non-flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	2,000 Hz											
Dimensions	M12x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	20 Nm											

1) At I_A max.

2) Without load

3) Of S_r

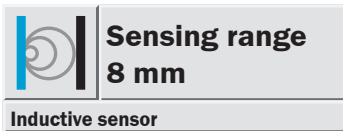
4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

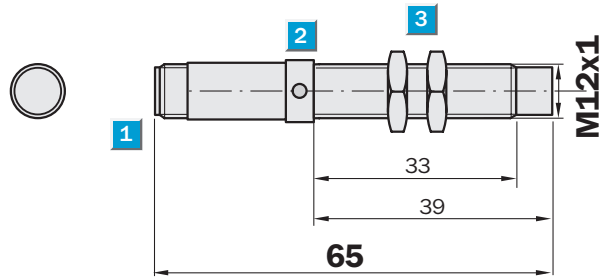
7) Pulsed

Order information	
Type	Order no.
IMF12-04NPSVC0S	6035456
IMF12-04NNSVC0S	6035457
IMF12-04NPOVC0S	6035458
IMF12-04NNOVC0S	6035459
IMF12-04NPPVC0S	6035217
IMF12-04NNPVC0S	6035218



- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K and IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing

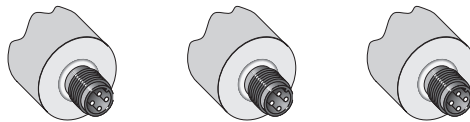


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x), width across 17, stainless steel (316L/1.4404)

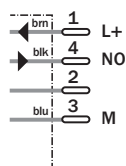


Connection type

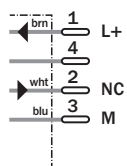
IMF12-08NNSVC0S	IMF12-08NNOVC0S	IMF12-08NNPVC0S
IMF12-08NPSVC0S	IMF12-08NPOVC0S	IMF12-08NPPVC0S



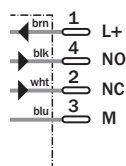
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories

Mounting systems
Stainless steel 316L/1.4404
Connecting cables
"Food & Beverage", M12, 4-pin
Extension cables
"Food & Beverage", M12, 4-pin
Sensor splitter-box
"Food & Beverage"

Technical data		IMF12	08NPS VCOS	08NNS VCOS	08NPO VCOS	08NNO VCOS	08NPP VCOS	08NNP VCOS				
Sensing range S_n	8 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Non-flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	2,000 Hz											
Dimensions	M12x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	20 Nm											

1) At I_A max.

2) Without load

3) Of S_r

4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

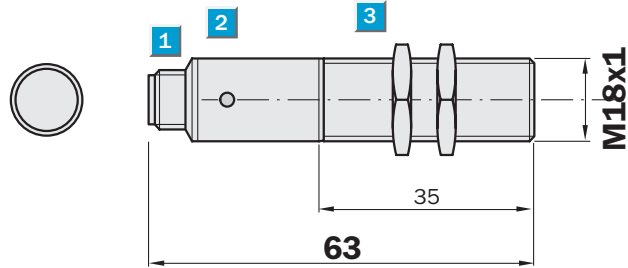
7) Pulsed

Order information	
Type	Order no.
IMF12-08NPSVCOS	6035464
IMF12-08NNSVCOS	6035465
IMF12-08NPOVCOS	6035466
IMF12-08NNOVCOS	6035467
IMF12-08NPPVCOS	6035221
IMF12-08NNPVCOS	6035222

	Sensing range 5 mm
Inductive sensor	

- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K and IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing



- 1** Connection
- 2** Display LED
- 3** Fastening nuts (2 x), width across 24, stainless steel (316L/1.4404)



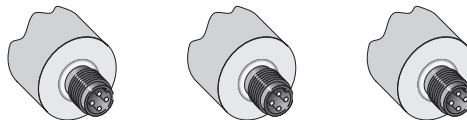
CE **ECOLAB**[®]

