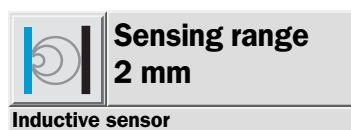


Datasheet

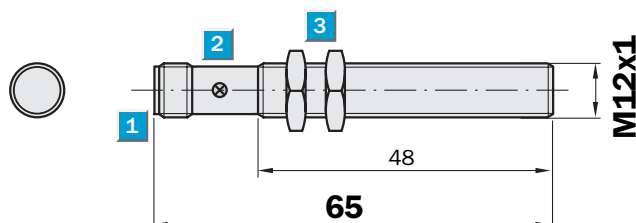
Inductive Sensor

RS Stock No: 7018213, 7018216, 7018219, 7018222, 7018225, 7018229, 7018231, 7018235, 7018238, 7018241, 7018244, 7018247, 7018250, 7018253, 7018257, 7018263, 7018266, 7018269



- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation flush

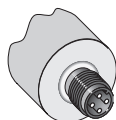
Dimensional drawing



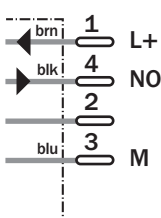
Connection type

IME12-02BNSZC0SF38

IME12-02BPSZC0SF38



M12, 4-pin



Accessories

Connector, M12, 4-pin
Mounting systems

Technical specifications		IME12-	02BNS ZC0S F38	02BPS ZC0S F38								
Sensing range S_n	2 mm											
Electrical configuration	DC3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple U_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 V^{1)}$											
Power consumption	$\leq 10 mA^{2)}$											
Continuous current I_a	$\leq 200 mA$											
Time delay before availability t_v	$\leq 100 ms$											
Hysteresis H, of s_r	5 ... 15 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60947-5-2											
Switching output	NPN											
	PNP											
Output function	Normally open											
Installation	Flush											
Connection type	Connector, M12, 4-pin											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	2000 Hz											
Dimensions	M12 x 1 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +75 °C											
Housing material	Brass nickel-plated, plastic (PA6)											
Tightening torque	Typ. 12 Nm											
Approvals												
Protection class	☐											
UL approval	cULus Listed											

¹⁾ At I_a max
²⁾ Without load

³⁾ Of s_r
⁴⁾ According to EN 60529

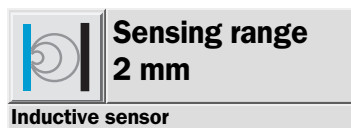
⁵⁾ Thread diameter x pitch (mm)
⁶⁾ (Pulsed)

Reduction factor R_M

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

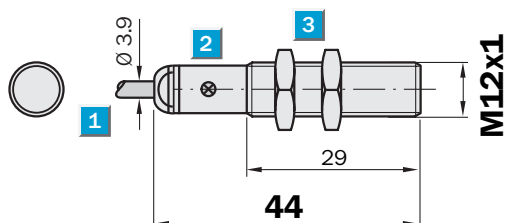
St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

Ordering information	
Type	Part Number
IME12-02BNSZC0SF38	7018238
IME12-02BPSZC0SF38	7018231



- Short circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation flush

Dimensional drawing



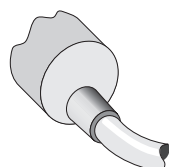
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal



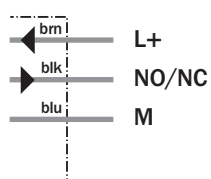
Connection type

IME12-02BNSZW2KF38

IME12-02BPSZW2KF38



3 x 0.25 mm²



Accessories

Mounting systems

Technical specifications		IME12-	02BNS ZW2K F38	02BPS ZW2K F38								
Sensing range S_n	2 mm											
Electrical configuration	DC3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple U_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 V^{1)}$											
Power consumption	$\leq 10 mA^{2)}$											
Continuous current I_a	$\leq 200 mA$											
Time delay before availability t_v	$\leq 100 ms$											
Hysteresis H, of s_r	5 ... 15 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60947-5-2											
Switching output	NPN											
	PNP											
Output function	Normally open											
Installation	Flush											
Connection type	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	2000 Hz											
Dimensions	M12 x 1 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +75 °C											
Housing material	Brass nickel-plated, plastic (PA6)											
Tightening torque	Typ. 12 Nm											
Approvals												
Protection class	☐											
UL approval	cULus Listed											

