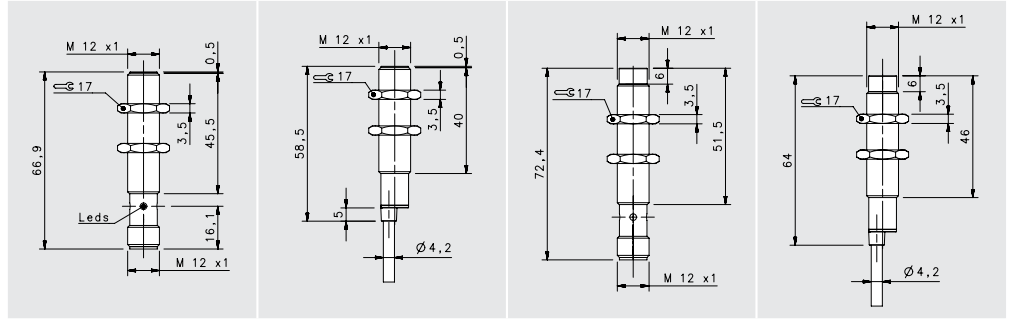


# BASIC M12



## STANDARD

### FLUSH

### NON FLUSH

M12 conn

cable

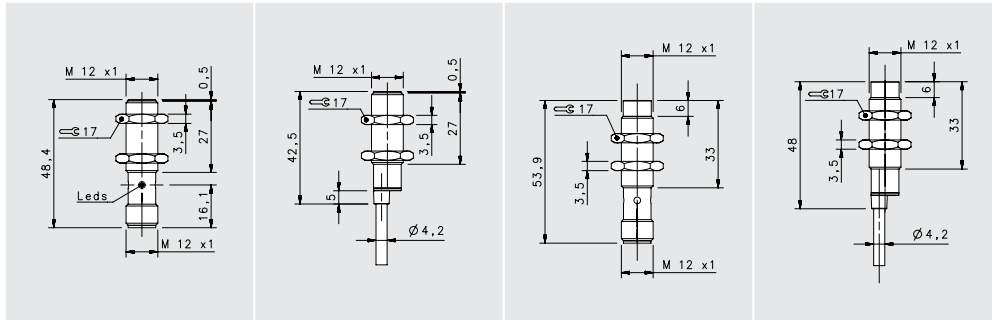
M12 conn

cable

### NOMINAL SWITCHING DISTANCE

				2 mm	2 mm	4 mm	4 mm
10-30 Vdc	PNP/NPN NO-NC	4 wires	order No.	IS-12-A0-S2 95B064060	IS-12-A0-03 95B064030	IS-12-C0-S2 95B064080	IS-12-C0-03 95B064040
10-30 Vdc	PNP NO	3 wires	order No.	IS-12-A1-S2 95B061251	IS-12-A1-03 95B061241	IS-12-C1-S2 95B061651	IS-12-C1-03 95B061641
10-30 Vdc	PNP NC	3 wires	order No.	IS-12-A2-S2 95B061281	IS-12-A2-03 95B061271	IS-12-C2-S2 95B061681	IS-12-C2-03 95B061671
10-30 Vdc	NPN NO	3 wires	order No.	IS-12-A3-S2 95B061191	IS-12-A3-03 95B061181	IS-12-C3-S2 95B061591	IS-12-C3-03 95B061581
10-30 Vdc	NPN NC	3 wires	order No.	IS-12-A4-S2 95B061221	IS-12-A4-03 95B061211	IS-12-C4-S2 95B061621	IS-12-C4-03 95B061611
10-30 Vdc	PNP NO-NC	4 wires	order No.	---	---	---	---
10-30 Vdc	NPN NO-NC	4 wires	order No.	---	---	---	---
10-30 Vdc	NO-NC	2 wires	order No.	IS-12-A9-S2 95B063931	IS-12-A9-03 95B064100	IS-12-C9-S2 95B064140	IS-12-C9-03 95B064110
20-250 Vac/Vdc	NO	2 wires	order No.	---	---	---	---
20-250 Vac/Vdc	NC	2 wires	order No.	---	---	---	---
20-250 Vac	NO	2/3wires	order No.	---	---	---	---
10-30 Vdc	Analog 0-20 mA	3 wires	order No.	---	---	---	---
NAMUR amplifier	NAMUR	2 wires	order No.	---	---	---	---

