



**INDUCTIVE SENSORS:
ALL-METAL
SERIES 700**



- ✓ Mechanically and chemically **rugged**
- ✓ **All-metal housing** (incl. sensing face) in stainless steel **V2A**
- ✓ Impervious: **IP 68 & IP 69K**
- ✓ Pressure-resistant up to **100 bar**
- ✓ Long operating distances up to **40 mm**
- ✓ **Factor 1**: identical operating distances on steel and aluminum

TECHNICAL DATA

(according to IEC 60947-5-2)	
Housing material	V2A
Degree of protection	IP 68 & IP 69K (M12, M18, M30)
Supply voltage range U_B	10 ... 30 VDC
Ambient temperature	-25 ... +70 °C
Output current	200 mA
Max. ripple content	$\leq 20 \% U_B$
No-load supply current	≤ 10 mA
Leakage current at output	$\leq 0,1$ mA
Voltage drop, switched state	$\leq 2,0$ V
Temperature drift % s_r	≤ 10 %
Hysteresis % s_r	≤ 15 %
Repeat accuracy % s_r	≤ 5 %
Short-circuit protection	Built-in
Polarity reversal protection	Built-in
Power-on reset	Built-in

Mechanically and chemically very rugged all-metal sensors in V2A (incl. sensing face) for considerably reduced downtimes in extremely rough environments. Impervious (IP 68 & IP 69K) and pressure-resistant up to 100 bar. Factor 1: long operating distances on ferromagnetic and non-ferromagnetic metals with good conductivity as well as identical operating distances on steel and aluminum. Particularly suited for

- ✓ **automotive industry**
- ✓ **chemical industry**
- ✓ **oil-rigs**
- ✓ **harbor cranes**
- ✓ **ships**
- ✓ **machine tool manufacturing**
- ✓ **industrial laundries**
- ✓ **utility vehicles**
- ✓ **ski lifts**
- ✓ **military transporters**
- ✓ **cable detection**
- ✓ **wood & paper industry**
- ✓ **EDM machines**

Inductive

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Optical fibers

Ultrasonic

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HOUSING SIZE	M8		
OPERATING DISTANCE MM	3	3	3



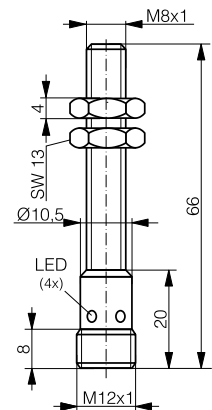
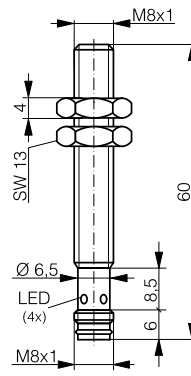
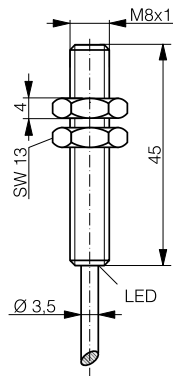
ALL-METAL / 100 BAR



ALL-METAL / 100 BAR



ALL-METAL / 100 BAR







- 1) Standard cable length 2 m. Non-standard cable lengths and types on request. Cable type see page 271.
- 2) see page 133
- 3) see page 268

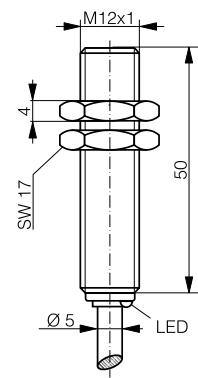
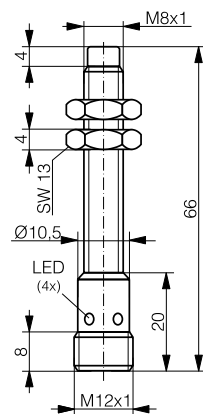
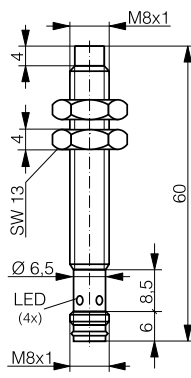
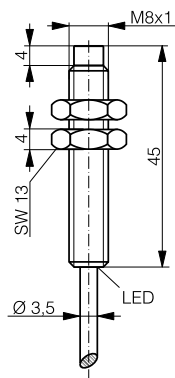
TECHNICAL DATA

