


STANDARD 1120

PHOTOELECTRIC SENSORS

ADVANTAGES

- ✓ M12 sensor series
- ✓ Rugged metal housing
- ✓ Shock & vibration resistant due to fully potted electronics
- ✓ Laser types (protection class 2) for accurate detection of smallest targets
- ✓ Sensing range up to 50 m
- ✓  **IO-Link** in 2019

WIRING DIAGRAM

PNP or NPN, 1 output

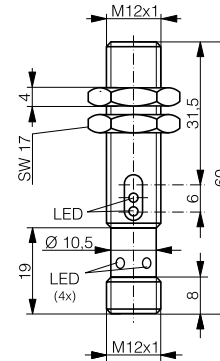
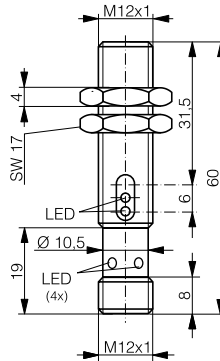


OVERVIEW	1120	1121L
Housing material	Chrome-plated brass	Stainless steel V2A
Degree of protection	IP 67	IP 67
Laser protection class	--	2
Supply voltage range	10...36 VDC	10 ... 36 VDC
Ambient temperature range	-25...+55 °C / -13...+131 °F	-10...+50 °C / +14...+122 °F
Output current	≤ 200 mA	≤ 200 mA
Switching frequency	≤ 1000 Hz	≤ 5000 Hz

STANDARD

PHOTOELECTRIC

HOUSING SIZE	M12	M12
OPERATING PRINCIPLE	REFLEX SENSOR	THROUGH-BEAM SENSOR
SENSING RANGE MM	1500	10,000




DATA	IO-Link 2019	IO-Link 2019
Light source	LED red polarized 660 nm	LED red 660 nm
Setup	-	-
Emitter		LLS-1120-200 (emitter)
PNP Dark-ON	LRS-1120-304	LLS-1120-204 (receiver)
NPN Dark-ON	LRS-1120-302	LLS-1120-202 (receiver)
Other types available	Cable version	Cable version

STANDARD M18 PLASTIC

PHOTOELECTRIC SENSORS

ADVANTAGES

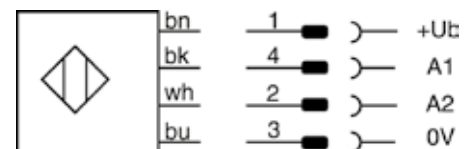
- ✓ First-class sensing ranges
- ✓ Short housing: M18 x 33 mm (cable version), M18 x 37 mm (connector version)
- ✓ Excellent background suppression characteristics with pinpoint LED
- ✓ Mutual interference immunity
- ✓  **IO-Link** on all PNP sensors
- ✓ Easy flush mounting
- ✓ Easy-to-mount special accessories for right-angle emission

WIRING DIAGRAMS

PNP or NPN, 1 output



PNP or NPN, 2 outputs



OVERVIEW	M18P
Housing material	ABS / PMMA
Degree of protection	IP 67
Supply voltage range	10 ... 30 VDC
Ambient temperature range	-25 ... +65°C / -13 ... +149°F
Output current	≤ 200 mA
Compatible mounting brackets	See pages 300-301
Accessories	See pages 441-455

M18P SERIES



M18P

HOUSING SIZE MM	M18	M18
OPERATING PRINCIPLE	REFLEX SENSOR	THROUGH-BEAM SENSOR
SENSING RANGE MM	7000	30,000

Inductive

Photoelectric

Safety

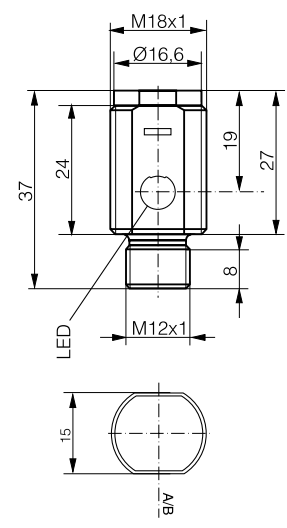
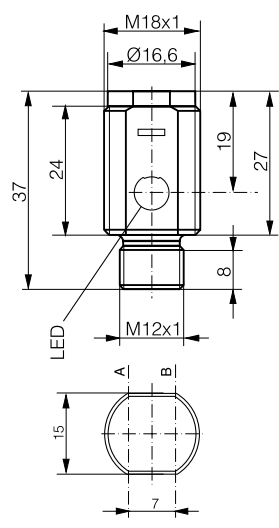
RFID