JohnsonDiversey 

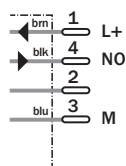
UL
LISTED

Connection type

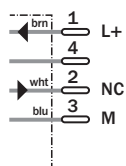
IMF18-05BNSVC0S	IMF18-05BNOVC0S	IMF18-05BNPVC0S
IMF18-05BPSVC0S	IMF18-05BP0VC0S	IMF18-05BPPVC0S



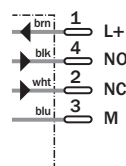
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories
Mounting systems
Stainless steel 316L/1.4404
Connecting cables
"Food & Beverage", M12, 4-pin
Extension cables
"Food & Beverage", M12, 4-pin
Sensor splitter-box
"Food & Beverage"

Technical data		IMF18	05BPS VCOS	05BNS VCOS	05BPO VCOS	05BNO VCOS	05BPP VCOS	05BNP VCOS				
Sensing range S_n	5 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	1,700 Hz											
Dimensions	M18x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	50 Nm											

1) At I_A max.

2) Without load

3) Of S_r

4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

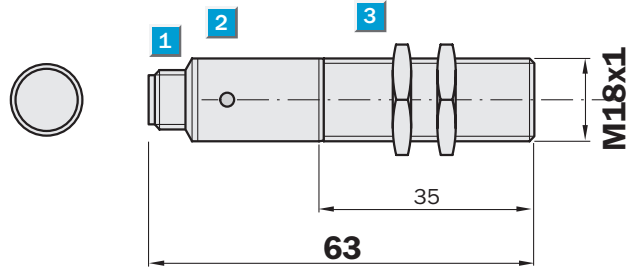
7) Pulsed

Order information	
Type	Order no.
IMF18-05BPSVCOS	6035468
IMF18-05BNSVCOS	6035469
IMF18-05BPOVCOS	6035470
IMF18-05BNOVCOS	6035471
IMF18-05BPPVCOS	6035223
IMF18-05BNPVCOS	6035224

	Sensing range 8 mm
Inductive sensor	

- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K and IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing

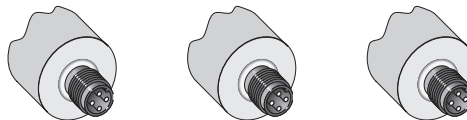


- 1** Connection
- 2** Display LED
- 3** Fastening nuts (2 x), width across 24, stainless steel (316L/1.4404)

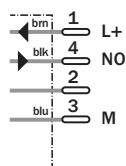


Connection type

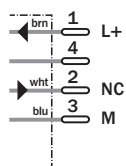
IMF18-08BNSVC0S	IMF18-08BNOVC0S	IMF18-08BNPVC0S
IMF18-08BPSVC0S	IMF18-08BP0VC0S	IMF18-08BPPVC0S



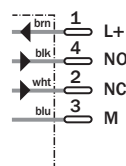
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories

Mounting systems
Stainless steel 316L/1.4404
Connecting cables
"Food & Beverage", M12, 4-pin
Extension cables
"Food & Beverage", M12, 4-pin
Sensor splitter-box
"Food & Beverage"

Technical data		IMF18	08BPS VCOS	08BNS VCOS	08BPO VCOS	08BNO VCOS	08BPP VCOS	08BNP VCOS				
Sensing range S_n	8 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	1,700 Hz											
Dimensions	M18x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	50 Nm											

1) At I_A max.

2) Without load

3) Of S_r

4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

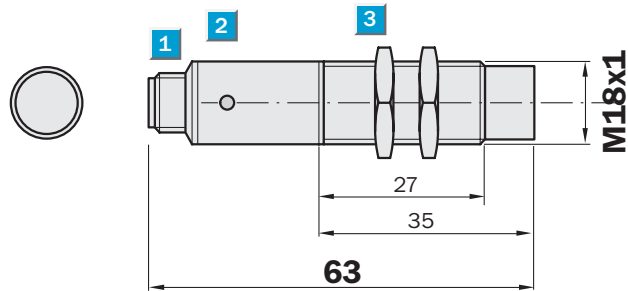
7) Pulsed

Order information	
Type	Order no.
IMF18-08BPSVCOS	6035476
IMF18-08BNSVCOS	6035477
IMF18-08BPOVCOS	6035478
IMF18-08BNOVCOS	6035479
IMF18-08BPPVCOS	6035227
IMF18-08BNPVCOS	6035228