¹⁾ At I_a max
²⁾ Without load
³⁾ Of s_r
⁴⁾ According to EN 60529
⁵⁾ Thread diameter x pitch (mm)
⁶⁾ (Pulsed)

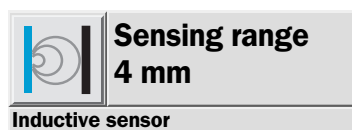
Reduction factor R_M

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

St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

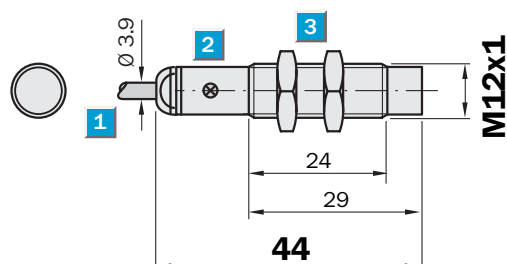
Ordering information

Type	Part Number
IME12-02BNSZW2KF38	7018229
IME12-02BPSZW2KF38	7018225



- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M12 x 1 mm
- Enclosure rating IP 67
- Installation non-flush

Dimensional drawing



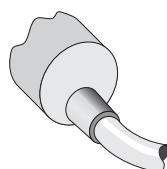
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 17, metal



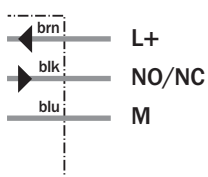
Connection type

IME12-04NNSZW2KF38

IME12-04NPSZW2KF38



3 x 0.25 mm²



Accessories

Mounting systems

Technical specifications		IME12-	04NNS ZW2K F38	04NPS ZW2K F38								
Sensing range S_n	4 mm											
Electrical configuration	DC3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Ripple U_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 V^{1)}$											
Power consumption	$\leq 10 mA^{2)}$											
Continuous current I_a	$\leq 200 mA$											
Time delay before availability t_v	$\leq 100 ms$											
Hysteresis H, of s_r	5 ... 15 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60947-5-2											
Switching output	NPN											
	PNP											
Output function	Normally open											
Installation	Non-flush											
Connection type	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	2000 Hz											
Dimensions	M12 x 1 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +75 °C											
Housing material	Brass nickel-plated, plastic (PA6)											
Tightening torque	Typ. 12 Nm											
Approvals												
Protection class	☐											
UL approval	cULus Listed											

¹⁾ At I_a max
²⁾ Without load

³⁾ Of s_r
⁴⁾ According to EN 60529

⁵⁾ Thread diameter x pitch (mm)
⁶⁾ (Pulsed)

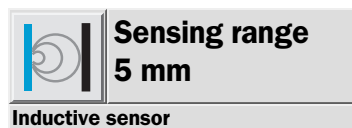
Reduction factor R_M

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

St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

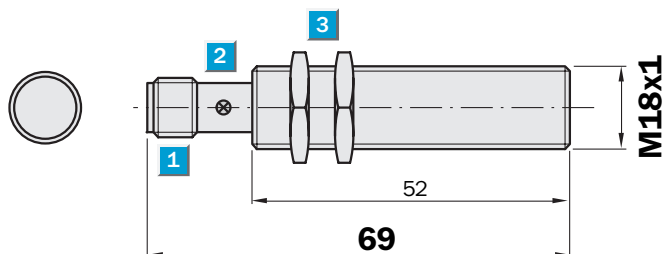
Ordering information

Type	Part Number
IME12-04NNSZW2KF38	7018250
IME12-04NPSZW2KF38	7018253



- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation flush

Dimensional drawing



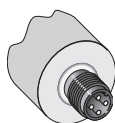
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