Connectivity

Accessories

Glossary

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DATA	IO-Link	IO-Link
Light source	LED red polarized 630 nm	LED red 630 nm
Switching frequency (normal mode)	≤ 1500 Hz	≤ 1000 Hz
Setup	IO-Link	IO-Link
Emitter		LLR-M18PA-NMS-400
PNP Dark-ON	LRR-M18PA-NMS-404	LLR-M18PA-NMS-404
PNP Light-ON + Dark-ON	LRR-M18PA-NMS-603	LLR-M18PA-NMS-603
PNP Dark-ON + stability alarm	LRR-M18PA-NMS-60D	LLR-M18PA-NMS-60D
NPN Dark-ON	LRR-M18PA-NMS-302	LLR-M18PA-NMS-302
NPN Light-ON + Dark-ON	LRR-M18PA-NMS-101	LLR-M18PA-NMS-101
NPN Dark-ON + stability alarm	LRR-M18PA-NMS-10B	LLR-M18PA-NMS-10B
Other types available	Cable version	Cable version

STANDARD M18

PHOTOELECTRIC SENSORS

ADVANTAGES

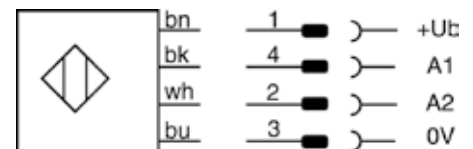
- ✓ M18 sensor series
- ✓ Models for lateral sensing
- ✓ Rugged metal housing
- ✓ Shock & vibration resistant due to fully potted electronics
- ✓ Laser types (protection class 2) for accurate detection of smallest targets
- ✓ Sensing range up to 50 m
- ✓  IO-Link in 2019

WIRING DIAGRAMS

PNP or NPN, 1 output



PNP or NPN, 2 outputs



OVERVIEW	1180 / 1180W	1180L
Housing material	Chrome-plated brass	Stainless steel V2A
Degree of protection	IP 67	IP 67
Laser protection class	-	2
Supply voltage range	10 ... 36 VDC	10 ... 36 VDC
Ambient temperature range	-25 ... +55°C / -13 ... +131°F	-10 ... +50°C / +14 ... +122°F
Output current	≤ 200 mA	≤ 200 mA
Switching frequency	≤ 1000 Hz	LT: ≤ 1000 Hz/LL: ≤ 5000 Hz

STANDARD

HOUSING SIZE

M18

M18

OPERATING PRINCIPLE

REFLEX SENSOR

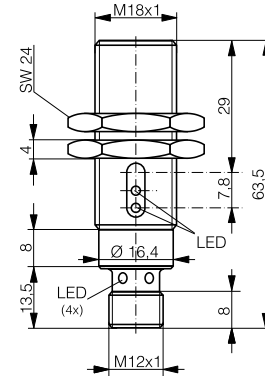
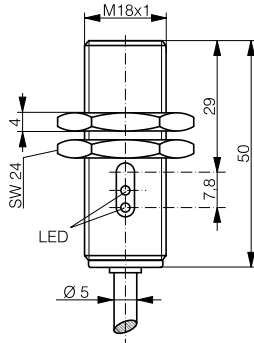
REFLEX SENSOR

SENSING RANGE MM

2000

2000

PHOTOELECTRIC



DATA

IO-Link 2019

IO-Link 2019

Light source

LED red polarized 660 nm

LED red polarized 660 nm

Setup

-

-

PNP Dark-ON

LRK-1180-304

LRS-1180-304

NPN Dark-ON

LRK-1180-302

LRS-1180-302

Emitter

PNP Light-ON + Dark-ON

NPN Light-ON + Dark-ON

Other types available

1180 SERIES



1180

M18	M18
REFLEX SENSOR	THROUGH-BEAM SENSOR
2000	20,000

Inductive

Photoelectric

Safety

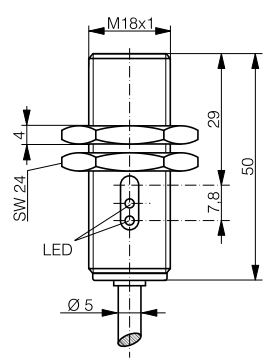
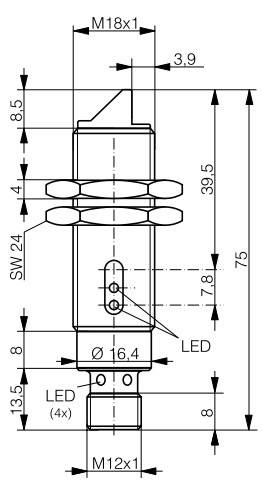
RFID