	Sensing range 8 mm
Inductive sensor	

- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K and IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing



- 1** Connection
- 2** Display LED
- 3** Fastening nuts (2 x), width across 24, stainless steel (316L/1.4404)



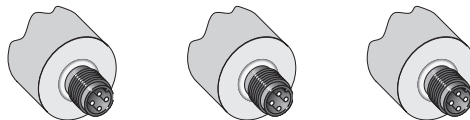
CE ECOLAB

JohnsonDiversey 

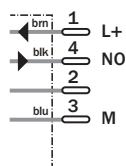
UL
LISTED

Connection type

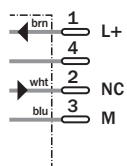
IMF18-08NNSVC0S	IMF18-08NNOVC0S	IMF18-08NNPVC0S
IMF18-08NPSVC0S	IMF18-08NPOVC0S	IMF18-08NPPVC0S



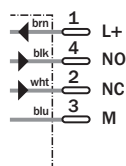
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories

Mounting systems
Stainless steel 316L/1.4404
Connecting cables
"Food & Beverage", M12, 4-pin
Extension cables
"Food & Beverage", M12, 4-pin
Sensor splitter-box
"Food & Beverage"

Technical data		IMF18	08NPS VCOS	08NNS VCOS	08NPO VCOS	08NNO VCOS	08NPP VCOS	08NNP VCOS				
Sensing range S_n	8 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Non-flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	1,700 Hz											
Dimensions	M18x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	50 Nm											

1) At I_A max.

2) Without load

3) Of S_r

4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

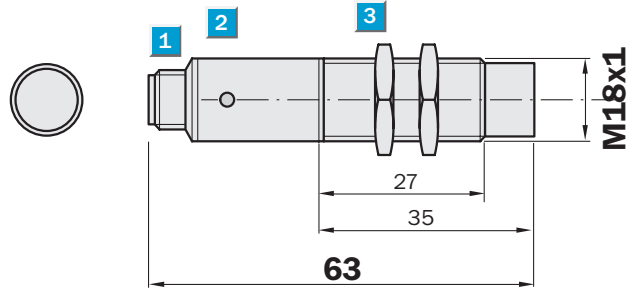
7) Pulsed

Order information	
Type	Order no.
IMF18-08NPSVCOS	6035472
IMF18-08NNSVCOS	6035473
IMF18-08NPOVCOS	6035474
IMF18-08NNOVCOS	6035475
IMF18-08NPPVCOS	6035225
IMF18-08NNPVCOS	6035226

	Sensing range
	12 mm
Inductive sensor	

- Robust stainless steel housing
316L/1.4404
- Enclosure rating IP 69K and IP 68
- Extended temperature range
-40 °C ... +80 °C,
+100 °C for 15 minutes

Dimensional drawing



- 1** Connection
- 2** Display LED
- 3** Fastening nuts (2 x), width across 24, stainless steel (316L/1.4404)



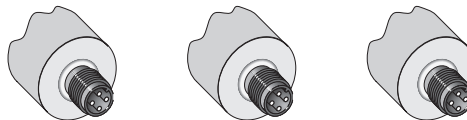
CE ECOLAB®

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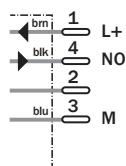
cUL_{US}
LISTED

Connection type

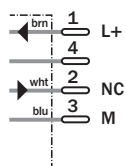
IMF18-12NNSVC0S	IMF18-12NNOVC0S	IMF18-12NNPVC0S
IMF18-12NPSVC0S	IMF18-12NPOVC0S	IMF18-12NPPVC0S



