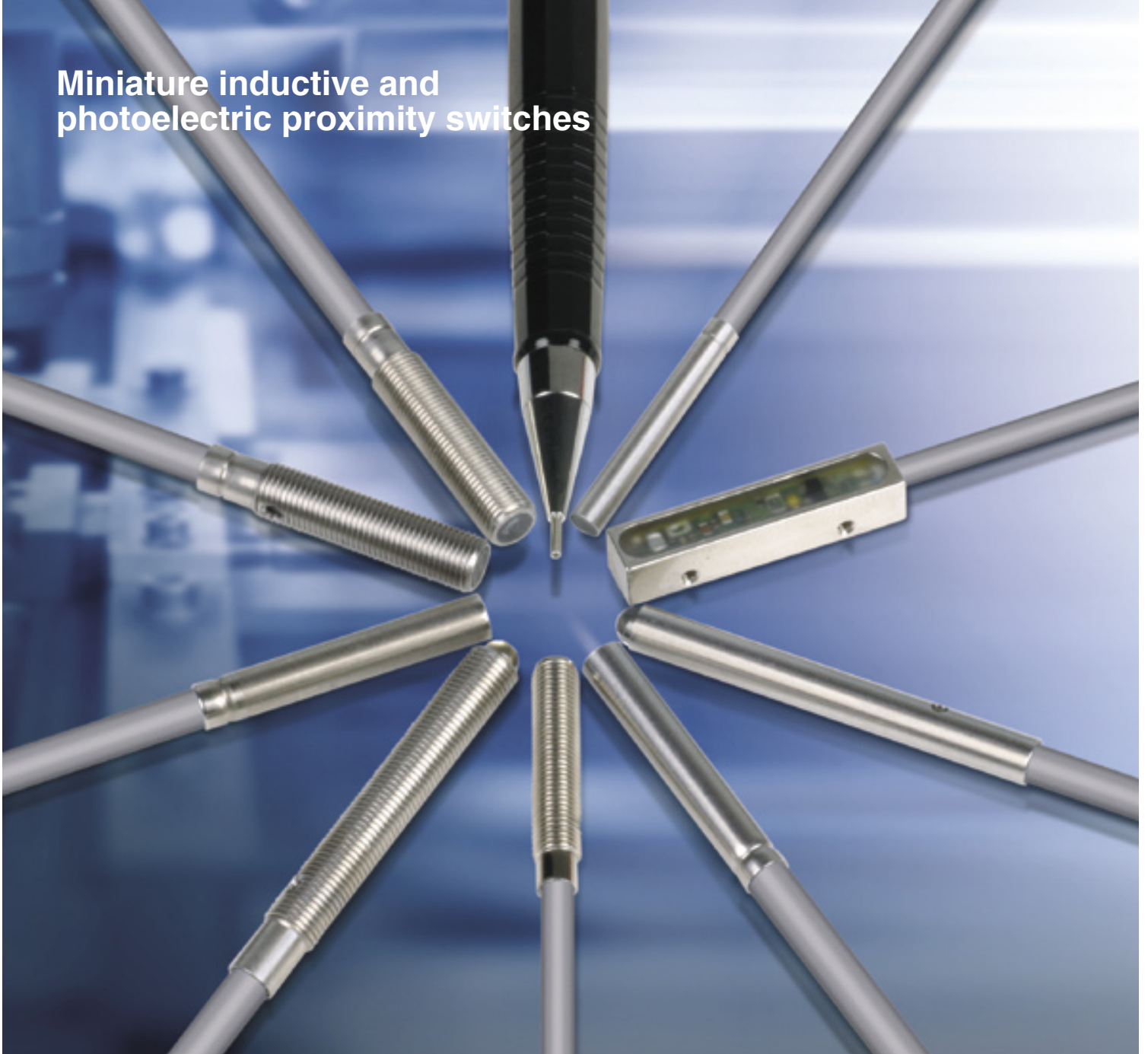







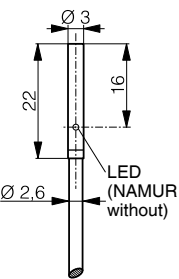
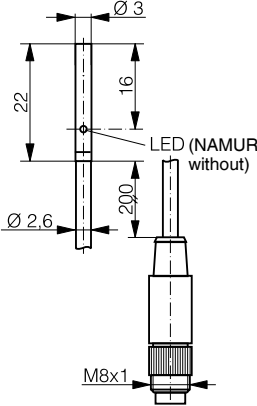
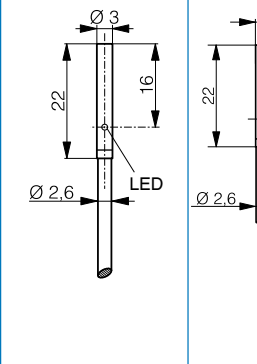
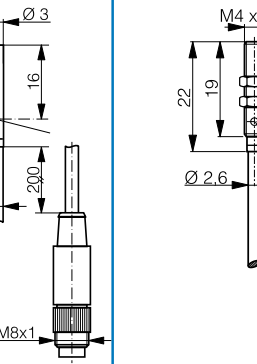
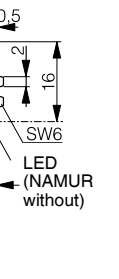
Miniature inductive and photoelectric proximity switches



Features

- World's smallest fully self-contained inductive and photoelectric proximity switches
- Housing diameters 3 mm to M5
- Cuboid 5 x 5 x 25 mm
- Diffuse sensors with spherical optics for cylindrical light beam
- Electrical characteristics equivalent to larger proximity switches
- All usual protection functions built in (short-circuit and voltage reversal protection, EMC)
- Mechanically robust (no brittle ceramic, vacuum potted)
- Operating distances from 0.6 mm to 250 mm
- Stainless-steel housings

CONTRINEX

Size	Ø 3				Ø 3		M4		
	0.6		0.6		1.0	1.0	0.6		
Operating distance mm	0.6		0.6		1.0	1.0	0.6		
Housing material	Stainless steel V2A		Stainless steel V2A		Stainless steel V2A	Stainless steel V2A	Stainless steel V2A		
Connection ¹⁾	PUR cable		PUR cable + connector S8		PUR cable	PUR cable+connect. S8	PUR cable		
Degree of protection	IP 67		IP 67		IP 67	IP 67	IP 67		
Mounting	Embeddable		Embeddable		Embeddable	Embeddable	Embeddable		