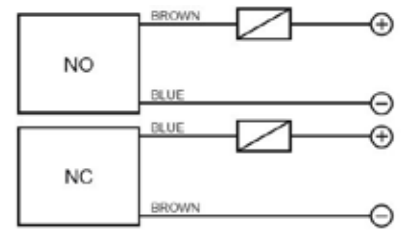
Nominal Voltage	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)
Residual Ripple	< 10%	< 10%	< 10%	< 10%
Hysteresis	< 10%	< 10%	< 10%	< 10%
Max. Output Current	200mA; 100 mA (2wires)	200mA; 100 mA (2wires)	200mA; 100 mA (2wires)	200mA; 100 mA (2wires)
Min. Output Current	> 1,6 mA (2wires)	> 1,6 mA (2wires)	> 1,6 mA (2wires)	> 1,6 mA (2wires)
Residual Current	< 10mA; < 1,6 mA (2wires)	< 10mA; < 1,6 mA (2wires)	< 10mA; < 1,6 mA (2wires)	< 10mA; < 1,6 mA (2wires)
Voltage Drop	< 1,8V; < 6,5 V (2wires)	< 1,8V; < 6,5 V (2wires)	< 1,8V; < 6,5 V (2wires)	< 1,8V; < 6,5 V (2wires)
Operation Led	Yellow	Yellow	Yellow	Yellow
Switching Frequency	1000 Hz/200 Hz (2 wires NO-NC)	1000 Hz/200 Hz (2 wires NO-NC)	1000 Hz/200 Hz (2 wires NO-NC)	1000 Hz/200 Hz (2 wires NO-NC)
Start Up Delay	< 50 ms	< 50 ms	< 50 ms	< 50 ms
Repeatability	< 3%	< 3%	< 3%	< 3%
Short Circuit Protection	Present (self-resetting)	Present (self-resetting)	Present (self-resetting)	Present (self-resetting)
Electric Protection	Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads
Temperature Limit	(-25 ... +70 °C)	(-25 ... +70 °C)	(-25 ... +70 °C)	(-25 ... +70 °C)
Protection Degree	IP67	IP67	IP67	IP67
Cable Length	---	2 m	---	2 m
Cable Section	---	2/3/4 x 0,25 mm <sup>2</sup>	---	2/3/4 x 0,25 mm <sup>2</sup>
Housing Material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Weight - Cable Output	---	110 g	---	110 g
Weight - Connector Output	60 g	---	60 g	---



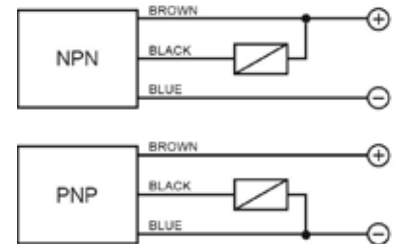
SHORT			
FLUSH		NON FLUSH	
M12 conn	cable	M12conn	cable
2 mm	2 mm	4 mm	4 mm
IS-12-B1-S2	IS-12-B1-03	IS-12-D1-S2	IS-12-D1-03
95B062051	95B062041	95B062451	95B062441
IS-12-B2-S2	IS-12-B2-03	IS-12-D2-S2	IS-12-D2-03
95B062081	95B062071	95B062481	95B062471
IS-12-B3-S2	IS-12-B3-03	IS-12-D3-S2	IS-12-D3-03
95B061991	95B061981	95B062391	95B062381
IS-12-B4-S2	IS-12-B4-03	IS-12-D4-S2	IS-12-D4-03
95B062021	95B062011	95B062421	95B062411
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10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)
< 10%	< 10%	< 10%	< 10%
< 10%	< 10%	< 10%	< 10%
200 mA	200 mA	200 mA	200 mA
< 10 mA	< 10 mA	< 10 mA	< 10 mA
< 1,8 V (I=100mA)	< 1,8 V (I=100mA)	< 1,8 V (I=100mA)	< 1,8 V (I=100mA)
Yellow	Yellow	Yellow	Yellow
1000 Hz	1000 Hz	1000 Hz	1000 Hz
< 50 ms	< 50 ms	< 50 ms	< 50 ms
< 3%	< 3%	< 3%	< 3%
Present (self-resetting)	Present (self-resetting)	Present (self-resetting)	Present (self-resetting)
Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads
(-25 ... +60 °C)	(-25 ... +70 °C)	(-25 ... +60 °C)	(-25 ... +70 °C)
IP67	IP67	IP67	IP67
---	2 m	---	2 m
---	3 x 0,25 mm <sup>2</sup>	---	3 x 0,25 mm <sup>2</sup>
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
---	110 g	---	110 g
60 g	---	60 g	---

