

Guide to swapping your WT18-3P130

After a long period of continuous availability, SICK is phasing out the WT18-3P130 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.



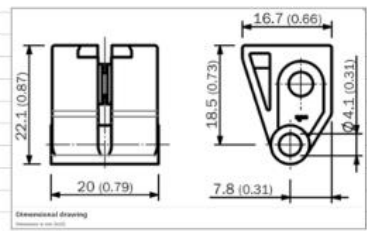
WTB16P-1H161120A00



RS Stock No: 200-9747



Mechanical Installation



The new sensor offers the latest technology but is mechanically different. If you want to utilise existing brackets or mounting positions you can do this using the adaptors shown below.

Adapter for W14/W18 – W16 (BEF-AP-W16) RS Stock No: 201-1500





	WT18-3P130 RS Stock No: 493-7243 	WTB16P-1H161120A00 RS Stock No: 200-9747 
SENSOR/ DETECTION PRINCIPLE	Photoelectric proximity sensor, Background suppression	
SENSOR/ DETECTION PRINCIPLE	Photoelectric proximity sensor, Background suppression	
DIMENSIONS (W X H X D)	17.6 mm x 75.5 mm x 33.5 mm	20 mm x 55.7 mm x 42 mm
HOUSING DESIGN (LIGHT EMISSION)	Rectangular	
SENSING RANGE MAX.	10 mm ... 600 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))	10 mm ... 1,000 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))
SENSING RANGE	50 mm ... 600 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))	
TYPE OF LIGHT	Visible red light	
LIGHT SOURCE	LED (Average service life: 100,000 h at T _U = +25 °C)	PinPoint LED (Average service life: 100,000 h at T _U = +25 °C)
LIGHT SPOT SIZE (DISTANCE)	Ø 15 mm (300 mm)	Ø 6 mm (500 mm)
WAVE LENGTH	675 nm	635 nm
ADJUSTMENT	Potentiometer, 4 turns	
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

	WT18-3P130 RS Stock No: 493-7243 	WTB16P-1H161120A00 RS Stock No: 200-9747 
INDICATION (LED INDICATOR YELLOW)		Status of received light beam Static: object present Static off: object not present
PIN 2 CONFIGURATION		External input, 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	< 5 V _{pp} (May not exceed or fall below U _v tolerances)	≤ 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 (QL1 / 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}	100 mA	≤ 100 mA
RESPONSE TIME	< 700 μs (Signal transit time with resistive load)	≤ 500 μs (Signal transit time with resistive load in switching mode. Different values possible in COM2 mode.)
SWITCHING FREQUENCY	700 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)

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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)
CABLE MATERIAL	PVC	
CIRCUIT PROTECTION	A (A = V_S connections reverse-polarity protected) C (C = interference suppression) D (D = outputs overcurrent and short-circuit protected)	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		III
WEIGHT	120 g	100 g
IO-LINK		yes
HOUSING MATERIAL	Plastic, ABS	Plastic, VISTAL®
OPTICS MATERIAL	Plastic, PMMA	
ENCLOSURE RATING	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%

	WT18-3P130 RS Stock No: 493-7243 	WTB16P-1H161120A00 RS Stock No: 200-9747 
COMMUNICATION INTERFACE		
COMMUNICATION INTERFACE		IO-Link V1.1
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 _{L1} Bit 1 = switching signal Q _{L2} Bit 2 ... 15 = empty
VENDORID		26
DEVICEID HEX		0x80015C
DEVICEID DEZ		8388956
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)

	WT18-3P130 RS Stock No: 493-7243 	WTB16P-1H161120A00 RS Stock No: 200-9747 
		(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.)
RESPONSE TIME		SIO Direct: 500 μ s (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: 600 μ s (SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.) IOL: 750 μ s (IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.)
REPEATABILITY		SIO Direct: 150 μ s (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: 300 μ s (SIO Logic: Sensor operation in standard I/O mode without IO-Link communication. Sensor-internal logic or timing parameters plus Automation Functions used.) IOL: 400 μ s (IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.)
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