Connection type

IME18-05BNSZC0SF38

IME18-05BPSZC0SF38

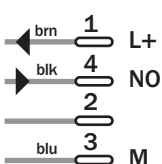


Accessories

Connector, M12, 4-pin

Mounting systems

M12, 4-pin



Technical specifications		IME18-	05BNS ZC0S F38	05BPS ZC0S F38						
Sensing range S_n	5 mm									
Electrical configuration	DC3-wire									
Supply voltage V_s	DC 10 ... 30 V									
Nominal voltage V_n	DC									
Ripple U_{pp}	$\leq 10 \%$									
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$									
Power consumption	$\leq 10 \text{ mA}^{2)}$									
Continuous current I_a	$\leq 200 \text{ mA}$									
Time delay before availability t_v	$\leq 100 \text{ ms}$									
Hysteresis H, of s_r	5 ... 15 %									
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾									
Temperature drift, of s_r	$\pm 10 \%$									
EMC	According to EN 60947-5-2									
Switching output	NPN									
	PNP									
Output function	Normally open									
Installation	Flush									
Connection type	Connector, M12, 4-pin									
Enclosure rating	IP 67 ⁴⁾									
Max. switching frequency	1000 Hz									
Dimensions	M18 x 1 ⁵⁾									
Short-circuit protection	✓ ⁶⁾									
Reverse polarity protection	✓									
Power-up pulse suppression	✓									
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm									
Ambient temperature T_a	-25 °C ... +75 °C									
Housing material	Brass nickel-plated, plastic (PA6)									
Tightening torque	40 Nm									
Approvals										
Protection class	☐									
UL approval	cULus Listed									

¹⁾ At I_a max
²⁾ Without load

³⁾ Of s_r
⁴⁾ According to EN 60529

⁵⁾ Thread diameter x pitch (mm)
⁶⁾ (Pulsed)

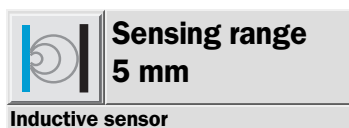
Reduction factor R_M

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

St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

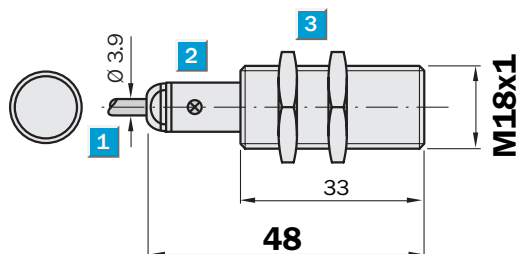
Ordering information

Type	Part Number
IME18-05BNSZC0SF38	7018235
IME18-05BPSZC0SF38	7018244



- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation flush

Dimensional drawing



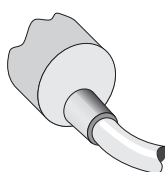
- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



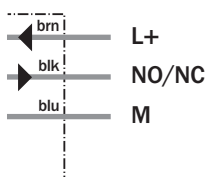
Connection type

IME18-05BNSZW2KF38

IME18-05BPSZW2KF38



3 x 0.25 mm²



Accessories

Mounting systems

Technical specifications		IME18-	05BNS ZW2K F38	05BPS ZW2K F38							
Sensing range S_n	5 mm										
Electrical configuration	DC3-wire										
Supply voltage V_s	DC 10 ... 30 V										
Nominal voltage V_n	DC										
Ripple U_{pp}	$\leq 10 \%$										
Voltage drop U_d	$\leq 2 V^{(1)}$										
Power consumption	$\leq 10 mA^{(2)}$										
Continuous current I_a	$\leq 200 mA$										
Time delay before availability t_v	$\leq 100 ms$										
Hysteresis H , of s_r	5 ... 15 %										
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾										
Temperature drift, of s_r	$\pm 10 \%$										
EMC	According to EN 60947-5-2										
Switching output	NPN										
	PNP										
Output function	Normally open										
Installation	Flush										
Connection type	Cable, PVC, 2 m										
Enclosure rating	IP 67 ⁴⁾										
Max. switching frequency	1000 Hz										
Dimensions	M18 x 1 ⁵⁾										
Short-circuit protection	✓ ⁶⁾										
Reverse polarity protection	✓										
Power-up pulse suppression	✓										
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm										
Ambient temperature T_a	-25 °C ... +75 °C										
Housing material	Brass nickel-plated, plastic (PA6)										
Tightening torque	40 Nm										
Approvals											
Protection class	☐										
UL approval	cULus Listed										