Max. switching frequency	5,000 Hz	10,000 Hz	5,000 Hz	10,000 Hz	3,000 Hz	3,000 Hz	5,000 Hz	10,000 Hz	
Technical data	Table 1	Table 2	Table 1	Table 2	Table 1	Table 1	Table 1	Table 2	
Wiring	Diagram 1	Diagram 2	Diagram 1	Diagram 2	Diagram 1	Diagram 1	Diagram 1	Diagram 2	
LED	Built-in	---	Built-in	---	Built-in	Built-in	Built-in	---	
Supply voltage range	10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC	10 ... 30 VDC	10 ... 30 VDC	7.7 ... 9 VDC	
Ambient temperature range	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	
Output current	≤ 100 mA	≤ 1 / ≥ 2.2 mA*	≤ 100 mA	≤ 1 / ≥ 2.2 mA*	≤ 100 mA	≤ 100 mA	≤ 100 mA	≤ 1 / ≥ 2.2 mA*	
¹⁾ Standard cable length 2 m. Non-standard cable lengths and types on request.									
					increased distance		increased distance		
Dimensions:									
Part references: (bold: preferred types)									
NPN N.O.	DW-AD-301-03		DW-AV-301-03-276		DW-AD-621-03	DW-AV-621-03-276	DW-AD-301-M4		
NPN N.C.	DW-AD-302-03		DW-AV-302-03-276		DW-AD-622-03	DW-AV-622-03-276	DW-AD-302-M4		
PNP N.O.	DW-AD-303-03		DW-AV-303-03-276		DW-AD-623-03	DW-AV-623-03-276	DW-AD-303-M4		
PNP N.C.	DW-AD-304-03		DW-AV-304-03-276		DW-AD-624-03	DW-AV-624-03-276	DW-AD-304-M4		
NAMUR		DW-AD-305-03		DW-AS-305-03				DW-AD-305-M4	

