



DATA SHEET

WLL180T-F434S17

WLL180
Fiber-optic sensors

SICK

Sensor Intelligence



Illustration may differ

FIBER-OPTIC SENSORS

WLL180T-F434S17

ORDERING INFORMATION

Type	part no.
WLL180T-F434S17	6062150

Further device versions and accessories at www.sick.com/WLL180



DETAILED TECHNICAL DATA

FEATURES

Device type	Fiber-optic amplifier
Device type detail	Expansion unit
Functional principle detail	Depending on the optical fiber cable used
Sensing range max.	Depending on the optical fiber cable used
Emitted beam	Light source LED Type of light Visible red light
Key LED figures	Normative reference EN 62471:2008-09 IEC 62471:2006, modified LED risk group marking Free group Wave length 650 nm Average service life 100,000 h at T _a = +25 °C
Adjustment	Wire/pin For deactivating the sender and executing the test logic/for setting the sensing range/synchronization with input signal Display + operating buttons For configuring the sensor parameters
Display	LED yellow Status of digital output Permanently on: Switching output active Permanently off: Digital output not active Display Display of sensor functions
Special features	Teach-in version without permanent storage of the teach-in value in the EEPROM
Items supplied	BEF-WLL180 mounting bracket

SAFETY-RELATED PARAMETERS

T _M (mission time)	20 years
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ELECTRONICS

Supply voltage U_B	12 V DC ... 24 V DC ¹⁾
Ripple	$\leq 10\%$ ²⁾
Current consumption	$\leq 50\text{ mA}$ ³⁾
Protection class	III
Digital output	Number 1 Type PNP ⁴⁾ Switching mode Light/dark switching Switching mode selector Manually selectable Circuit protection outputs Reverse polarity protected Overcurrent protected Short-circuit protected Response time $\leq 50\text{ }\mu\text{s}$ $\leq 70\text{ }\mu\text{s}$ $\leq 100\text{ }\mu\text{s}$ $\leq 150\text{ }\mu\text{s}$ $\leq 200\text{ }\mu\text{s}$ Time functions Without time delay, off delay, switch-on delay, ON and OFF delay, one shot Delay time Programmable, 0 ms ... 9,999 ms
Pin/Wire assignment	Function of pin 4/black (BK) Digital output, received light → Output Q1 HIGH Function of pin 4/black (BK) – detail The pin 4 function of the sensor can be configured Function of pin 2/white (WH) Teach-in input Function of pin 2/white (WH) – detail The pin 2 function of the sensor can be configured

¹⁾ $\pm 10\%$.²⁾ May not fall below or exceed U_B tolerances.³⁾ Without load.⁴⁾ Selectable via menu.**MECHANICS**

Housing	Rectangular
Dimensions (W x H x D)	10.5 mm x 34.6 mm x 71.9 mm
Connection	Male connector M8, 4-pin
Material	
Housing	Plastic, ABS/PC
Weight	20 g

AMBIENT DATA

Enclosure rating	IP50 (EN 60529)
Ambient operating temperature	$-25\text{ }^{\circ}\text{C} \dots +55\text{ }^{\circ}\text{C}$ ¹⁾
Ambient temperature, storage	$-40\text{ }^{\circ}\text{C} \dots +70\text{ }^{\circ}\text{C}$
Typ. Ambient light immunity	Artificial light: $\leq 3,000\text{ lx}$ Sunlight: $\leq 10,000\text{ lx}$
Shock resistance	50 g, 11 ms (3 positive and 3 negative shocks along X, Y, Z axes, 18 total shocks (EN60068-2-27))
Vibration resistance	10 Hz ... 55 Hz (Amplitude 1 mm, 3 x 30 min (EN60068-2-6))
Air humidity	35 % ... 85 %, relative humidity (no condensation)
Electromagnetic compatibility (EMC)	EN 60947-5-2
UL File No.	NRKH2.E300503 & NRKH8.E300503
RoHS certificate	✓

¹⁾ Operating temperature fluctuates according to number of devices connected: 4–8 devices: $-25\text{ }^{\circ}\text{C} \dots +50\text{ }^{\circ}\text{C}$ (output current 50 mA) / 9–16 devices: $-25\text{ }^{\circ}\text{C} \dots +45\text{ }^{\circ}\text{C}$ (output current 20 mA).