Feature comparison

	WT18-3P130 RS Stock No: 493-7243 	WTB16P-1H161120A00 RS Stock No: 200-9747 
ECL@SS 7.0		27270904
ECL@SS 8.0		27270904
ECL@SS 8.1		27270904
ECL@SS 9.0		27270904
ETIM 5.0		EC002719
ETIM 6.0		EC002719
UNSPSC 16.0901		39121528



Feature comparison

WT18-3P130
Part number: 1025895

WTB16P-1H161120A00
Part number: 1218816

FEATURES

SENSOR/ DETECTION PRINCIPLE	Photoelectric proximity sensor, Background suppression	
DIMENSIONS (W X H X D)	17.6 mm x 75.5 mm x 33.5 mm	20 mm x 55.7 mm x 42 mm
HOUSING DESIGN (LIGHT EMISSION)	Rectangular	
SENSING RANGE MAX.	10 mm ... 600 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))	10 mm ... 1,000 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))
SENSING RANGE	50 mm ... 600 mm (Object with 90 % reflectance (referred to standard white, DIN 5033))	
TYPE OF LIGHT	Visible red light	
LIGHT SOURCE	LED (Average service life: 100,000 h at T _u = +25 °C)	PinPoint LED (Average service life: 100,000 h at T _u = +25 °C)
LIGHT SPOT SIZE (DISTANCE)	Ø 15 mm (300 mm)	Ø 6 mm (500 mm)
WAVE LENGTH	675 nm	635 nm
ADJUSTMENT	Potentiometer, 4 turns	
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



Feature comparison

WT18-3P130 Part number: 1025895	WTB16P-1H161120A00 Part number: 1218816	
		Static: object present Static off: object not present
PIN 2 CONFIGURATION		External input, 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	< 5 V _{pp} (May not exceed or fall below U _i tolerances)	≤ 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 (QL1 / 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}	100 mA	≤ 100 mA
RESPONSE TIME	< 700 μs (Signal transit time with resistive load)	≤ 500 μs (Signal transit time with resistive load in switching mode.



Feature comparison

WT18-3P130 Part number: 1025895	WTB16P-1H161120A00 Part number: 1218816	
		Different values possible in COM2 mode.)
SWITCHING FREQUENCY	700 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)
CABLE MATERIAL	PVC	
CIRCUIT PROTECTION	A (A = V_S connections reverse-polarity protected) C (C = interference suppression) D (D = outputs overcurrent and short-circuit protected)	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		III
WEIGHT	120 g	100 g
IO-LINK		yes
HOUSING MATERIAL	Plastic, ABS	Plastic, VISTAL®
OPTICS MATERIAL	Plastic, PMMA	
ENCLOSURE RATING	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	



Feature comparison

WT18-3P130 Part number: 1025895	WTB16P-1H161120A00 Part number: 1218816
AMBIENT STORAGE TEMPERATURE	-40 °C ... +75 °C
UL FILE NO.	NRKH.E181493 & NRKH7.E181493
SAFETY-RELATED PARAMETERS	
MTTF ₀	629 years
DC _{AVG}	0%
COMMUNICATION INTERFACE	
COMMUNICATION INTERFACE	IO-Link V1.1
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	0x80015C
DEVICEID DEZ	8388956
SMART TASK	
SMART TASK NAME	Base logics
LOGIC FUNCTION	Direct AND OR Window Hysteresis
TIMER FUNCTION	Deactivated On delay Off delay



Feature comparison

WT18-3P130 Part number: 1025895	WTB16P-1H161120A00 Part number: 1218816	
		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.)
RESPONSE TIME		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).) 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.) IOL: 750 µs (IOL: Sensor operation with full IO-Link communication and usage of logic,



Feature comparison

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		timing and Automation Function parameters.)
REPEATABILITY		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).) 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.) IOL: 400 µs (IOL: Sensor operation with full IO-Link communication and usage of logic, timing and Automation Function parameters.)
SWITCHING SIGNAL Q ₁		Switching output
SWITCHING SIGNAL Q ₂		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	



Feature comparison

WT18-3P130 Part number: 1025895	WTB16P-1H161120A00 Part number: 1218816
ECL@SS 8.1	27270904
ECL@SS 9.0	27270904
ETIM 5.0	EC002719
ETIM 6.0	EC002719
UNSPSC 16.0901	39121528