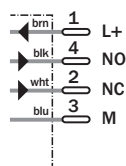
M12, 4-pin



M12, 4-pin



M12, 4-pin



Accessories

Mounting systems
Stainless steel 316L/1.4404
Connecting cables
"Food & Beverage", M12, 4-pin
Extension cables
"Food & Beverage", M12, 4-pin
Sensor splitter-box
"Food & Beverage"

Technical data		IMF18	12NPS VCOS	12NNS VCOS	12NPO VCOS	12NNO VCOS	12NPP VCOS	12NNP VCOS				
Sensing range S_n	12 mm											
Electrical configuration	DC 3-wire											
	DC 4-wire											
	10 ... 30 V DC											
Ripple V_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 15 \text{ mA}^{2)}$											
Continuous current I_A	$\leq 200 \text{ mA}$											
Time delay before availability t_v	Approx. 50 ms											
Hysteresis H, of s_r	1 ... 20 %											
Repeatability R	5 % (V_S and T_a constant) ³⁾											
Temperature drift, of S_r	10 %											
EMC	According to EN 60947-5-2											
Switching output	PNP											
	NPN											
Output function	Normally open											
	Normally closed											
	Complementary											
Installation	Non-flush											
Connection type	Connector M12, 4-pin,											
	gold-plated											
Enclosure rating	IP 68 ⁴⁾ , IP 69K ⁵⁾											
Max. switching frequency	1,700 Hz											
Dimensions	M18x1 ⁶⁾											
Short-circuit protection⁷⁾	✓											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz											
Ambient temperature T_a	-40 ... +80 °C,											
	+100 °C for 15 minutes											
Housing material	Stainless steel 316L/1.4404,											
	PPS (FDA certified)											
Tightening torque	50 Nm											

1) At I_A max.

2) Without load

3) Of S_r

4) According to EN 60529

5) According to EN 40050

6) Thread diameter x pitch (mm)

7) Pulsed

Order information	
Type	Order no.
IMF18-12NPSVCOS	6035480
IMF18-12NNSVCOS	6035481
IMF18-12NPOVCOS	6035482
IMF18-12NNOVCOS	6035483
IMF18-12NPPVCOS	6035229
IMF18-12NNPVCOS	6035230

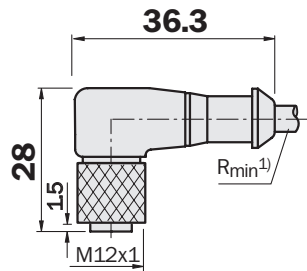
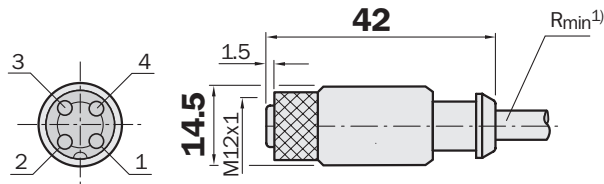
Connecting cables "Food & Beverage"

Round connectors

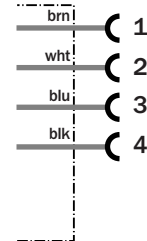
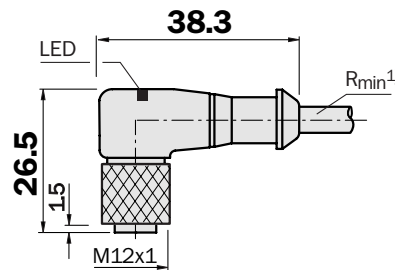
- Especially suitable for use in the "Food & Beverage" sector
- Gold plated pins
- Improved resistance to chemicals, acids and cleaning agents
- Enclosure rating IP 69K (only in fully locked position with its plugs)
- Stainless steel locking nut (V4A)

Dimensional drawings

DOL-1204...



DOL-1204-L...



