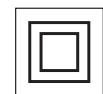


**LS 96****39m**

- Throughbeam photoelectric sensors with high performance reserve in red light
- Robust metal housing with glass cover, protection class IP 67/IP 69K for industrial application
- Receiver with integrated AS-i slave technology
- Transmitter without integrated AS-i slave technology; receives voltage supply via AS-i line
- Wide angle version to simplify the alignment

**Accessories:**

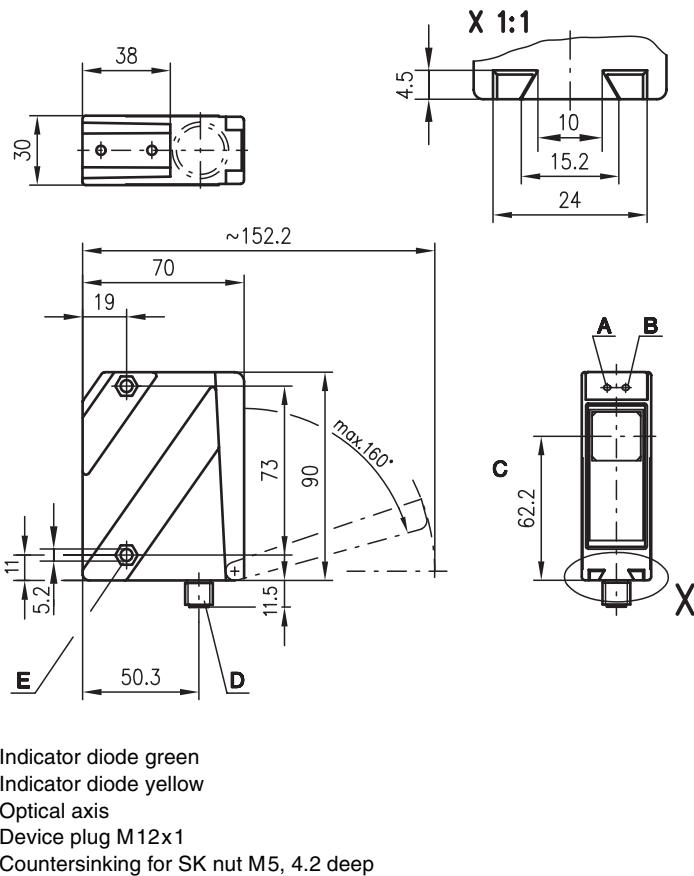
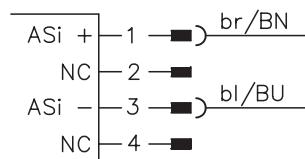
(available separately)

- Mounting systems (BT 96, BT 96.1, UMS 96, BT 450.1-96)
- M12 connectors
- Ready-made cables (K-D ...)
- Alignment aid ARH 96

**AS-i Accessories:**

(available separately)

- Bus terminals
- AS-i ribbon cable
- Address programming device
- Coupling modules, intermediate cables, etc.

**Dimensioned drawing****Electrical connection**

## Specifications

### Optical data

Typ. operating range limit 1)	0 ... 39m
Operating range 2)	0 ... 30m
Light source	LED (modulated light)
Wavelength	660nm (red light)

### Timing

Sensor switching frequency	500Hz
Sensor response time	1ms
Delay before start-up	≤ 200ms

### Electrical data

Operating voltage $U_B$	26.5 ... 31.6V (according to AS-i specification)
Bias current receiver	≤ 35mA
Bias current transmitter	≤ 15mA

### Indicators

LED green	ready
LED yellow	light path free
LED yellow flashing	light path free, no performance reserve

### Mechanical data

Housing	diecast zinc
Optics cover	glass
Weight	380g
Connection type	M12 connector

### Environmental data

Ambient temp. (operation/storage)	-20°C ... +60°C/-40°C ... +70°C
Protective circuit 3)	1, 2
VDE safety class 4)	II, all-insulated
Protection class	IP 67, IP 69K 5)
LED class	1 (acc. to EN 60825-1)
Standards applied	IEC 60947-5-2

### AS-i data for receiver

I/O code	1
ID code	1
Cycle time acc. to AS-i specification	5ms
AS-i standard according to profile	S-1.1

- 1) Typ. operating range limit: max. attainable range without performance reserve
- 2) Operating range: recommended range with performance reserve
- 3) 1=transient protection, 2=polarity reversal protection
- 4) Rating voltage 250VAC
- 5) IP 69K test acc. to DIN 40050 part 9 simulated, high pressure cleaning conditions without the use of additives, acids and bases are not part of the test

Assignment: data bits			Assignment: parameter bits		
Programming (host level)			Programming (host level)		
D <sub>0</sub>	Switching output	Ø no reflection 1 reflection	System input	*P <sub>0</sub>	Ø 1
D <sub>1</sub>	Warning output autoControl	Ø active 1 not active	System input	*P <sub>1</sub>	Ø dark switching 1 light switching
D <sub>2</sub>	Ready output	Ø sensor not ready 1 sensor ready	System input	*P <sub>2</sub>	Ø 1
*D <sub>3</sub>	NC	Ø 1		*P <sub>3</sub>	Ø 1

\* default = 1

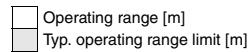
## Order guide

### Transmitter and receiver

	Designation	Part No.
Transmitter	LS 96M/A-182W-4	500 82040
Receiver	LSS 96 M-180W-44 LSE 96 M/A-182W-44	500 82039

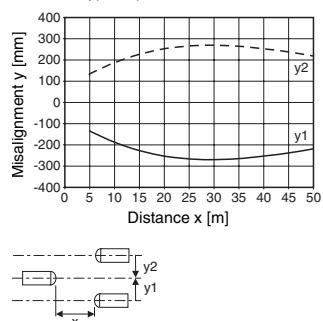
## Tables

0	30	39
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## Diagrams

Typ. response behaviour



## Remarks

- The transmitter has no integrated AS-i slave technology.
- The low current consumption of the transmitter enables power supply via AS-i line.
- Transmitter and receiver behave like a slave in an AS-i branch.

Angle at 3m distance:

Transmitter:

Angle of radiation typ.: 10°

Receiver:

Receiving angle typ.: 12°