¹⁾ At I_a max
²⁾ Without load

³⁾ Of s_r
⁴⁾ According to EN 60529

⁵⁾ Thread diameter x pitch (mm)
⁶⁾ (Pulsed)

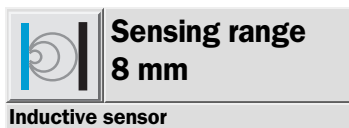
Reduction factor R_M

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

St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

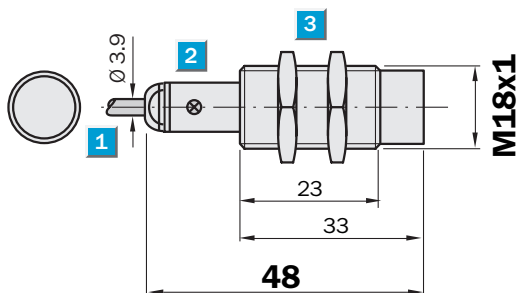
Ordering information

Type	Part Number
IME18-05BNSZW2KF38	7018222
IME18-05BPSZW2KF38	7018213



- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M18 x 1 mm
- Enclosure rating IP 67
- Installation non-flush

Dimensional drawing



- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 24, metal



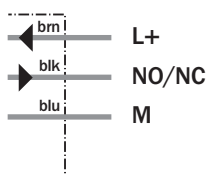
Connection type

IME18-08NNSZW2KF38

IME18-08NPSZW2KF38



3 x 0.25 mm²



Accessories

Mounting systems

Technical specifications		IME18-	08NNS ZW2K F38	08NPS ZW2K F38										
Sensing range S_n	8 mm													
Electrical configuration	DC3-wire													
Supply voltage V_s	DC 10 ... 30 V													
Nominal voltage V_n	DC													
Ripple U_{pp}	$\leq 10 \%$													
Voltage drop U_d	$\leq 2 V^{1)}$													
Power consumption	$\leq 10 mA^{2)}$													
Continuous current I_a	$\leq 200 mA$													
Time delay before availability t_v	$\leq 100 ms$													
Hysteresis H, of s_r	5 ... 15 %													
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾													
Temperature drift, of s_r	$\pm 10 \%$													
EMC	According to EN 60947-5-2													
Switching output	NPN													
	PNP													
Output function	Normally open													
Installation	Non-flush													
Connection type	Cable, PVC, 2 m													
Enclosure rating	IP 67 ⁴⁾													
Max. switching frequency	1000 Hz													
Dimensions	M18 x 1 ⁵⁾													
Short-circuit protection	✓ ⁶⁾													
Reverse polarity protection	✓													
Power-up pulse suppression	✓													
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm													
Ambient temperature T_a	-25 °C ... +75 °C													
Housing material	Brass nickel-plated, plastic (PA6)													
Tightening torque	40 Nm													
Approvals														
Protection class	☐													
UL approval	cULus Listed													

¹⁾ At I_a max

²⁾ Without load

³⁾ Of s_r

⁴⁾ According to EN 60529

⁵⁾ Thread diameter x pitch (mm)

⁶⁾ (Pulsed)

Reduction factor R_M

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

St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

Ordering information

Type	Part Number
IME18-08NNSZW2KF38	7018257
IME18-08NPSZW2KF38	7018266

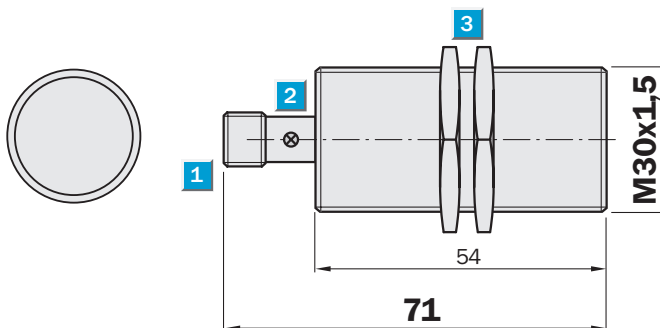


**Sensing range
10 mm**

Inductive sensor

- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation flush

Dimensional drawing

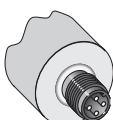


- 1** Connection
- 2** Display LED
- 3** Fastening nuts (2 x); width across 36, metal