Connection ¹⁾	PUR cable type 3	Connector S8	Connector S12
Degree of protection	IP 68	IP 67	IP 67
Mounting	Embeddable	Embeddable	Embeddable
Max. switching frequency	1,000 Hz	1,000 Hz	1,000 Hz
Wiring ²⁾	Diagram 1	Diagram 1	Diagram 2
LED	Built-in	Built-in	Built-in
Approvals	CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS

PART REFERENCES: (BOLD: PREFERRED TYPES)

NPN N.O.	DW-AD-701-M8	DW-AS-701-M8-001	DW-AS-701-M8
NPN N.C.	DW-AD-702-M8	DW-AS-702-M8-001	DW-AS-702-M8
PNP N.O.	DW-AD-703-M8	DW-AS-703-M8-001	DW-AS-703-M8
PNP N.C.	DW-AD-704-M8	DW-AS-704-M8-001	DW-AS-704-M8
Compatible connectors ³⁾		A, B	G, H, M, N (N.O.); M, N (N.C.)

M8			M12
6	6	6	6*
			
ALL-METAL / 100 BAR	ALL-METAL / 100 BAR	ALL-METAL / 100 BAR	ALL-METAL / 80 BAR



PUR cable type 3	Connector S8	Connector S12	PUR cable type 11
IP 68	IP 67	IP 67	IP 68 & IP 69K
Non-embeddable	Non-embeddable	Non-embeddable	Embeddable
700 Hz	700 Hz	700 Hz	600 Hz
Diagram 1	Diagram 1	Diagram 2	Diagram 1
Built-in	Built-in	Built-in	Built-in
CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS

DW-AD-711-M8	DW-AS-711-M8-001	DW-AS-711-M8	DW-AD-701-M12
DW-AD-712-M8	DW-AS-712-M8-001	DW-AS-712-M8	DW-AD-702-M12
DW-AD-713-M8	DW-AS-713-M8-001	DW-AS-713-M8	DW-AD-703-M12
DW-AD-714-M8	DW-AS-714-M8-001	DW-AS-714-M8	DW-AD-704-M12
	A, B	G, H, M, N (N.O.); M, N (N.C.)	

* versions with 2 mm operating distance on request

Inductive

Photoelectric

Optical fibers

Ultrasonic

Capacitive

Cables & connectors

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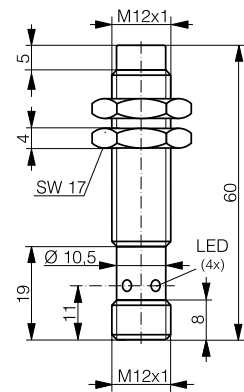
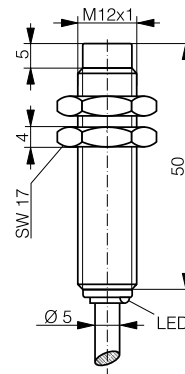
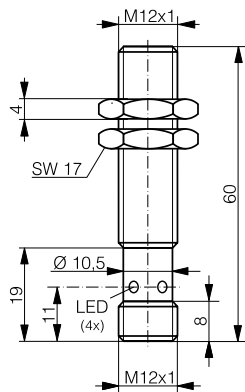
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HOUSING SIZE	M12		
OPERATING DISTANCE MM	6*	10**	10**



ALL-METAL / 80 BAR ALL-METAL / 80 BAR ALL-METAL / 80 BAR



1) Standard cable length 2 m.
Non-standard cable lengths and types on request.
Cable type see page 271.
2) see page 133
3) see page 268

TECHNICAL DATA

Connection ¹⁾	Connector S12	PUR cable type 11	Connector S12
Degree of protection	IP 68 & IP 69K	IP 68 & IP 69K	IP 68 & IP 69K
Mounting	Embeddable	Non-embeddable	Non-embeddable
Max. switching frequency	600 Hz	400 Hz	400 Hz
Wiring ²⁾	Diagram 2	Diagram 1	Diagram 2
LED	Built-in	Built-in	Built-in
Approvals	CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS

PART REFERENCES: (BOLD: PREFERRED TYPES)

NPN N.O.	DW-AS-701-M12	DW-AD-711-M12	DW-AS-711-M12
NPN N.C.	DW-AS-702-M12	DW-AD-712-M12	DW-AS-712-M12
PNP N.O.	DW-AS-703-M12	DW-AD-713-M12	DW-AS-713-M12
PNP N.C.	DW-AS-704-M12	DW-AD-714-M12	DW-AS-714-M12
Compatible connectors ³⁾	G, H, M, N (N.O.); M, N (N.C.)		G, H, M, N (N.O.); M, N (N.C.)