*damped/non-damped

PROXIMITY SWITCHES

M4

Ø 4

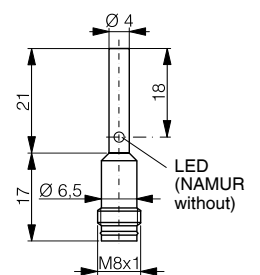
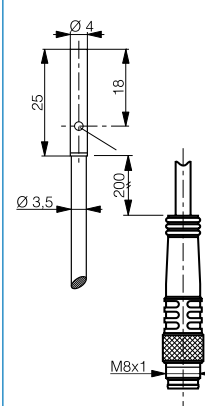
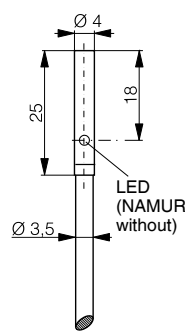
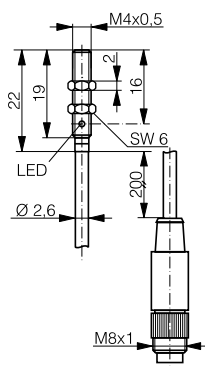
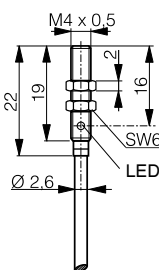
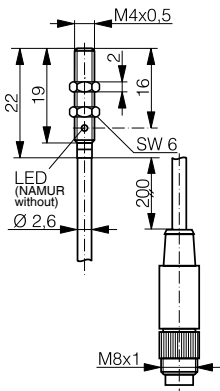
0.6		1.0	1.0	0.8		0.8	0.8	
Stainless steel V2A		Stainless steel V2A	Stainless steel V2A	Stainless steel V2A		Stainless steel V2A	Stainless steel V2A	
PUR cable + connector S8		PUR cable	PUR cable + connector S8	PVC cable		PVC cable + connector S8	Connector S8	
IP 67		IP 67	IP 67	IP 67		IP 67	IP 67	
Embeddable		Embeddable	Embeddable	Embeddable		Embeddable	Embeddable	
5,000 Hz	10,000 Hz	3,000 Hz	3,000 Hz	5,000 Hz	10,000 Hz	5,000 Hz	5,000 Hz	10,000 Hz
Table 1	Table 2	Table 1	Table 1	Table 1	Table 2	Table 1	Table 1	Table 2
Diagram 1	Diagram 2	Diagram 1	Diagram 1	Diagram 1	Diagram 2	Diagram 1	Diagram 1	Diagram 2
Built-in	---	Built-in	Built-in	Built-in	---	Built-in	Built-in	---
10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC	10 ... 30 VDC	10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC	10 ... 30 VDC	7.7 ... 9 VDC
-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
≤ 100 mA	≤ 1 / ≥ 2.2 mA*	≤ 100 mA	≤ 100 mA	≤ 200 mA	≤ 1 / ≥ 2.2 mA*	≤ 200 mA	≤ 200 mA	≤ 1 / ≥ 2.2 mA*