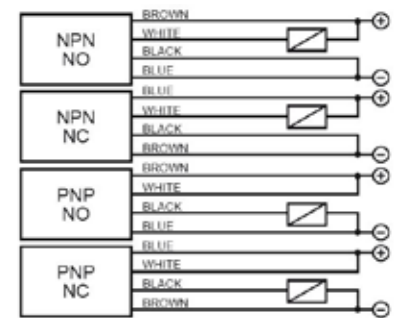
## 2 wires NO or NC



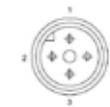
## 3 wires PNP or NPN



## 4 wires (PNP/NPN, NO/NC)



## M12 connector - connections



## 2 wires NO or NC

CONTACTS CONFIGURATION				
Available	Contacts numbers			
	1	2	3	4
NO	+	+	-	-
NC	-	-	+	+

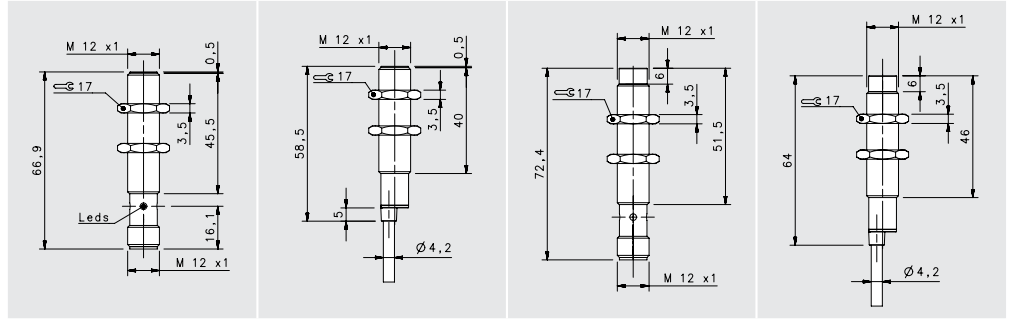
## 3 wires

CONTACTS CONFIGURATION				
Available	Contacts numbers			
	1	2	3	4
(NO or NC)	+	-	-	NO/NC

## 4 wires (PNP/NPN, NO/NC)

CONTACTS CONFIGURATION				
Output	Contacts numbers			
	1	2	3	4
NPN NO	+	NO	-	-
NPN NC	-	NC	+	-
PNP NO	+	+	-	NO
PNP NC	-	+	+	NC