Connectivity

Accessories

Glossary

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IO-Link 2019	IO-Link 2019
LED red polarized 660 nm	LED red 660 nm
-	-
LRS-1180W-304	
LRS-1180W-302	
	LLK-1180-000
	LLK-1180-003 (receiver)
	LLK-1180-001 (receiver)
Cable version	

STANDARD C23

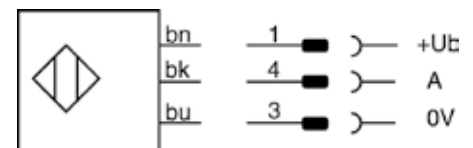
PHOTOELECTRIC SENSORS

ADVANTAGES

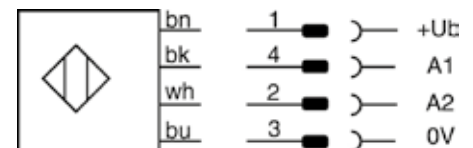
- ✓ First-class sensing ranges
- ✓ Small plastic housing, 20 mm x 30 mm x 10 mm
- ✓ Excellent background suppression characteristics with pinpoint LED
- ✓  **IO-Link** interface available on PNP types
- ✓ Mutual interference immunity
- ✓ Versions available with stability alarm as second output
- ✓ Enclosure rating IP67, Ecolab approved
- ✓ Versatile mounting brackets for ease of installation

WIRING DIAGRAMS

PNP or NPN, 1 output



PNP or NPN, 2 outputs



OVERVIEW	C23
Housing material	ABS / PMMA
Degree of protection	IP 67
Supply voltage range	10 ... 30 VDC
Ambient temperature range	-25 ... +65°C / -13 ... +149 °F
Output current	≤ 100 mA
Compatible mounting brackets	See pages 296-298

C23 SERIES



C23

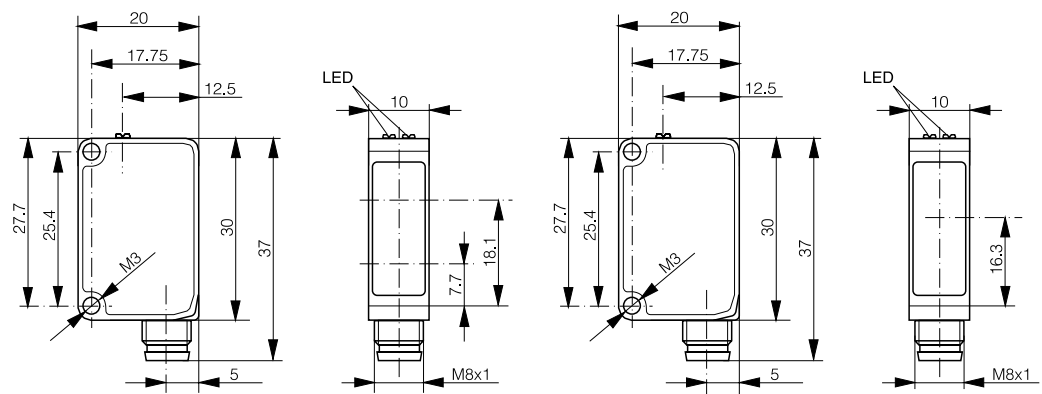
HOUSING SIZE MM	□ 20 X 30 X 10	□ 20 X 30 X 10
OPERATING PRINCIPLE	REFLEX SENSOR	THROUGH-BEAM SENSOR
SENSING RANGE MM	8000	30,000

