



# WLL24-2X430

## WLL24

FIBER-OPTIC AMPLIFIER

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
WLL24-2X430	1026039

Other models and accessories → [www.sick.com/WLL24](http://www.sick.com/WLL24)

### Detailed technical data

#### Features

<b>Device type</b>	Fiber-optic amplifier
<b>Device type detail</b>	Stand-alone
<b>Dimensions (W x H x D)</b>	27 mm x 87.5 mm x 74.7 mm
<b>Housing design (light emission)</b>	Rectangular
<b>Sensing range max.</b>	0 mm ... 40 mm <sup>1)</sup> 0 mm ... 25 mm <sup>2)</sup> 0 mm ... 10 mm <sup>3)</sup>
<b>Sensing range</b>	0 mm ... 40 mm, Proximity system <sup>4)</sup> 0 mm ... 1,000 mm, Through-beam system <sup>5)</sup> 0 mm ... 100 mm, Through-beam system <sup>6)</sup>
<b>Type of light</b>	Visible red light
<b>Light source</b>	LED <sup>7)</sup>
<b>Adjustment</b>	Potentiometer
<b>Indication</b>	LED

<sup>1)</sup> Object with 90% remission (based on standard white, DIN 5033).

<sup>2)</sup> Object with 18 % reflectance (referred to gray).

<sup>3)</sup> Objects to be sensed with 6 % reflectivity (based on black).

<sup>4)</sup> LL3-DB01.

<sup>5)</sup> LL3-TB02 and tip adapter LL3-TA01.

<sup>6)</sup> LL3-TB02.

<sup>7)</sup> Average service life: 100,000 h at T<sub>U</sub> = +25 °C.

## Mechanics/electronics

<b>Supply voltage <math>U_B</math></b>	5 V DC ... 15.5 V DC <sup>1)</sup>
<b>Ripple</b>	$\leq 0.4 V_{pp}$ <sup>2)</sup>
<b>Switching output</b>	NAMUR
<b>Switching mode</b>	Light switching
<b>Response time</b>	$\leq 10 \text{ ms}$ <sup>3)</sup>
<b>Switching frequency</b>	50 Hz <sup>4)</sup>
<b>Connection type</b>	Male connector M12, 4-pin <sup>5)</sup>
<b>Circuit protection</b>	A <sup>6)</sup> C <sup>7)</sup>
<b>Protection class</b>	II <sup>8)</sup>
<b>Weight</b>	330 g
<b>Housing material</b>	Metal, zinc diecast
<b>Enclosure rating</b>	IP65
<b>Type approval certificate</b>	PTB 08 ATEX 2029
<b>ATEX marking</b>	ATEX II 2G Ex ia op is IIC T4 Gb according to directive 2014/34/EU
<b>Ex area category</b>	2G
<b>Input voltage <math>U_i</math> max.</b>	15.5 V <sup>9)</sup>
<b>Input power <math>P_i</math> max.</b>	100 mW <sup>9)</sup>
<b>Input current <math>I_i</math> max.</b>	53 mA <sup>9)</sup>
<b>Internal capacitance <math>C_i</math> max.</b>	80 nF <sup>9)</sup>
<b>Internal inductance <math>L_i</math> max.</b>	0 $\mu\text{H}$ <sup>9)</sup>
<b>Ambient operating temperature</b>	-20 °C ... +60 °C
<b>Ambient temperature, storage</b>	-25 °C ... +70 °C

<sup>1)</sup> Limit values, supply with switching amplifier EN2Ex (internal resistor approx. 1 kOhm).

<sup>2)</sup> May not fall below or exceed  $U_y$  tolerances.

<sup>3)</sup> Signal transit time with resistive load.

<sup>4)</sup> With light/dark ratio 1:1.

<sup>5)</sup> Connection rotatable by 90°.

<sup>6)</sup> A =  $V_S$  connections reverse-polarity protected.

<sup>7)</sup> C = interference suppression.

<sup>8)</sup> Reference voltage: 50 V DC.

<sup>9)</sup> For connection to a separately certified intrinsically safe circuit only.

## Safety-related parameters

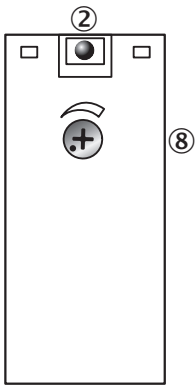
<b>MTTF<sub>D</sub></b>	257 years
<b>DC<sub>avg</sub></b>	0 %

## Classifications

<b>ECLASS 5.0</b>	27270905
<b>ECLASS 5.1.4</b>	27270905
<b>ECLASS 6.0</b>	27270905
<b>ECLASS 6.2</b>	27270905
<b>ECLASS 7.0</b>	27270905

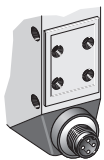
<b>ECLASS 8.0</b>	27270905
<b>ECLASS 8.1</b>	27270905
<b>ECLASS 9.0</b>	27270905
<b>ECLASS 10.0</b>	27270905
<b>ECLASS 11.0</b>	27270905
<b>ECLASS 12.0</b>	27270905
<b>ETIM 5.0</b>	EC002651
<b>ETIM 6.0</b>	EC002651
<b>ETIM 7.0</b>	EC002651
<b>ETIM 8.0</b>	EC002651
<b>UNSPSC 16.0901</b>	39121528

### Adjustments



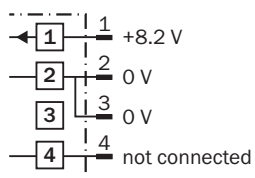
- ② LED signal strength indicator
- ⑧ Sensitivity control

### Connection type

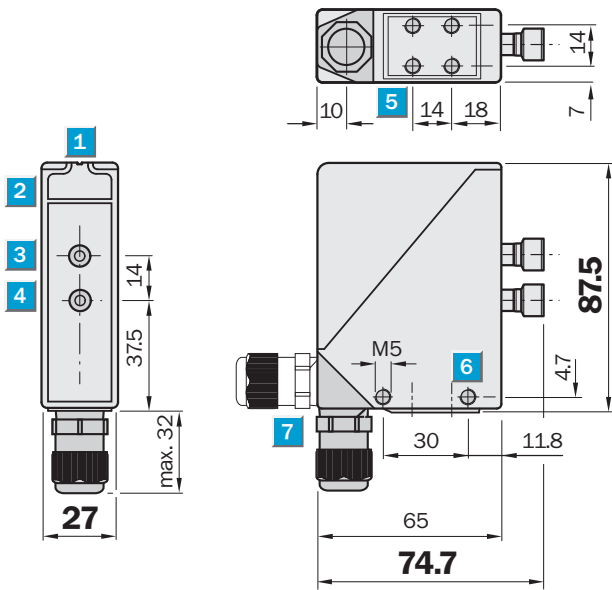


### Connection diagram

Cd-122



Dimensional drawing (Dimensions in mm (inch))



- ① Alignment sight
- ② LED signal strength indicator
- ③ Center of optical axis, sender
- ④ Center of optical axis, receiver
- ⑤ M5 threaded mounting hole, 6 mm deep
- ⑥ M5 threaded mounting hole, through-hole
- ⑦ M16 screw fixing and plug rotatable by 90°

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)