Contacts	Wire colour
1	brown
2	white
3	blue
4	black

¹⁾ Minimum bend radius in dynamic use
 $R_{min} = 20 \times \text{cable diameter}$



Technical data

Supply voltage V_s	250 V AC/300 V DC (M12, 4-pin connector)
	10 ... 30 V DC (M12, LED indicator)
Contact resistance	$\leq 5 \text{ m}\Omega$
Nominal power	4 A (CSA = 3 A)
Test voltage	2.0 kV eff./60 s. (4-pin)
Insulation group	C acc. VDE 0110
Insulation resistance	$> 10^9 \Omega$
Temperature range	In fixed position $-25 \text{ }^\circ\text{C} \dots +90 \text{ }^\circ\text{C}$
	In flexible motion $+5 \text{ }^\circ\text{C} \dots +90 \text{ }^\circ\text{C}$
Bending radius	$> 10 \times$ diameter of cable
Contact	CuZn, 0.3 μm gold plated
Locking nut	Stainless steel V4A
Cable	PVC, colour orange
Conductor diameter	$4 \times 0.25 \text{ mm}^2$
Connector	PVC, colour orange
Enclosure rating	IP 69K (only in fully locked position with its plugs)
Tightening torque	0.5 Nm

Order information

Round connectors M12 connecting cable "Food & Beverage"

Type	Order no.	Description		Contacts	Cable length [m]
DOL-1204-G02MN	6028128	Female connector	straight	4	2
DOL-1204-G05MN	6028130	Female connector	straight	4	5
DOL-1204-G10MN	6028132	Female connector	straight	4	10
DOL-1204-G25MN	6028134	Female connector	straight	4	25
DOL-1204-W02MN	6028129	Female connector	angled	4	2
DOL-1204-W05MN	6028131	Female connector	angled	4	5
DOL-1204-W10MN	6028133	Female connector	angled	4	10
DOL-1204-W25MN	6028135	Female connector	angled	4	25
DOL-1204-L02MN	6028136	Female connector	angled LED (PNP)	4	2
DOL-1204-L05MN	6028137	Female connector	angled LED (PNP)	4	5
DOL-1204-L10MN	6028138	Female connector	angled LED (PNP)	4	10
DOL-1204-L25MN	6028139	Female connector	angled LED (PNP)	4	25

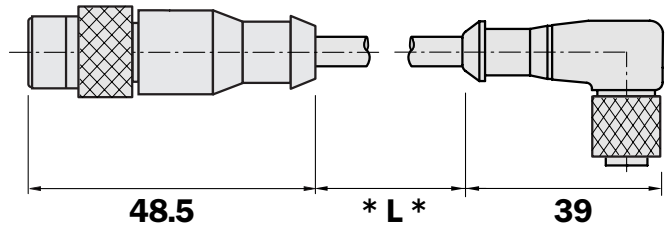
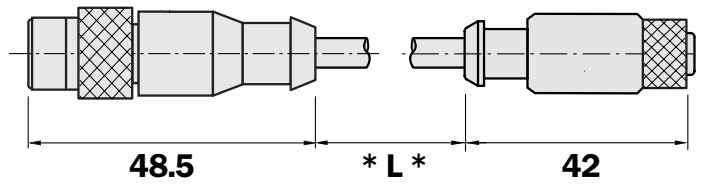
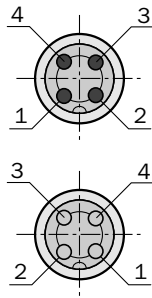
Extension cable "Food & Beverage"

Round connectors

- Especially suitable for use in the "Food & Beverage" sector
- Gold plated pins
- Improved resistance to chemicals, acids and cleaning agents
- Enclosure rating IP 69K (only in fully locked position with its plugs)
- Stainless steel locking nut (V4A)

Dimensional drawings

DSL-1204-...