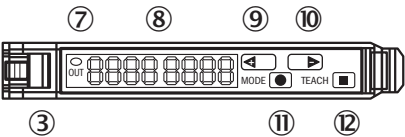
SMART TASK

Timer function	Deactivated Switch-on delay Off delay ON and OFF delay Impulse (one shot) Switch-on delay and pulse
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CERTIFICATES

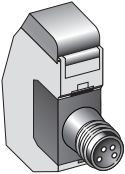
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
Photobiological safety (DIN EN 62471) certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

ADJUSTMENTS WLL180

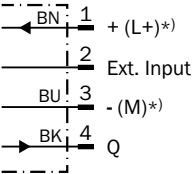


- 3 Locking the fiber-optic cables
- 7 LED indicator orange, lights up when switching output is active
- 8 Numeric display 2 x 4-digit; green: switching threshold, operating mode; red: actual value, Teach-in and function parameter
- 9 step pushbutton > (manual switching threshold: higher/next function parameter)
- 10 step pushbutton < (manual switching threshold: lower/previous function parameter)
- 11 Mode/Enter-button
- 12 Teach-in button

CONNECTION TYPE

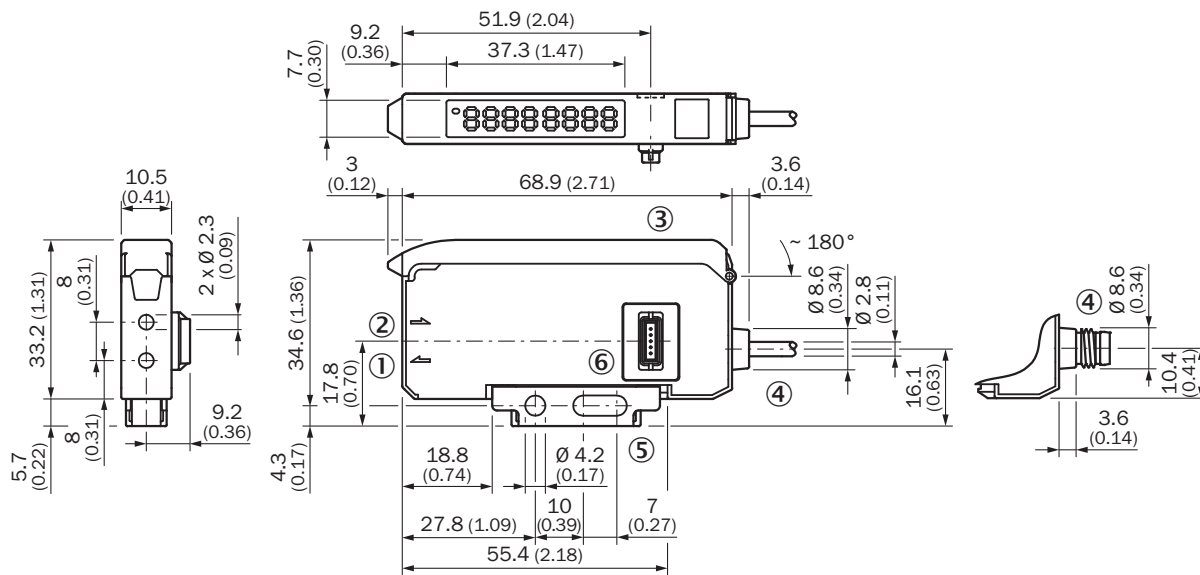


CONNECTION DIAGRAM CD-140



*) Only base unit

DIMENSIONAL DRAWING EXPANSION UNIT



Dimensions in mm (inch)

- ① Sender LED, installation of LL3 fibre-optic cable (sender fibre)
- ② Receiver, installation of LL3 fibre optic cable (receiver fibre)
- ③ protective hood opens approx. 180°
- ④ Connection
- ⑤ Mounting bracket, included with delivery
- ⑥ bus connector

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/6062150



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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