# BASIC M12



## STANDARD X2

FLUSH

NON FLUSH

M12 conn

cable

M12 conn

cable

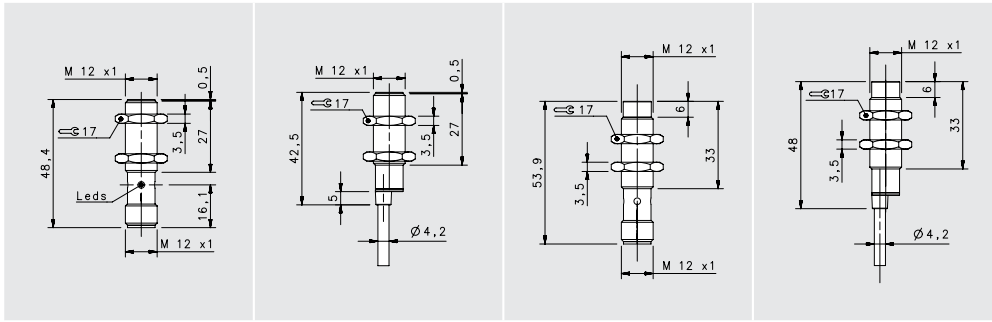
### NOMINAL SWITCHING DISTANCE

4 mm

8 mm

10-30 Vdc	PNP/NPN NO-NC	4 wires	order No.	IS-12-E0-S2 95B067230	IS-12-E0-03 95B067190	IS-12-F0-S2 95B067250	IS-12-F0-03 95B067210
10-30 Vdc	PNP NO	3 wires	order No.	IS-12-E1-S2 95B067030	---	IS-12-F1-S2 95B067020	---
10-30 Vdc	PNP NC	3 wires	order No.	---	---	---	---
10-30 Vdc	NPN NO	3 wires	order No.	---	---	---	---
10-30 Vdc	NPN NC	3 wires	order No.	---	---	---	---
10-30 Vdc	PNP NO-NC	4 wires	order No.	---	---	---	---
10-30 Vdc	NPN NO-NC	4 wires	order No.	---	---	---	---
10-30 Vdc	NO-NC	2 wires	order No.	IS-12-E9-S2 95B067240	IS-12-E9-03 95B067200	IS-12-F9-S2 95B067260	IS-12-F9-03 95B067220
20-250 Vac/Vdc	NO	2 wires	order No.	---	---	---	---
20-250 Vac/Vdc	NC	2 wires	order No.	---	---	---	---
20-250 Vac	NO	2/3wires	order No.	---	---	---	---
10-30 Vdc	Analog 0-20 mA	3 wires	order No.	---	---	---	---
NAMUR amplifier	NAMUR	2 wires	order No.	---	---	---	---

	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)
Nominal Voltage	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)
Residual Ripple	< 10%	< 10%	< 10%	< 10%
Hysteresis	< 10%	< 10%	< 10%	< 10%
Max. Output Current	100 mA	100 mA	100 mA	100 mA
Min. Output Current	---	---	---	---
Residual Current	< 10 mA	< 10 mA	< 10 mA	< 10 mA
Voltage Drop	< 1,2 V (I=100mA)	< 1,2 V (I=100mA)	< 1,2 V (I=100mA)	< 1,2 V (I=100mA)
Operation Led	Yellow	Yellow	Yellow	Yellow
Switching Frequency	500 Hz/200 Hz (2 wires NO-NC)	500 Hz/200 Hz (2 wires NO-NC)	400 Hz/200 Hz (2 wires NO-NC)	400 Hz/200 Hz (2 wires NO-NC)
Start Up Delay	< 75 ms	< 75 ms	< 75 ms	< 75 ms
Repeatability	< 3%	< 3%	< 3%	< 3%
Short Circuit Protection	Present (self-resetting)	Present (self-resetting)	Present (self-resetting)	Present (self-resetting)
Electric Protection	Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads
Temperature Limit	(-25 ... +70 °C)	(-25 ... +70 °C)	(-25 ... +70 °C)	(-25 ... +70 °C)
Protection Degree	IP67	IP67	IP67	IP67
Cable Length	---	---	---	---
Cable Section	---	---	---	---
Housing Material	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Weight - Cable Output	---	---	---	---
Weight - Connector Output	60 g	60 g	60 g	60 g

