



WI180C-PNS01

Fieldbus modules

INTEGRATION MODULES AND ADAPTERS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
WI180C-PNS01	6068091

Other models and accessories → www.sick.com/Fieldbus_modules

Detailed technical data

Features

Accessory group	Fieldbus modules
Description	PROFINET coupler for WLL180T and AOD1. Properties: PROFINET IRT; transmission rates of 10 MBaud - 100 MBaud; M12 connection; M8 voltage supply connection, 4-pin; only output of switching output Q1 of the connected sensors. See operating instructions for additional information and technical details
Enclosure rating	IP54
Dimensions (W x H x L)	39 mm x 36.3 mm x 102.35 mm

Certificates

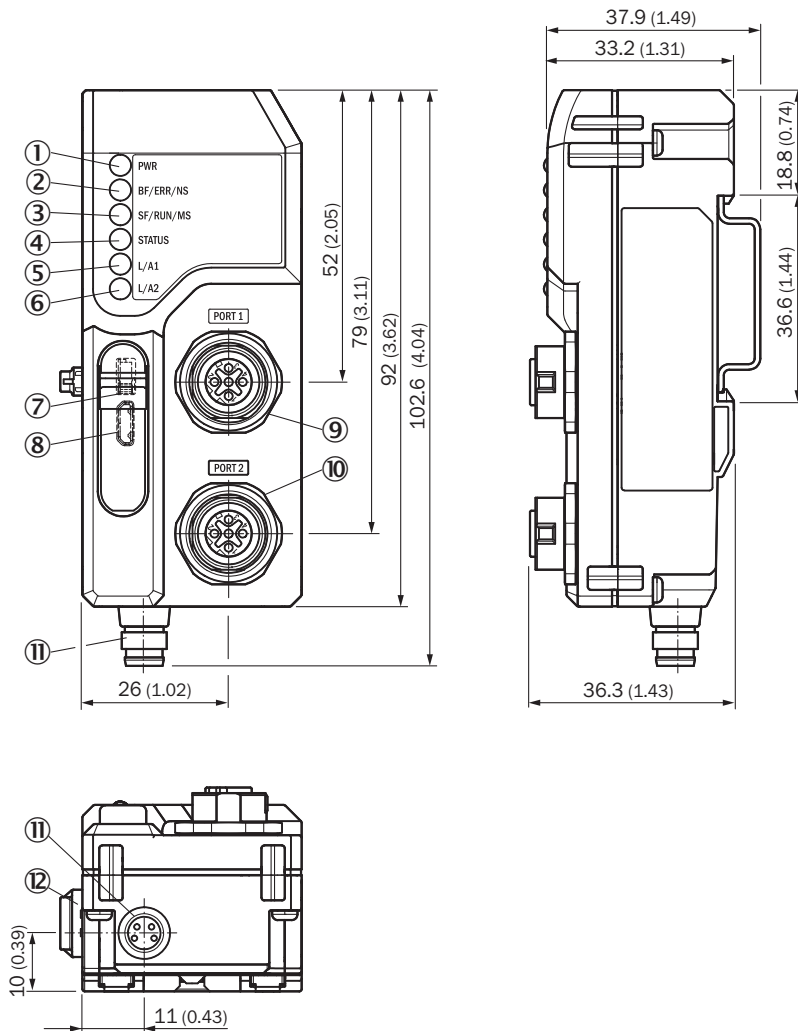
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cRUus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

ECLASS 5.0	27242202
ECLASS 5.1.4	27242602
ECLASS 6.0	27242602
ECLASS 6.2	27242602
ECLASS 7.0	27242602
ECLASS 8.0	27242602

ECLASS 8.1	27242602
ECLASS 9.0	27242602
ECLASS 10.0	27242602
ECLASS 11.0	27242602
ECLASS 12.0	27242602
ETIM 5.0	EC001597
ETIM 6.0	EC001597
ETIM 7.0	EC001597
ETIM 8.0	EC001597
UNSPSC 16.0901	32151705

Dimensional drawing



Dimensions in mm (inch)

- ① PWR-LED
- ② BF/ERR/NS-LED
- ③ SF/RUN/MS-LED
- ④ status LED

- ⑤ L/A1-LED
- ⑥ L/A2-LED
- ⑦ Reset
- ⑧ USB socket, type Micro-B
- ⑨ M12, 4-pin female connector
- ⑩ M12, 4-pin female connector
- ⑪ Power connection: male connector M8, 4-pin
- ⑫ Bus male connector, 5-pin