Connection type

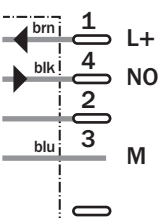
IME30-10BNSZC0SF38
IME30-10BPSZC0SF38



Accessories

Connector, M12, 4-pin
Mounting systems

M12, 4-pin



Technical specifications		IME30-	10BNS ZCOS F38	10BPS ZCOS F38								
Sensing range S_n	10 mm											
Electrical configuration	DC3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Nominal voltage V_n	DC											
Ripple U_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 \text{ V}^{1)}$											
Power consumption	$\leq 10 \text{ mA}^{2)}$											
Continuous current I_a	$\leq 200 \text{ mA}$											
Time delay before availability t_v	$\leq 125 \text{ ms}$											
Hysteresis H, of s_r	5 ... 15 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60947-5-2											
Switching output	NPN											
	PNP											
Output function	Normally open											
Installation	Flush											
Connection type	Connector, M12, 4-pin											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	500 Hz											
Dimensions	M30 x 1.5 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +75 °C											
Housing material	Brass nickel-plated, plastic (PA6)											
Tightening torque	100 Nm											
Approvals												
Protection class	☐											
UL approval	cULus Listed											

¹⁾ At I_a max
²⁾ Without load
³⁾ Of s_r
⁴⁾ According to EN 60529
⁵⁾ Thread diameter x pitch (mm)
⁶⁾ (Pulsed)

Reduction factor R_M

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

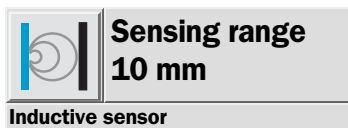
St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

Installation note

Mounting based on non-ferromagnetic materials

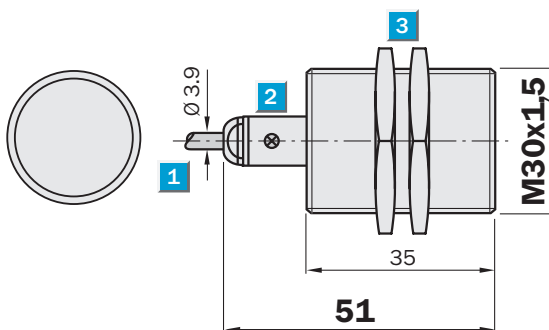
Ordering information

Type	Part Number
IME30-10BNSZCOSF38	7018247
IME30-10BPSZCOSF38	7018241



- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation flush

Dimensional drawing

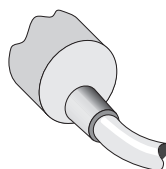


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal

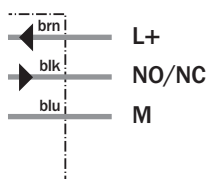


Connection type

IME30-10BNSZW2KF38
IME30-10BPSZW2KF38



3 x 0.5 mm²



Accessories

Mounting systems

Technical specifications		IME30-	10BNS ZW2K F38	10BPS ZW2K F38								
Sensing range S_n	10 mm											
Electrical configuration	DC3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Nominal voltage V_n	DC											
Ripple U_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 V^{1)}$											
Power consumption	$\leq 10 mA^{2)}$											
Continuous current I_a	$\leq 200 mA$											
Time delay before availability t_v	$\leq 125 ms$											
Hysteresis H, of s_r	5 ... 15 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60947-5-2											
Switching output	NPN											
	PNP											
Output function	Normally open											
Installation	Flush											
Connection type	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	500 Hz											
Dimensions	M30 x 1.5 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +75 °C											
Housing material	Brass nickel-plated, plastic (PA6)											
Tightening torque	100 Nm											
Approvals												
Protection class	☐											
UL approval	cULus Listed											