Inductive



Photoelectric

Safety



RFID

Connectivity

Accessories

DATA	IO-Link	IO-Link
Light source	LED red polarized 630 nm	LED red polarized 630 nm
Switching frequency (normal mode)	≤ 1500 Hz	≤ 1000 Hz
Setup	IO-Link	IO-Link
Emitter		LLR-C23PA-NMS-400
PNP Dark-ON	LRR-C23PA-NMS-404	LRR-C23PA-NMS-404
PNP Light-ON + Dark-ON	LRR-C23PA-NMS-603	LRR-C23PA-NMS-603
PNP Dark-ON + stability alarm	LRR-C23PA-NMS-60D	LRR-C23PA-NMS-60D
NPN Dark-ON	LRR-C23PA-NMS-302	LRR-C23PA-NMS-302
NPN Light-ON + Dark-ON	LRR-C23PA-NMS-101	LRR-C23PA-NMS-101
NPN Dark-ON + stability alarm	LRR-C23PA-NMS-10B	LRR-C23PA-NMS-10B
Other types available	Cable version	Cable version

Glossary

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STANDARD 3030

PHOTOELECTRIC SENSORS

ADVANTAGES

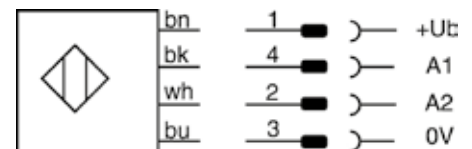
- ✓ Complete miniature sensor series 30 x 30 x 15 mm in rugged Crastin housings
- ✓ Sensing range up to 12,000 mm for through-beam type
- ✓ Shock & vibration resistant due to fully potted electronics
- ✓ Diffuse sensors with precise background suppression
- ✓ Polarizing filter (reflex sensors)
- ✓ High system reserves (excess gain)
- ✓ Pre-failure warning (pollution monitoring)
- ✓ Changeover outputs
- ✓ Analog outputs

WIRING DIAGRAMS

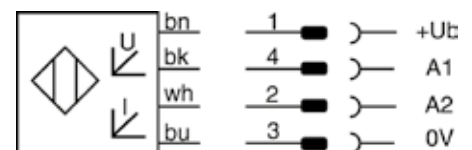
PNP or NPN, 1 output



PNP or NPN, 2 outputs



Analog, 2 outputs



OVERVIEW	3#3#
Housing material	PBTP (Crastin)
Degree of protection	IP 67
Supply voltage range	10 ... 36 VDC / 15 ... 36 VDC (LA#-3130-119)
Ambient temperature range	-25 ... +55°C / -13 ... +131 °F
Output current	≤ 200 mA / -- (LA)
Compatible mounting brackets	See page 301

3030 SERIES



3030

□ 30 X 30 X 15
REFLEX SENSOR
2000

□ 30 X 30 X 15
REFLEX SENSOR
2000

Inductive



Photoelectric

Safety

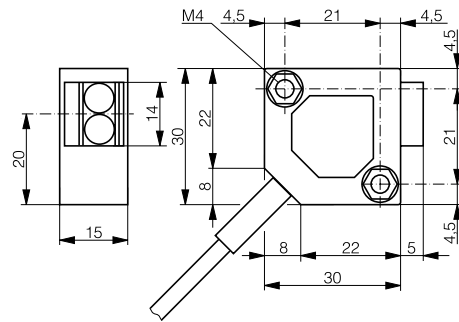
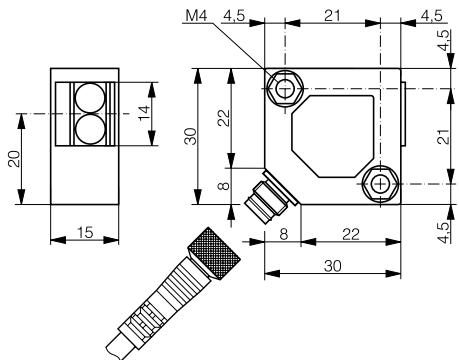
RFID

Connectivity

Accessories

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LED red polarized 660 nm
1000 Hz
Potentiometer
LRS-3031-304
LRS-3031-302