increased distance



increased distance



DW-AV-301-M4-276

DW-AD-621-M4

DW-AV-621-M4-276

DW-AD-401-04

DW-AS-401-04

DW-AV-302-M4-276

DW-AD-622-M4

DW-AV-622-M4-276

DW-AD-402-04

DW-AS-402-04

DW-AV-303-M4-276

DW-AD-623-M4

DW-AV-623-M4-276

DW-AD-403-04

DW-AV-403-04-236

DW-AS-403-04

DW-AV-304-M4-276

DW-AD-624-M4

DW-AV-624-M4-276

DW-AD-404-04

DW-AV-404-04-236

DW-AS-404-04

DW-AS-305-M4

DW-AD-405-04

DW-AS-405-04

*damped/non-damped

*damped/non-damped

INDUCTIVE PROXIMITY

Ø 4

M5

M

0.8	1.5	1.5	0.8		0.8		1.5
Stainless steel V2A	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A		Stainless steel V2A		Stainless steel V2A
Single wires	PVC cable	Connector S8	PVC cable		Connector S8		PVC cable
IP 67	IP 67	IP 67	IP 67		IP 67		IP 67
Embeddable	Embeddable	Embeddable	Embeddable		Embeddable		Embeddable
10,000 Hz	3,000 Hz	3,000 Hz	5,000 Hz	10,000 Hz	5,000 Hz	10,000 Hz	3,000 Hz
Table 2	Table 1	Table 1	Table 1	Table 2	Table 1	Table 2	Table 1
Diagram 2	Diagram 1	Diagram 1	Diagram 1	Diagram 2	Diagram 1	Diagram 2	Diagram 1
---	Built-in	Built-in	Built-in	---	Built-in	---	Built-in
7.7 ... 9 VDC	10 ... 30 VDC	10 ... 30 VDC	10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC
-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
≤ 1 / ≥ 2.2 mA*	≤ 200 mA	≤ 200 mA	≤ 200 mA	≤ 1 / ≥ 2.2 mA*	≤ 200 mA	≤ 1 / ≥ 2.2 mA*	≤ 200 mA



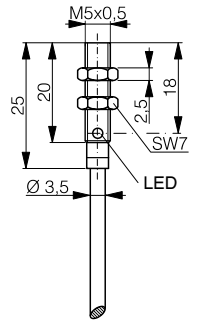
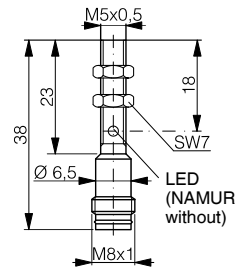
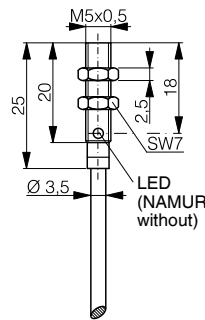
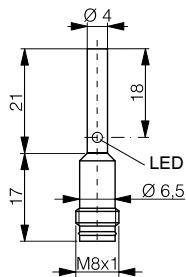
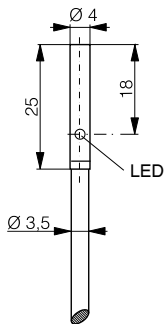
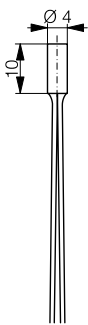
increased distance



increased distance



increased distance



	DW-AD-621-04	DW-AS-621-04	DW-AD-401-M5	DW-AS-401-M5	DW-AD-621-M5
	DW-AD-622-04	DW-AS-622-04	DW-AD-402-M5	DW-AS-402-M5	DW-AD-622-M5
	DW-AD-623-04	DW-AS-623-04	DW-AD-403-M5	DW-AS-403-M5	DW-AD-623-M5
	DW-AD-624-04	DW-AS-624-04	DW-AD-404-M5	DW-AS-404-M5	DW-AD-624-M5
DW-AD-405-04K				DW-AD-405-M5	DW-AS-405-M5