Technical data

Supply voltage V_s	250 V AC/300 V DC
Contact resistance	$\leq 5 \text{ m}\Omega$
Nominal power	4 A (CSA = 3 A)
Test voltage	2.0 kV eff./60 s.
Insulation group	C acc. VDE 0110
Insulation resistance	$> 10^9 \Omega$
Temperature range	In fixed position $-25 \text{ }^\circ\text{C} \dots +90 \text{ }^\circ\text{C}$
	In flexible motion $+5 \text{ }^\circ\text{C} \dots +90 \text{ }^\circ\text{C}$
Bending radius	$> 10 \times$ diameter of cable
Contact	CuZn, $0.3 \text{ }\mu\text{m}$ gold plated
Locking nut	Stainless steel (V4A)
Cable	PVC, colour orange
Conductor diameter	$4 \times 0.25 \text{ mm}^2$
Connector	PVC, colour orange
Enclosure rating	IP 69K (only in fully locked position with its plugs)
Tightening torque	0.5 Nm

Order information

Round connectors extension cable "Food & Beverage", female connector M12, male connector M12 (straight)

Type	Order no.	Description		Contacts Female connector	Contacts Male connector	Cable length [m]
DSL-1204-G0M6N	6028194	Female connector	straight	4	4	0.6
DSL-1204-G02MN	6028195	Female connector	straight	4	4	2
DSL-1204-G05MN	6028196	Female connector	straight	4	4	5
DSL-1204-B0M6N	6028197	Female connector	angled	4	4	0.6
DSL-1204-B02MN	6028198	Female connector	angled	4	4	2
DSL-1204-B05MN	6028199	Female connector	angled	4	4	5

“Food & Beverage”
IP 69K, V4A

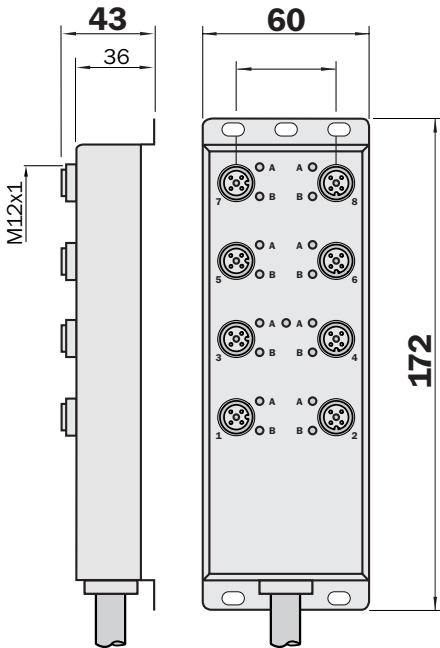
Sensor splitter-box

- Enclosure rating IP 69K (only in fully locked position with its plugs or dust covers)
- Housing & thread material: stainless steel V4A
- Especially suitable for use in the “Food & Beverage” sector
- Improved resistance to chemicals, acids and cleaning agents



Dimensional drawings

SNL-08...



M12-Contacts	Wire colour	Signal/outlet
1	brown	+
3	blue	-
2	grey/pink	1
	red/blue	2
	white/green	3
	brown/green	4
	white/yellow	5
	yellow/brown	6
	white/grey	7
	grey/brown	8
4	white	1
	green	2
	yellow	3
	grey	4
	pink	5
	red	6
	black	7
	violet	8
5	green/yellow	PE

Technical data

Temperature range	0 °C ... +60 °C
Materials	
Housing	V4A-stainless steel
Moulded body	PVC
Contact	CuZn, pre-nickel and 0.8 µm gold plated
Threaded sleeve	V4A-stainless steel
O-Ring	EPDM
Mechanical data	
Enclosure rating	IP 69K (only in fully locked position with its plugs)
Tightening torque	0.5 Nm
Electrical data	
Contact resistance	≤ 5 mΩ
Nominal power	4 A per outlet/11 A max. total at 30 °C (refer to correction factors EN 60204-1)
Supply voltage V_s	10 ... 30 V DC
Reference voltage	32 V ~ eff.
Insulation resistance	> 10 ⁹ Ω
Pollution grade	2 acc. VDE 0110
Cable	PVC, colour black, 3 x 1.0 mm ² /16 x 0.5 mm ² (appropriate for drag cable use)
Accessories	4 dust covers for unused sockets

