WI180C-PNS01

SICK
Sensor Intelligence.

WI180C-PNS01

Ordering information

Type	Part no.
WI180C-PNS01	6068091

Other models and accessories ➜ www.sick.com/

Detailed technical data

Technical specifications

Accessory family	Fieldbus modules
Enclosure rating	IP54
Dimensions (W x H x L)	39 mm x 36.3 mm x 102.35 mm
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

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))
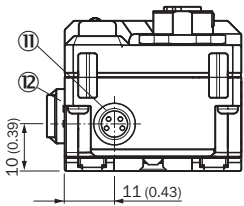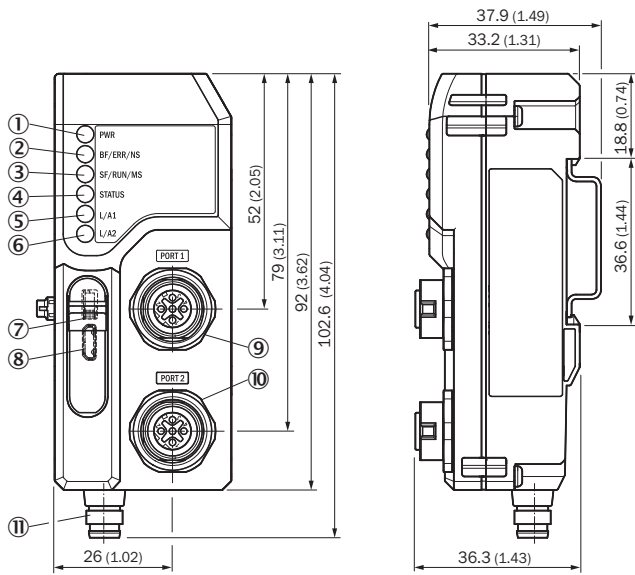
① PWR-LED
② BF/ERR/NS-LED
③ SF/RUN/MS-LED
④ Status LED
⑤ L/A1-LED
⑥ L/A2-LED
⑦ Reset
⑧ USB socket, type Micro-B
⑨ M12, 4-pin female connector
⑩ M12, 4-pin female connector
⑪ Power connection: male connector M8, 4-pin
⑫ Bus male connector, 5-pin

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 Min. cycle time 1 ms
Asynchronous data	supported
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/s² (~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 fullfill IP54

[2] Temperature ranges valid if no output current on connected devices

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

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

IO data

Slot number	Device allocation	Module No.	Byte address	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	Device function
				7	6	5	4	3	2	1	0	7	6	5	4	3	2	1	0	
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									

Anschlussschema

Cd-416

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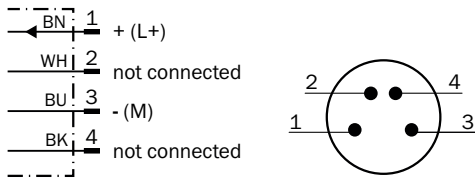
Pin	Pin assignment	Wire color	Description
1	L+	Brown	+12 ... 24 VDC
2	n.c.	n/a	Not assigned
3	M	Blue	GND
4	n.c.	n/a	Not assigned

Cd-409

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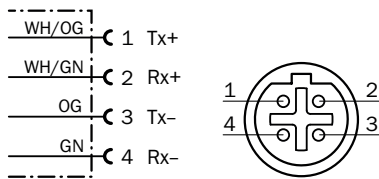
M12 (D-coded)

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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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."

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