

Guide to swapping your WTB27-3P1111

After a long period of continuous availability, SICK is phasing out the WTB27-3P1111 and to help you select a replacement sensor we have provided the following information;

You have many possibilities but we have selected this sensor as the most appropriate.





WTB26I-1H161120A00



RS Stock No: [200-9749](#)


Mechanical Installation

To make the move to our improved W16 and W26 sensor families as easy as possible, the new housing design and fixing holes are almost entirely compatible with existing sensors from the previous generation. You can change to the new W26 from the W23/W27 immediately without any additional installation





	WTB27-3P1111 RS Stock No: 530-0923 	WTB26I-1H161120A00 RS Stock No: <u>200-9749</u> 
SENSOR/ DETECTION PRINCIPLE	Photoelectric proximity sensor, Background suppression	
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DIMENSIONS (W X H X D)	24.6 mm x 80.6 mm x 54 mm	24.6 mm x 82.5 mm x 53.3 mm
HOUSING DESIGN (LIGHT EMISSION)	Rectangular	
SENSING RANGE MAX.	30 mm ... 1,600 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))	30 mm ... 2,000 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))
SENSING RANGE	100 mm ... 1,600 mm	
TYPE OF LIGHT	Infrared light	
LIGHT SOURCE	LED (Average service life: 100,000 h at T _v = +25 °C)	
LIGHT SPOT SIZE (DISTANCE)	Ø 25 mm (800 mm)	Ø 14 mm (1,000 mm)
WAVE LENGTH	880 nm	850 nm
ADJUSTMENT	Potentiometer	
ADJUSTMENT (TEACH-TURN ADJUSTMENT)		BluePilot: for setting the sensing range
ADJUSTMENT (IO-LINK)		For configuring the sensor parameters and Smart Task functions
INDICATION (LED INDICATOR BLUE)		BluePilot: sensing range indicator
INDICATION (LED INDICATOR GREEN)		Operating indicator Static: power on Flashing: IO-Link mode
INDICATION (LED INDICATOR YELLOW)		Status of received light beam Static: object present Static off: object not present

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PIN 2 CONFIGURATION		External Input (test), Teach-in, switching signal
MECHANICS/ELECTRONICS		
SUPPLY VOLTAGE	10 V DC ... 30 V DC (Limit values when operated in short-circuit protected network: max. 8 A)	10 V DC ... 30 V DC (limit values)
RIPPLE	$\leq 5 V_{pp}$ (May not exceed or fall below U_v tolerances)	$\leq 5 V_{pp}$
POWER CONSUMPTION	40 mA (without load)	30 mA (16 V DC ... 30 V DC, without load) 50 mA (10 V DC ... 16 V DC, without load)
SWITCHING OUTPUT	PNP	PUSH/PULL PNP NPN
OUTPUT: Q_{L1} / C		Switching output or IO-Link mode
OUTPUT FUNCTION	Complementary	Factory setting: Pin 2 / white (MF): NPN normally open (light switching), PNP normally closed (dark switching), Pin 4 / black (Q_{L1} / C): NPN normally closed (dark switching), PNP normally open (light switching), IO-Link
SWITCHING MODE	Light/dark switching	
SIGNAL VOLTAGE PNP HIGH/LOW	Approx. $V_s - 2.5 V$ / 0 V	
OUTPUT CURRENT I_{max}	$\leq 100 mA$	
RESPONSE TIME	$\leq 1.5 ms$ (Signal transit time with resistive load)	$\leq 500 \mu s$ (Signal transit time with resistive load in switching mode. Different values possible in COM2 mode.)
SWITCHING FREQUENCY	350 Hz (with light/dark ratio 1:1)	1,000 Hz (With light/dark ratio 1:1 in switching mode. Different values possible in IO-Link mode)
SIGNAL VOLTAGE NPN HIGH/LOW		Approx. $V_S / < 2.5 V$
CONNECTION TYPE	Cable, 4-wire, 2 m (Do not bend below 0 °C)	Cable, 2 m (Do not bend below 0 °C)



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CABLE MATERIAL	PVC	
CIRCUIT PROTECTION	A (A = V _s connections reverse-polarity protected) B (B = inputs and output reverse-polarity protected) C (C = interference suppression)	A (A = V _s connections reverse-polarity protected) B (B = inputs and output reverse-polarity protected) C (C = interference suppression) D (D = outputs overcurrent and short-circuit protected)
PROTECTION CLASS	II (reference voltage: 50 V DC)	III
WEIGHT	+ 180 g	130 g
IO-LINK		yes
HOUSING MATERIAL	Plastic, ABS	Plastic, VISTAL®
OPTICS MATERIAL	Plastic, PMMA	
ENCLOSURE RATING	IP66 IP67	IP66 (According to EN 60529) IP67 (According to EN 60529) IP69 (According to EN 60529) (Replaces IP69K with ISO 20653: 2013-03)
AMBIENT OPERATING TEMPERATURE	-40 °C ... +60 °C	
AMBIENT STORAGE TEMPERATURE	-40 °C ... +75 °C	
UL FILE NO.	NRKH.E181493 & NRKH7.E181493	
SAFETY-RELATED PARAMETERS		
MTTF_d		629 years
DC_{AVG}		0%
COMMUNICATION INTERFACE		
COMMUNICATION INTERFACE		IO-Link V1.1

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CYCLE TIME		2.3 ms
COMMUNICATION INTERFACE DETAIL		COM2 (38,4 kBaud)
PROCESS DATA LENGTH		16 Bit
PROCESS DATA STRUCTURE		Bit 0 = switching signal Q ₁ Bit 1 = switching signal Q ₂ Bit 2 ... 15 = empty
VENDORID		26
DEVICEID HEX		0x800184
DEVICEID DEZ		8388996
SMART TASK		
SMART TASK NAME		Base logics
LOGIC FUNCTION		Direct AND OR Window Hysteresis
TIMER FUNCTION		Deactivated On delay Off delay ON and OFF delay Impulse (one shot)
INVERTER		Yes
SWITCHING FREQUENCY		SIO Direct: 1000 Hz (SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to direct/deactivated).) SIO Logic: 800 Hz (SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.) IOL: 650 Hz (IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.)

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RESPONSE TIME		<p>SIO Direct: 500 µs (SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to direct/deactivated).)</p> <p>SIO Logic: 600 µs (SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.)</p> <p>IOL: 750 µs (IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.)</p>
REPEATABILITY		<p>SIO Direct: 150 µs (SIO Direct: sensor operation in standard I/O mode without IO-Link communication and without using internal sensor logic or time parameters (set to direct/deactivated).)</p> <p>SIO Logic: 300 µs (SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.)</p> <p>IOL: 400 µs (IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.)</p>
SWITCHING SIGNAL Q₁		Switching output
SWITCHING SIGNAL Q₂		Switching output
CLASSIFICATIONS		
ECL@SS 5.0		27270904
ECL@SS 5.1.4		27270904
ECL@SS 6.0		27270904
ECL@SS 6.2		27270904
ECL@SS 7.0		27270904
ECL@SS 8.0		27270904
ECL@SS 8.1		27270904
ECL@SS 9.0		27270904
ETIM 5.0		EC002719



Feature comparison

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<p>ETIM 6.0</p>	<p>EC002719</p>	
<p>UNSPSC 16.0901</p>	<p>39121528</p>	