¹⁾ At I_a max

²⁾ Without load

³⁾ Of s_r
⁴⁾ According to EN 60529

⁵⁾ Thread diameter x pitch (mm)

⁶⁾ (Pulsed)

Reduction factor R_M

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

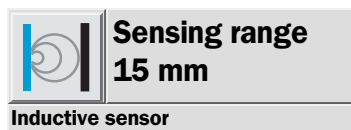
St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

Installation note

Mounting based on non-ferromagnetic materials

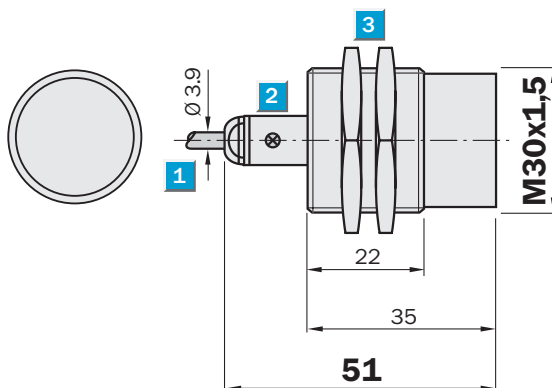
Ordering information

Type	Part Number
IME30-10BNSZW2KF38	7018219
IME30-10BPSZW2KF38	7018216



- Short-circuit protection (pulsed)
- Robust brass housing, nickel-plated with fine thread M30 x 1.5 mm
- Enclosure rating IP 67
- Installation non-flush

Dimensional drawing

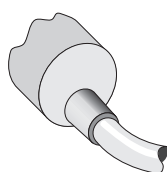


- 1 Connection
- 2 Display LED
- 3 Fastening nuts (2 x); width across 36, metal

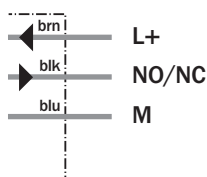


Connection type

IME30-15NNSZW2KF38
IME30-15NPSZW2KF38



3 x 0.5 mm²



Accessories

Mounting systems

Technical specifications		IME30-	15NNS ZW2K F38	15NPS ZW2K F38								
Sensing range S_n	15 mm											
Electrical configuration	DC3-wire											
Supply voltage V_s	DC 10 ... 30 V											
Nominal voltage V_n	DC											
Ripple U_{pp}	$\leq 10 \%$											
Voltage drop U_d	$\leq 2 V^{1)}$											
Power consumption	$\leq 10 mA^{2)}$											
Continuous current I_a	$\leq 200 mA$											
Time delay before availability t_v	$\leq 125 ms$											
Hysteresis H, of s_r	5 ... 15 %											
Repeatability R	$\leq 2 \%$ (U_b and T_a constant) ³⁾											
Temperature drift, of s_r	$\pm 10 \%$											
EMC	According to EN 60947-5-2											
Switching output	NPN											
	PNP											
Output function	Normally open											
Installation	Non-flush											
Connection type	Cable, PVC, 2 m											
Enclosure rating	IP 67 ⁴⁾											
Max. switching frequency	500 Hz											
Dimensions	M30 x 1.5 ⁵⁾											
Short-circuit protection	✓ ⁶⁾											
Reverse polarity protection	✓											
Power-up pulse suppression	✓											
Shock/vibration stress	30 g, 11 ms/10 ... 55 Hz, 1 mm											
Ambient temperature T_a	-25 °C ... +75 °C											
Housing material	Brass nickel-plated, plastic (PA6)											
Tightening torque	100 Nm											
Approvals												
Protection class	☐											
UL approval	cULus Listed											

¹⁾ At I_a max
²⁾ Without load

³⁾ Of s_r
⁴⁾ According to EN 60529

⁵⁾ Thread diameter x pitch (mm)
⁶⁾ (Pulsed)

Reduction factor R_M

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

St37 (Fe)	1
Stainless steel (V2A)	Approx. 0.8
Aluminum (solid)	Approx. 0.45
Copper (Cu)	Approx. 0.4

Installation note

Mounting based on non-ferromagnetic materials

Ordering information

Type	Part Number
IME30-15NNSZW2KF38	7018269
IME30-15NPSZW2KF38	7018263