* versions with 2 mm operating distance on request
** versions with 4 mm operating distance on request

M18

10

10*

10

10*

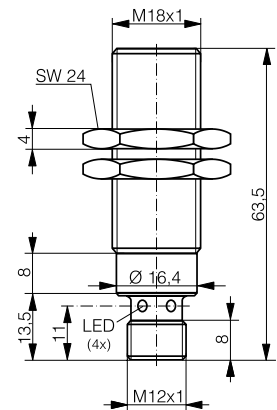
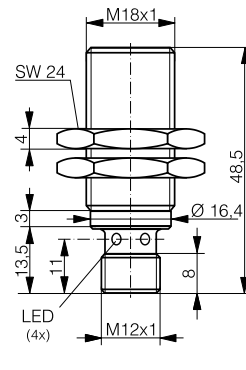
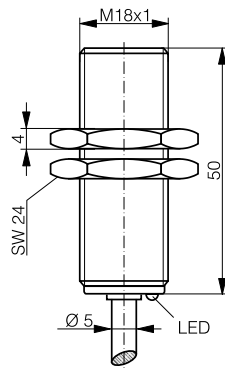
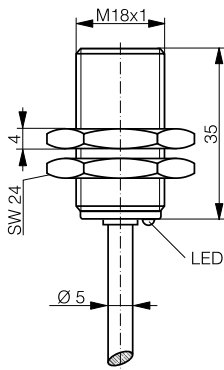


ALL-METAL / 60 BAR

ALL-METAL / 60 BAR

ALL-METAL / 60 BAR

ALL-METAL / 60 BAR



PUR cable type 11	PUR cable type 11	Connector S12	Connector S12
IP 68 & IP 69K	IP 68 & IP 69K	IP 68 & IP 69K	IP 68 & IP 69K
Embeddable	Embeddable	Embeddable	Embeddable
200 Hz	200 Hz	200 Hz	200 Hz
Diagram 1	Diagram 1	Diagram 2	Diagram 2
Built-in	Built-in	Built-in	Built-in
CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS

DW-AD-701-M18-120	DW-AD-701-M18	DW-AS-701-M18-120	DW-AS-701-M18-002
DW-AD-702-M18-120	DW-AD-702-M18	DW-AS-702-M18-120	DW-AS-702-M18-002
DW-AD-703-M18-120	DW-AD-703-M18	DW-AS-703-M18-120	DW-AS-703-M18-002
DW-AD-704-M18-120	DW-AD-704-M18	DW-AS-704-M18-120	DW-AS-704-M18-002
		G, H, M, N (N.O.); M, N (N.C.)	G, H, M, N (N.O.); M, N (N.C.)

* versions with 5 mm operating distance on request

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HOUSING SIZE	M18		M30
OPERATING DISTANCE MM	20*	20*	20**



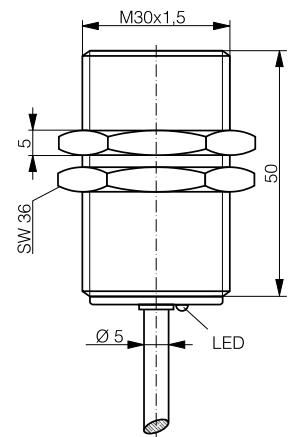
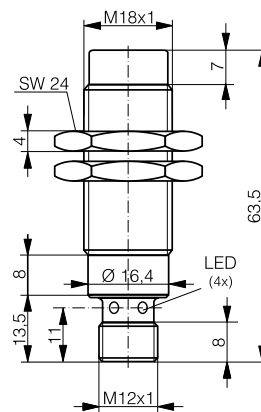
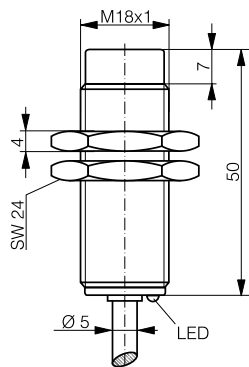
ALL-METAL / 60 BAR



ALL-METAL / 60 BAR



ALL-METAL / 40 BAR



- 1) Standard cable length 2 m. Non-standard cable lengths and types on request. Cable type see page 271.
 2) see page 133
 3) see page 268

TECHNICAL DATA			
Connection ¹⁾	PUR cable type 11	Connector S12	PUR cable type 11
Degree of protection	IP 68 & IP 69K	IP 68 & IP 69K	IP 68 & IP 69K
Mounting	Non-embeddable	Non-embeddable	Embeddable
Max. switching frequency	200 Hz	200 Hz	100 Hz
Wiring ²⁾	Diagram 1	Diagram 2	Diagram 1
LED	Built-in	Built-in	Built-in
Approvals	CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS

PART REFERENCES: (BOLD: PREFERRED TYPES)			
NPN N.O.	DW-AD-711-M18	DW-AS-711-M18-002	DW-AD-701-M30
NPN N.C.	DW-AD-712-M18	DW-AS-712-M18-002	DW-AD-702-M30
PNP N.O.	DW-AD-713-M18	DW-AS-713-M18-002	DW-AD-703-M30
PNP N.C.	DW-AD-714-M18	DW-AS-714-M18-002	DW-AD-704-M30
Compatible connectors ³⁾		G, H, M, N (N.O.); M, N (N.C.)	

* versions with 8 mm operating distance on request

** versions with 10 mm operating distance on request

M30

20*

40**

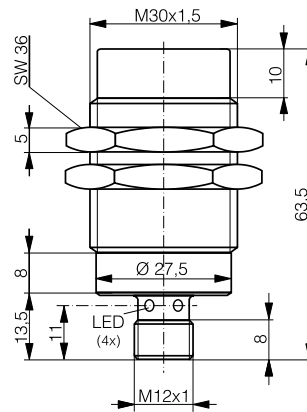
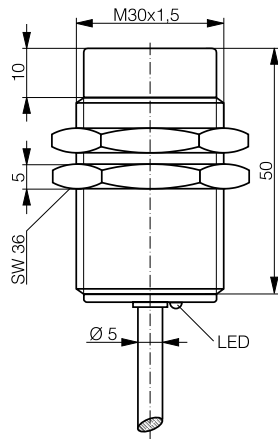
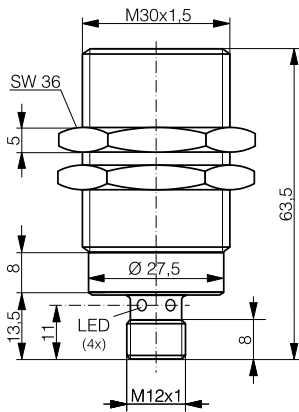
40**



ALL-METAL / 40 BAR

ALL-METAL / 40 BAR

ALL-METAL / 40 BAR



Connector S12	PUR cable type 11	Connector S12	
IP 68 & IP 69K	IP 68 & IP 69K	IP 68 & IP 69K	
Embeddable	Non-embeddable	Non-embeddable	
100 Hz	90 Hz	90 Hz	
Diagram 2	Diagram 1	Diagram 2	
Built-in	Built-in	Built-in	
CE, UL, RoHS	CE, UL, RoHS	CE, UL, RoHS	

DW-AS-701-M30-002	DW-AD-711-M30	DW-AS-711-M30-002	
DW-AS-702-M30-002	DW-AD-712-M30	DW-AS-712-M30-002	
DW-AS-703-M30-002	DW-AD-713-M30	DW-AS-713-M30-002	
DW-AS-704-M30-002	DW-AD-714-M30	DW-AS-714-M30-002	
G, H, M, N (N.O.); M, N (N.C.)		G, H, M, N (N.O.); M, N (N.C.)	

* versions with 10 mm operating distance on request

** versions with 15 mm operating distance on request

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