Technical data

Description	Value
Electrical	
Supply voltage	12 ... 24 VDC ± 10 %
Power consumption (without connected devices)	3 W
Switch-on delay	1000 ms
Switch-on delay (overall system)	2000 ms
LEDs	PWR, BF/ERR/NS, SF/RUN/MS, STATUS, L/A1, L/A2
Power supply	Male M8 plug connector, 4-pin
Other interfaces	Male bus connector, 5-pin, internal system bus 2 x M12 4-pin D-coded, PROFINET
PROFINET IO	
Maximum number of modules to be connected	16
Transmission speed	100 Mbit/s
Maximum distance between nodes	100 m
Process data	2 Bytes input, 0 Byte output
Asynchronous data	Min. cycle time 1 ms
Compliant standard	IEEE802.3u (100Base-Tx)
Conformance class	Class C (PROFINET IRT)
Netload class	III
Ethernet ports	2
PROFINET features	Media Redundancy (MRP), network diagnostic (MIB/SNMP), topology detection, port diagnostic (Up/Down), connection diagnostic (connection length measurement), I&M0...4, auto device replacement, reduction ratio, openVAS tested
GSD file	available (V2.2, V2.32, V2.33, V2.34)
EMC	
Noise immunity (Length of cable ≤30 m)	in accordance with EN 61000-6-2/ EN 61131-2
Emission	in accordance with EN 55011, class A
Product safety	
Protection class	3
Short-circuit protection	in accordance with VDE 0160
Mechanical	
Protection category	IP54 ¹
Sensitivity to vibrations	IEC 60068, 10 ... 55 Hz
Shock resistance	IEC 60068, 500 m/s ² (~50 g)
Housing material	Polycarbonate
Dimensions (HxWxD) in mm	39 x 102,35 x 36,8
Environmental parameters	
Air humidity (operation/storage)	35 ... 85 % relative humidity
Temperature range (storage)	-40 ... +70 °C
Temperature range (Operation, ≤3 connected devices)	-25 ... +55 °C ²
Temperature range (Operation, ≤8 connected devices)	-25 ... +50 °C ²
Temperature range (Operation, ≤16 connected devices)	-25 ... +45 °C ²

¹ Valid, if WI180C-PNS01 is connected via internal system bus with modules which fulfill IP54

² Temperature ranges valid if no output current on connected devices

Dimensions in mm (inch)

Dimensional drawing Record data

Index No.	Function	Details		Access	Length (bytes)	Description
0	Product Series			R	2	0x1505
		b15-12	Manufacturer			1: SICK AG
		b11-8	Categories			5: Communication unit
		b7-0	Family			<Category 5> 5: WI180C-PN
1	Product Type			R	2	1: WI180C-PN
2	Firmware Version			R	2	1
3	Protocol Version			R	2	1
4	Product Revision			R	2	1
5	Vendor Name			R	2 ... 16	„SICK AG“
6	Product Name			R	2 ... 32	„WI180C-PNS01“
7	Product ID			R	2 ... 16	4864 (0x1300)
8	User Tag Name			R/W	2 ... 32	Blank space (default)
9	Operation Status			R	2	0: Idle
						2: Run
10	Vendor ID			R	2	257 (0x101)
11	Network Profile			R	2 ... 32	„PROFINET Coupler“
95	Product serial number			R	16	
97	Number of sensors			R	2	0 ... 16
98	Error Code			R/W	2	Get last error code / Delete last error code (any write value)
212	Factory Reset			W	2	3: Execute

Dimensions in mm (inch)

Dimensional drawing Diagnosis

Error type	Extended error type	Error text
19	-	WI180 system communication error
19	6	Number of modules in WI180 system changed
19	11	WI180 system internal communication error

Dimensions in mm (inch)

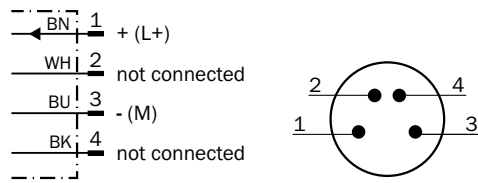
IO data

		Module No.	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Slot number	Device allocation	Byte address	7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	Device function
Input	1 Device	0									x	x	x	x	x	x	x	x	Value of channel 1 (Q1)
		1	x	x	x	x	x	x	x	x									

Dimensions in mm (inch)

Anschlusschema Cd-416

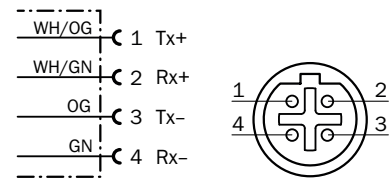
Supply voltage port



Pin	Pin assignment	Wire color	Description
1	L+	Brown	+12 ... 24 VDC
2	n.c.	n/a	Not assigned
3	M	Blue	GND
4	n.c.	n/a	Not assigned

Anschlusschema Cd-409

PROFINET port 1 and 2 (M12 male connector, 4-pin, D-coded)



M12 (D-coded)

Pin	Pin assignment	Wire color	Description
1	Tx+	White/orange	Send data signal, not inverted
2	Rx+	White/green	Receive data signal, not inverted
3	Tx-	Orange	Send data signal, inverted
4	Rx-	Green	Receive data signal, inverted

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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.”

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