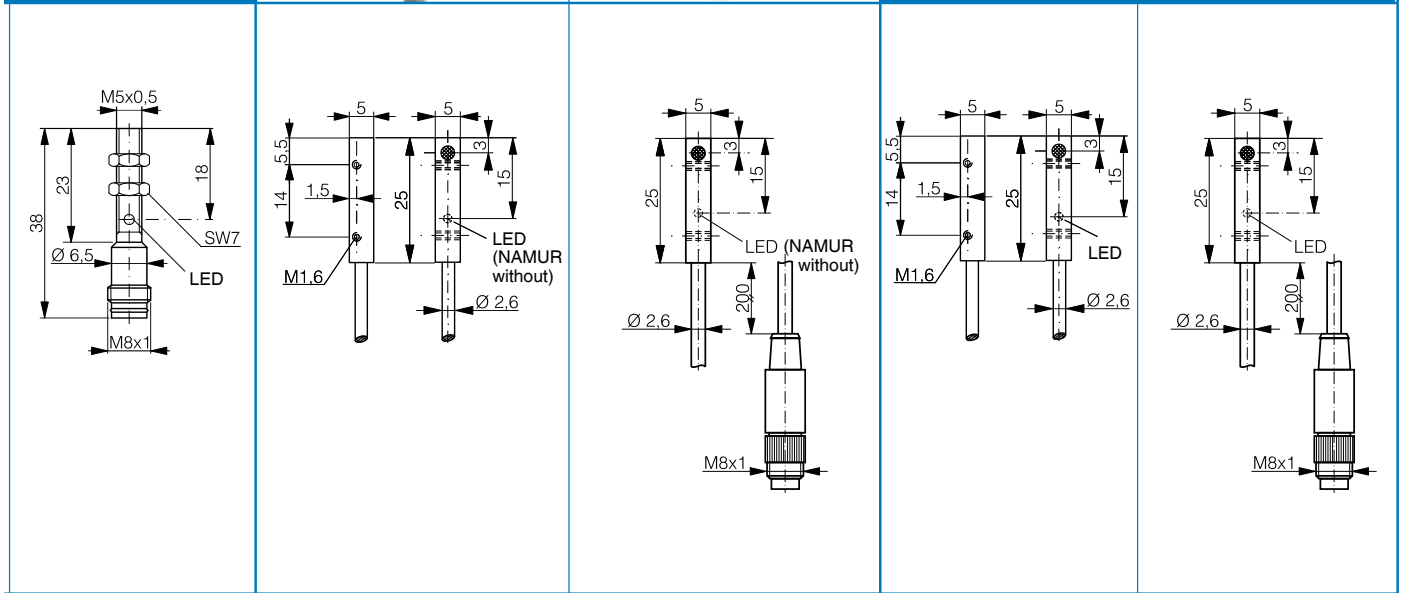
MITY SWITCHES

M5

□ 5x5





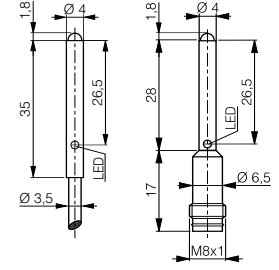
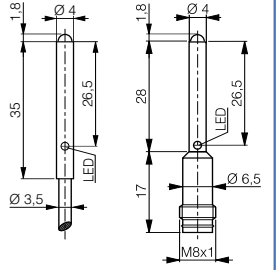
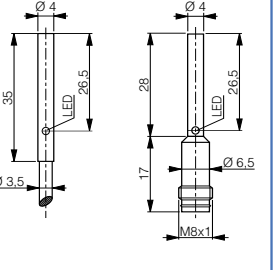
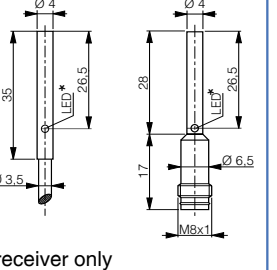
□ 5x5

1.5	0.8		0.8		1.5	1.5
Stainless steel V2A	Nickel-plated brass		Nickel-plated brass		Nickel-chrome-plated brass	Nickel-chrome-plated brass
Connector S8	PUR cable		PUR cable + connector S8		PUR cable	PUR cable + connector S8
IP 67	IP 67		IP 67		IP 67	IP 67
Embeddable	Embeddable		Embeddable		Embeddable	Embeddable
3,000 Hz	5,000 Hz	10,000 Hz	5,000 Hz	10,000 Hz	3,000 Hz	3,000 Hz
Table 1	Table 1	Table 2	Table 1	Table 2	Table 1	Table 1
Diagram 1	Diagram 1	Diagram 2	Diagram 1	Diagram 2	Diagram 1	Diagram 1
Built-in	Built-in	---	Built-in	---	Built-in	Built-in
10 ... 30 VDC	10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC	7.7 ... 9 VDC	10 ... 30 VDC	10 ... 30 VDC
-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C	-25 ... +70 °C
≤ 200 mA	≤ 200 mA	≤ 1 / ≥ 2.2 mA*	≤ 200 mA	≤ 1 / ≥ 2.2 mA*	≤ 200 mA	≤ 200 mA