Order information

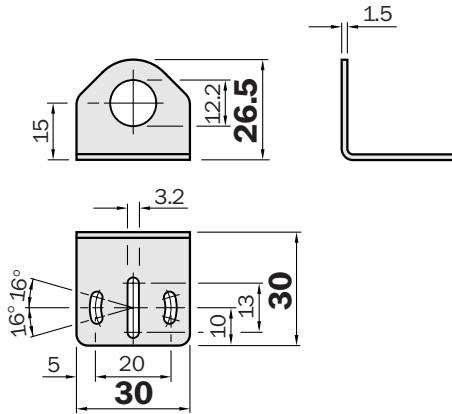
Sensor splitter-box "Food & Beverage", IP 69K, V4A (1.4404/316 L), M12 x 1 mm (5-pin), 8 x female connector, type of connection, cable

Type	Order no.	Connecting cable		
		Length [m]	Lead [mm ²]	Cable
SNL-08D12-KA05	6027586	5	3 x 1.0/16 x 0.5	PVC black
SNL-08D12-KA10	6027587	10	3 x 1.0/16 x 0.5	PVC black
SNL-08D12-KA15	6027588	15	3 x 1.0/16 x 0.5	PVC black

Dimensional drawings and order information

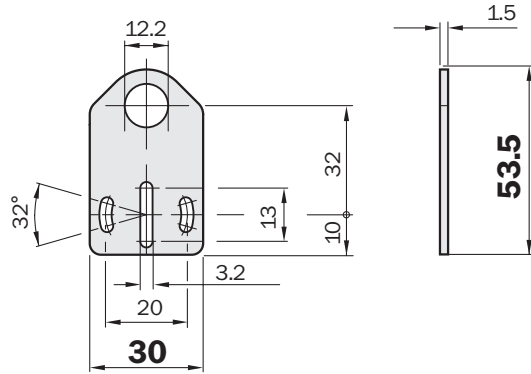
Mounting bracket for IMF12, INOX 12

Type	Order no.
BEF-WN-M12N	5320949



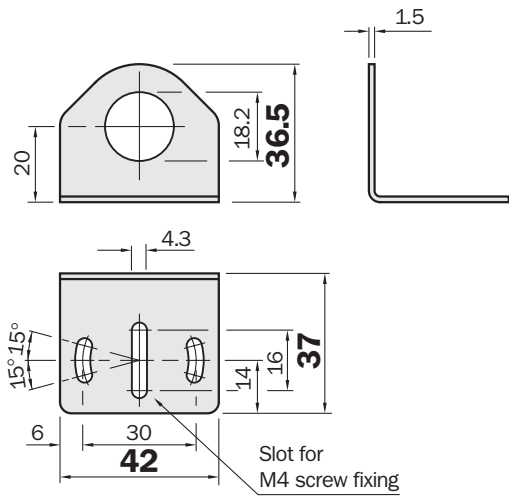
Mounting bracket for IMF12

Type	Order no.
BEF-WG-M12N	5320950



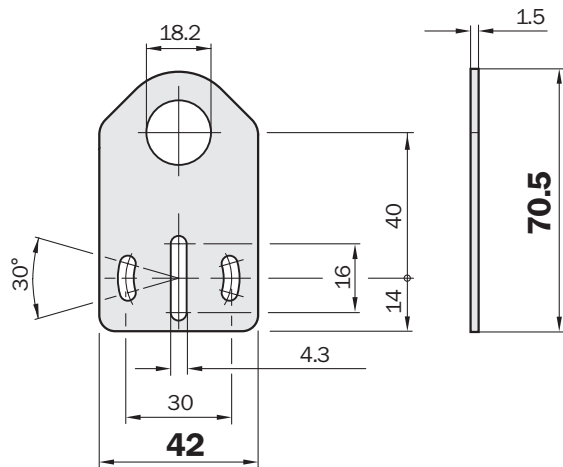
Mounting bracket for IMF18, INOX 18

Type	Order no.
BEF-WN-M18N	5320947



Mounting bracket for IMF18

Type	Order no.
BEF-WG-M18N	5320948



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