LED red polarized 660 nm
1000 Hz
Potentiometer
LRK-3031-304
LRK-3031-302

STANDARD

HOUSING SIZE MM

□ 30 X 30 X 15

□ 30 X 30 X 15

OPERATING PRINCIPLE

REFLEX SENSOR

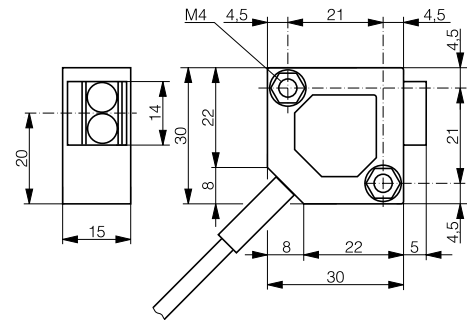
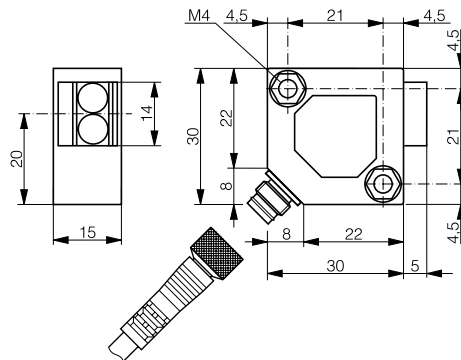
REFLEX SENSOR

SENSING RANGE MM

4000

4000

PHOTOELECTRIC



DATA

Light source

LED red polarized 660 nm

LED red polarized 660 nm

Max. switching frequency

1000 Hz

1000 Hz

Setup

Potentiometer

Potentiometer

Emitter

PNP Light-ON + Dark-ON

LRS-3030-103

LRK-3030-103

NPN Light-ON + Dark-ON

LRS-3030-101

LRK-3030-101

PNP Dark-ON

NPN Dark-ON

Other types available

STANDARD 4050

PHOTOELECTRIC SENSORS

ADVANTAGES

- ✓ Compact plastic housing, 40 mm x 50 mm x 15 mm
- ✓ Excellent background suppression characteristics
- ✓ Reflex types with special autocollimation optics
- ✓ Adjustable connector
- ✓ Ecolab tested and approved

WIRING DIAGRAMS

PNP or NPN, 2 outputs



Emitter



OVERVIEW	4050
Housing material	PBTP
Degree of protection	IP 67
Supply voltage range	10 ... 36 VDC
Ambient temperature range	-5 ... +55°C / 23 ... +131°F
Output current	≤ 200 mA
Compatible mounting brackets	See page 302

STANDARD

HOUSING SIZE MM

□ 40 X 50 X 15

□ 40 X 50 X 15

OPERATING PRINCIPLE

REFLEX SENSOR

THROUGH-BEAM SENSOR

SENSING RANGE MM

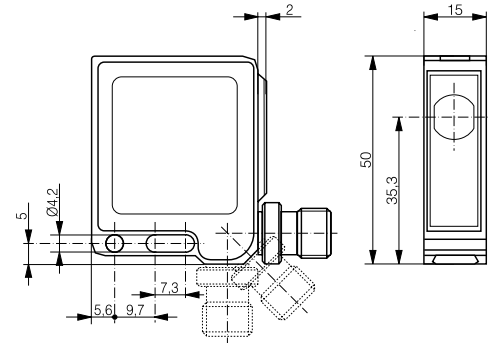
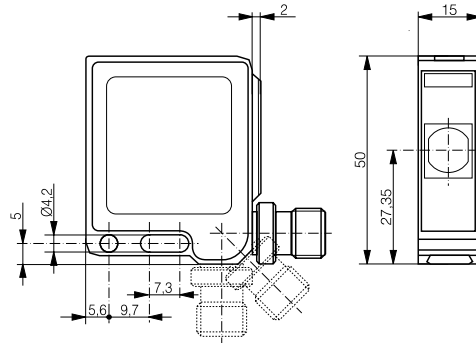
4000

50,000

PHOTOELECTRIC



AUTOCOLLIMATION



DATA

Light source	LED red polarized 680 nm
Max. switching frequency	1500 Hz
Setup	Potentiometer
PNP Light-ON + Dark-ON	LRS-4150-103
NPN Light-ON + Dark-ON	LRS-4150-101
Emitter	
Other types available	Cable version

Light source	LED red 630 nm
Max. switching frequency	1500 Hz
Setup	Potentiometer
PNP Light-ON + Dark-ON	LLS-4150-003 (receiver)
NPN Light-ON + Dark-ON	LLS-4150-001 (receiver)
Emitter	LLS-4150-000
Other types available	Cable version