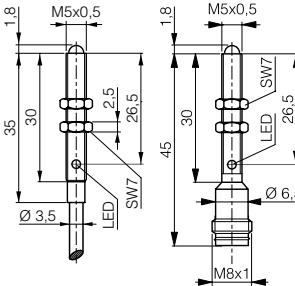
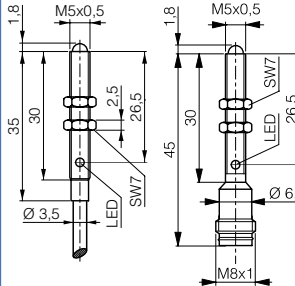
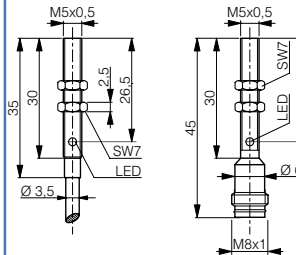
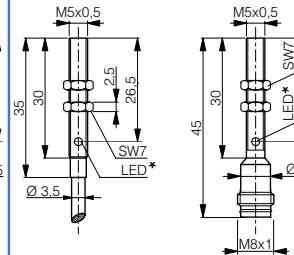


DW-AS-621-M5	DW-AD-401-C5	DW-AV-401-C5-276	DW-AD-621-C5	DW-AV-621-C5-276
DW-AS-622-M5	DW-AD-402-C5	DW-AV-402-C5-276	DW-AD-622-C5	DW-AV-622-C5-276
DW-AS-623-M5	DW-AD-403-C5	DW-AV-403-C5-276	DW-AD-623-C5	DW-AV-623-C5-276
DW-AS-624-M5	DW-AD-404-C5	DW-AV-404-C5-276	DW-AD-624-C5	DW-AV-624-C5-276
	DW-AD-405-C5		DW-AS-405-C5	

*damped/non-damped

Size	Ø 4	Ø 4	Ø 4	Ø 4
Type	Diffuse sensor, energetic	Diffuse sensor, energetic	Diffuse sensor, energetic	Through-beam sensor
Operating distance mm	10 mm	20 mm	50 mm	250 mm
Housing material	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A
Connection ¹⁾	PVC cable (LTK) / connector S8 (LTS)	PVC cable (LTK) / connector S8 (LTS)	PVC cable (LTK) / connector S8 (LTS)	PVC cable (LLK) / connector S8 (LLS)
Degree of protection	IP 67	IP 67	IP 67	IP 67
Emitter	IR LED 880 nm	IR LED 880 nm	IR LED 880 nm	IR LED 880 nm
Max. switching frequency	250 Hz	250 Hz	250 Hz	250 Hz
Technical data	Table 3	Table 3	Table 3	Table 4
Wiring	Diagram 1	Diagram 1	Diagram 1	Diagram 1 (R) / Diagram 3 (E)
LED	Built-in	Built-in	Built-in	Built-in (R) / --- (E)
Supply voltage range	10 ... 30 VDC	10 ... 30 VDC	10 ... 30 VDC	10 ... 30 VDC
Ambient temperature range	0 ... + 55 °C	0 ... + 55 °C	0 ... + 55 °C	0 ... + 55 °C
Output current	≤ 100 mA	≤ 100 mA	≤ 100 mA	≤ 100 mA
¹⁾ Standard cable length 2 m. Non-standard cable lengths and types on request.				
	cylindrical light beam	cylindrical light beam		
Dimensions:				 *receiver only
Part ref.: (bold : preferred types)				(R) receiver / (E) emitter
NPN light-ON / cable	LTK-1040-301-505	LTK-1040-301-506	LTK-1040-301	-
NPN dark-ON / cable	-	-	-	LLK-1040-202 (R) / LLK-1040-200 (E)
NPN light-ON / connector S8	LTS-1040-301-505	LTS-1040-301-506	LTS-1040-301	-
NPN dark-ON / connector S8	-	-	-	LLS-1040-202 (R) / LLS-1040-200 (E)
PNP light-ON / cable	LTK-1040-303-505	LTK-1040-303-506	LTK-1040-303	-
PNP dark-ON / cable	-	-	-	LLK-1040-204 (R) / LLK-1040-200 (E)
PNP light-ON / connector S8	LTS-1040-303-505	LTS-1040-303-506	LTS-1040-303	-
PNP dark-ON / connector S8	-	-	-	LLS-1040-204 (R) / LLS-1040-200 (E)