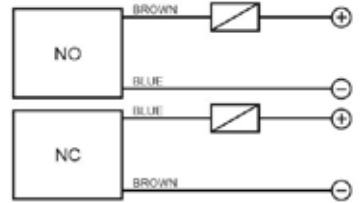


## SHORT X2

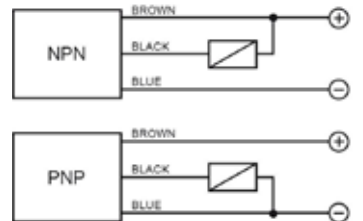
FLUSH		NON FLUSH	
M12 con	4 mm cable	M12 conn	8 mm cable
---	---	---	---
IS-12-G1-S2	IS-12-G1-03	IS-12-H1-S2	IS-12-H1-03
95B063371	95B063361	95B063451	95B063441
IS-12-G2-S2	IS-12-G2-03	IS-12-H2-S2	IS-12-H2-03
95B063391	95B063381	95B063471	95B063461
IS-12-G3-S2	IS-12-G3-03	IS-12-H3-S2	IS-12-H3-03
95B063331	95B063321	95B063411	95B063401
IS-12-G4-S2	IS-12-G4-03	IS-12-H4-S2	IS-12-H4-03
95B063351	95B063341	95B063431	95B063421
IS-12-G5-S2	IS-12-G5-03	IS-12-H5-S2	IS-12-H5-03
95B062691	95B062681	95B062771	95B062761
IS-12-G6-S2	IS-12-G6-03	IS-12-H6-S2	IS-12-H6-03
95B062671	95B062661	95B062751	95B062741
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10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)	10-30 Vdc (-15/10%)
< 10%	< 10%	< 10%	< 10%
< 10%	< 10%	< 10%	< 10%
200 mA	200 mA	200 mA	200 mA
> 1,6 mA (2wires ver.)	> 1,6 mA (2wires ver.)	> 1,6 mA (2wires ver.)	> 1,6 mA (2wires ver.)
< 10 mA	< 10 mA	< 10 mA	< 10 mA
< 1,2 V (I=100mA)	< 1,2 V (I=100mA)	< 1,2 V (I=100mA)	< 1,2 V (I=100mA)
Yellow	Yellow	Yellow	Yellow
500 Hz/200 Hz (4 wires NO-NC)	500 Hz/200 Hz (4 wires NO-NC)	500 Hz/200 Hz (4 wires NO-NC)	500 Hz/200 Hz (4 wires NO-NC)
< 75 ms	< 75 ms	< 75 ms	< 75 ms
< 3%	< 3%	< 3%	< 3%
Present (self-resetting)	Present (self-resetting)	Present (self-resetting)	Present (self-resetting)
Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads	Against polarity reversal inductive loads
(-25 ... +70 °C)	(-25 ... +70 °C)	(-25 ... +70 °C)	(-25 ... +70 °C)
IP67	IP67	IP67	IP67
---	2 m	---	2 m
---	3 x 0,25 mm <sup>2</sup>	---	3 x 0,25 mm <sup>2</sup>
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
---	110 g	---	110 g
60 g	---	60 g	---

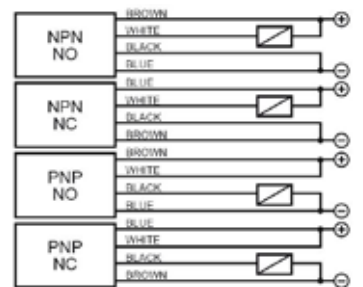
### 2 wires NO or NC



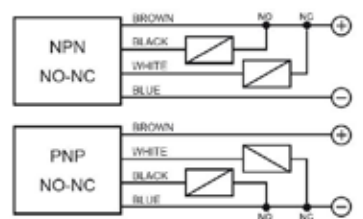
### 3 wires PNP or NPN



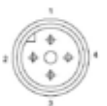
### 4 wires (PNP/NPN, NO/NC)



### 4 wires (NO+NC)



### M12 connector connections



### 2 wires NO or NC

Available	Contacts configuration			
	1	2	3	4
NO	+	-	-	-
NC	-	+	+	-

### 3 wires

Available	Contacts configuration			
	1	2	3	4
(NO or NC)	+	-	-	NO/NC

### 4 wires (PNP/NPN, NO/NC)

Output	Contacts configuration			
	1	2	3	4
NPN NO	+	NO	-	-
NPN NC	-	NC	+	-
PNP NO	+	+	-	NO
PNP NC	-	+	+	NC

### 4 wires (NO+NC)

Available	Contacts configuration			
	1	2	3	4
(NO + NC)	+	NC	-	NO