PROXIMITY SWITCHES

M5	M5	M5	M5
Diffuse sensor, energetic	Diffuse sensor, energetic	Diffuse sensor, energetic	Through-beam sensor
10 mm	20 mm	50 mm	250 mm
Stainless steel V2A	Stainless steel V2A	Stainless steel V2A	Stainless steel V2A
PVC cable (LTK) / connector S8 (LTS)	PVC cable (LTK) / connector S8 (LTS)	PVC cable (LTK) / connector S8 (LTS)	PVC cable (LLK) / connector S8 (LLS)
IP 67	IP 67	IP 67	IP 67
IR LED 880 nm	IR LED 880 nm	IR LED 880 nm	IR LED 880 nm
250 Hz	250 Hz	250 Hz	250 Hz
Table 3	Table 3	Table 3	Table 4
Diagram 1	Diagram 1	Diagram 1	Diagram 1 (R) / Diagram 3 (E)
Built-in	Built-in	Built-in	Built-in (R) / --- (E)
10 ... 30 VDC	10 ... 30 VDC	10 ... 30 VDC	10 ... 30 VDC
0 ... + 55 °C	0 ... + 55 °C	0 ... + 55 °C	0 ... + 55 °C
≤ 100 mA	≤ 100 mA	≤ 100 mA	≤ 100 mA
			
			
cylindrical light beam	cylindrical light beam		
<p>Dimensions:</p>  	 		
			*receiver only
			(R) receiver / (E) emitter
LTK-1050-301-505	LTK-1050-301-506	LTK-1050-301	-
-	-	-	LLK-1050-202 (R) / LLK-1050-200 (E)
LTS-1050-301-505	LTS-1050-301-506	LTS-1050-301	-
-	-	-	LLS-1050-202 (R) / LLS-1050-200 (E)
LTK-1050-303-505	LTK-1050-303-506	LTK-1050-303	-
-	-	-	LLK-1050-204 (R) / LLK-1050-200 (E)
LTS-1050-303-505	LTS-1050-303-506	LTS-1050-303	-
-	-	-	LLS-1050-204 (R) / LLS-1050-200 (E)

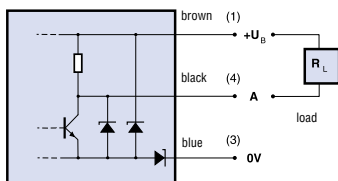
Technical data

	Table 1	Table 2	Table 3	Table 4
Permissible ripple content	≤ 20%	≤ 20%	≤ 20%	≤ 20%
No-load supply current	≤ 10 mA	---	≤ 15 mA	≤ 5 mA (R) / ≤ 10 mA (E)
Leakage current at output	≤ 0.1 mA	---	≤ 0.1 mA	≤ 0.1 mA
Voltage drop, switched state	≤ 2.0 V	---	≤ 2.0 V	≤ 2.0 V
Temperature drift % s_r	≤ 10 %	≤ 10 %	≤ 0.3 % / °C	≤ 0.3 % / °C
Hysteresis % s_r	1 ... 15% (10% typ.)	---	≤ 10 % typ.	≤ 10 % typ.
Repeat accuracy	≤ 5% s_r	≤ 5% s_r		
(according to IEC 60947-5-2)				
Short-circuit protection	built-in	built-in	built-in	built-in
Polarity reversal protection	built-in	---	built-in	built-in
Power-on reset	built-in	---	built-in	built-in

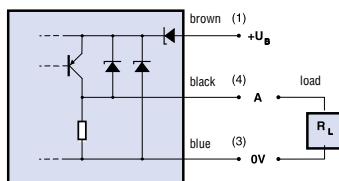
Wiring diagrams

NPN N.O. / N.C.
NPN light-ON / dark-ON

Diagram 1

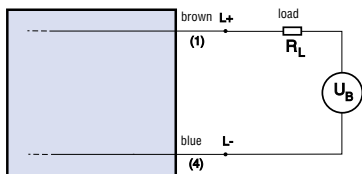


PNP N.O. / N.C.
PNP light-ON / dark-ON



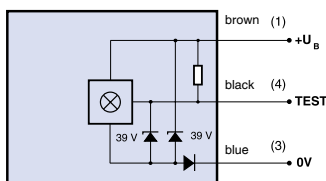
NAMUR

Diagram 2

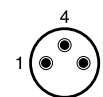


Emitter of through-beam sensor

Diagram 3



Pin assignment (device)



S8 3 pole

These devices **must not be used** in applications where the **safety of people** is dependent on their functioning. Terms of delivery and rights to change design reserved. Your sales agent:

