Data sheet

SIG100-0A0111100

SIG100

NETWORK DEVICES

SICK
Sensor Intelligence.

Ordering information

Type	part no.
SIG100-0A0111100	1089792

Other models and accessories ➜ www.sick.com/SIG100

Detailed technical data

Features

Product category	IO-Link Hub
Supported products	Binary switching sensors Binary actuators
Further functions	USB connection for easy configuration of the SIG100 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK Logic editor is available for easy configuration of logic functions
Items supplied	SIG100-0A0111100, Marking labels, quickstart

Mechanics/electronics

Connections	
I/O	6 x M12, 5-pin female connector, A-coded
Power Main	1 x M12, 4-pin plug, A-coded
CONFIG	1 x M8, 4-pin female connector, USB 2.0 (USB-A)
Power voltage supply	
Supply voltage	10 V DC ... 30 V DC [1]
Current consumption	Power Port (≤ 50 mA, ≤ 500 mA), At supply voltage 24 V DC [2] [3]
Optical indicators	12 Orange LED (2 for each port S1–S6 for the display of Pin4 (DI/DO1) and Pin2 (DI/DO2)) 1 LED green (DO) 1 Orange LED (DO)
Input/output characteristics	

[1] 10 - 30 V DC without IO-Link, 18 - 30 V DC with IO-Link.
[2] Without sensors, outputs switched off.
[3] The sum of all outputs, including the digital outputs, must not exceed the maximum current consumption of the device. The current consumption must be limited.
[4] Configured as digital output. The maximum output current at pin 2 and pin 4 does not depend on the voltage supply at pin 1 of S1-S6.

Power Port pin 2 output current	≤ 50 mA ($V_H \geq V_{US}$ - 2 V) [4]
Power Port pin 4 output current	≤ 50 mA ($V_H \geq V_{US}$ - 2 V) [4]
Power Port pin 2/4 output voltage HIGH	≤ 50 mA (Type 3 IEC 61131-2) [4]
S1-S6 pin 1 voltage supply	≤ 50 mA [4]
S1-S6 pin 2 output current	≤ 50 mA
S1-S6 pin 4 output current	≤ 50 mA
S1-S6 pin 2/4 output voltage HIGH	$V_H \geq V_{US}$ - 2 V
Enclosure rating	IP67
Protection class	III
Housing material	ABS
Housing color	Black/Light blue
Weight	289 g
Dimensions (L x W x H)	213.9 mm x 57 mm x 38.3 mm
UL File No.	E497722

[1] 10 - 30 V DC without IO-Link, 18 - 30 V DC with IO-Link.
[2] Without sensors, outputs switched off.
[3] The sum of all outputs, including the digital outputs, must not exceed the maximum current consumption of the device. The current consumption must be limited.
[4] Configured as digital output. The maximum output current at pin 2 and pin 4 does not depend on the voltage supply at pin 1 of S1-S6.

Interfaces

Logic editor	✓
Communication interface	USB, IO-Link
Function	IO-Link sensor hub (IO-Link device) with 6 ports which can be used to connect sensors and actuators. The SIG100 Sensor Integration Gateway can therefore connect up to 12 binary switching signals and communicate them to any IO-Link master via IO-Link. The SIG100 can also be operated as a standalone system by directly configuring simple logic functions across several connected devices via the SOPAS ET user interface.
Communication Interface detail	IO-Link V1.1, Port Class A
IO-Link data transmission rate	≤ 38.4 kBaud, COM2 ≤ 38.4 kBaud
IO-Link cycle time	< 5.1 ms
IO-Link process data length	8 Byte In und 2 Byte Out
IO-Link process data structure	
8 Byte Process Data In	Bit 0 - Bit 7 = QL1 - QL8
	Bit 8 - Bit 19 = Qint1 - Qint12
	Bit 20 – bit 31 = Reserved
	Bit 32 – bit 39 = Analog value 1 (lower byte)
	Bit 40 – bit 47 = Analog value 1 (upper byte)
	Bit 48 – bit 55 = Analog value 2 (lower byte)
	Bit 56 – bit 63 = Analog value 2 (upper byte)
2 bytes process data out (digital mode)	Bit 0 - Bit 15 = IL1 - IL16
2 bytes process data out (analog mode)	Bit 0 – bit 7 = Analog value in (lower byte)
	Bit 8 – bit 15 = Analog value in (upper byte)
Comment	QL1 – QL8 = Logic editor outputs

	Qint1 – Qint12 = Mapping of the individual ports (S1–S6), each with Pin2 and Pin4, onto the IO-Link process data
	4 bytes analog value 1/2 = Transmission of integer values (e.g., counter value)
	IL1 – IL16 = Logic editor inputs
	2 bytes analog value in = Transmission of integer values (e.g., counter value)
Operator interfaces	SOPAS ET, the engineering tool for configuration via USB, SOPAS ET can be downloaded for free from www.sick.com, the required SSD file for displaying SIG100 via SOPAS ET can either be downloaded from the device or from www.sick.com
Number of inputs	Max. 12 x PNP, type 1
Number of outputs	Max. 12 x PNP
Inputs/outputs	
S1-S6	6 ports. Pin2 and Pin4 can be customized as a digital input or digital output to enable the transmission of up to 12 digital input or output signals. (SOPAS ET can be downloaded for free from www.sick.com)
Power Port	Port for configuration via USB with SOPAS ET
CONFIG	Port for configuration via USB with SOPAS ET (SOPAS ET can be downloaded for free from www.sick.com)

Ambient data

Ambient operating temperature	–40 °C ... +60 °C [1]
Ambient temperature, storage	–40 °C ... +70 °C [1]
Electromagnetic compatibility (EMC)	EN 61000-6-2:2005-08 / EN 61000-6-3:2007-01
Shock load	EN 60068-2-6

[1] Permissible relative humidity: 0% ... 90% (non-condensing).

Certificates

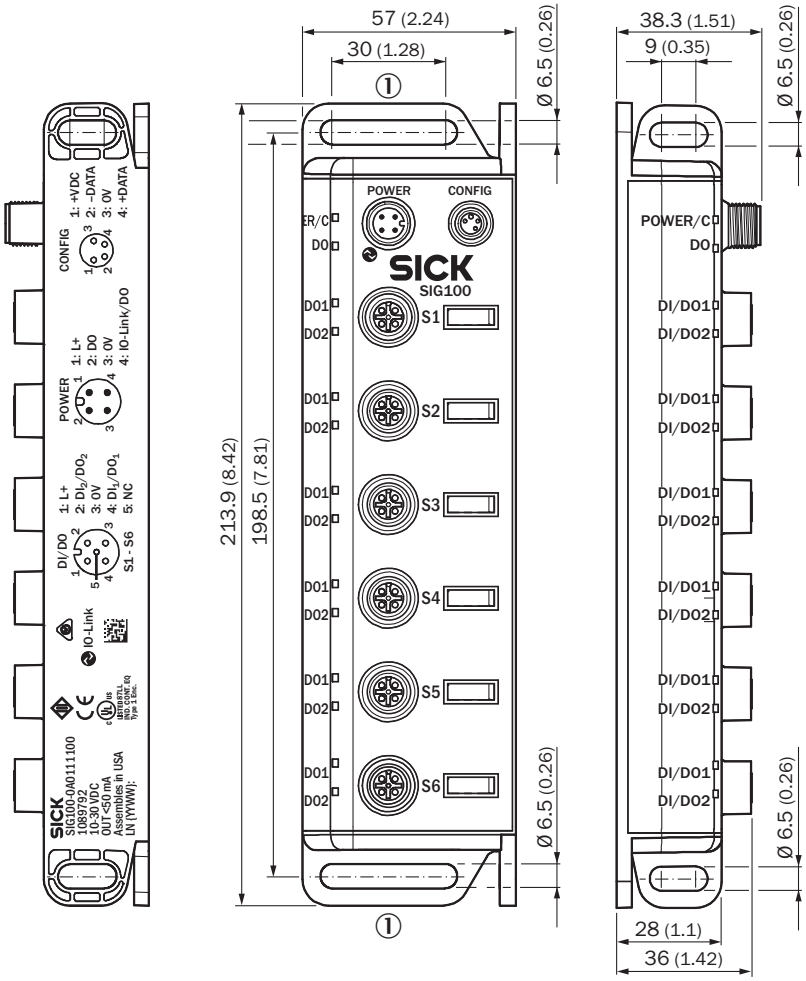
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link certificate	✓

Classifications

ECLASS 5.0	27242208
ECLASS 5.1.4	27242608
ECLASS 6.0	27242608
ECLASS 6.2	27242608
ECLASS 7.0	27242608
ECLASS 8.0	27242608
ECLASS 8.1	27242608
ECLASS 9.0	27242608
ECLASS 10.0	27242608
ECLASS 11.0	27242608

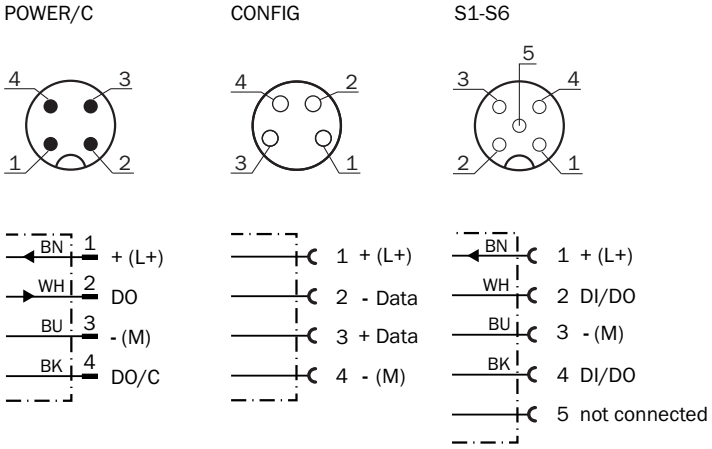
ECLASS 12.0	27242608
ETIM 5.0	EC001604
ETIM 6.0	EC001604
ETIM 7.0	EC001604
ETIM 8.0	EC001604
UNSPSC 16.0901	32151705

Dimensional drawing

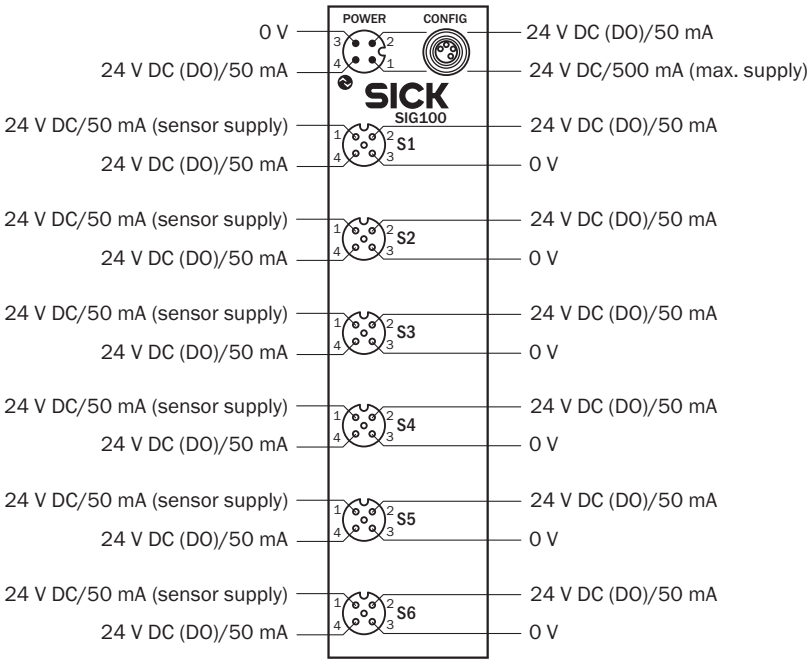


Dimensions in mm (inch)
① Elongated mounting hole (4 x), for mounting with M6 screw

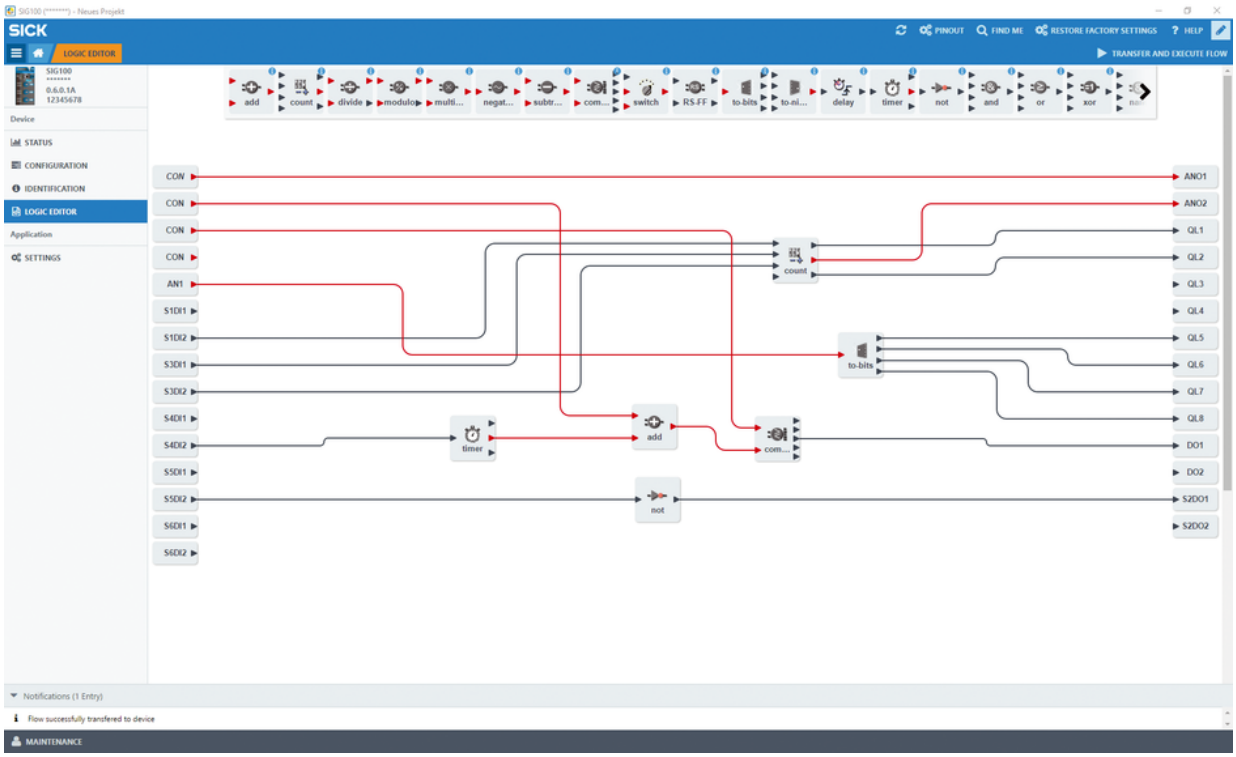
Connection diagram Cd-415



PIN assignment



Adjustment possible Logic editor



Recommended accessories

Other models and accessories ➜ www.sick.com/SIG100

	Brief description	Type	part no.
connectors and cables			
	• **Connection type head A:** Male connector, M8, 4-pin, straight • **Connection type head B:** Male connector, USB-A, 4-pin, straight • **Signal type:** USB 2.0 • **Cable:** 1.5 m, 4-wire, PVC • **Description:** USB 2.0, shielded	YM8U24-015VG3MUSA	6051163
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Flying leads • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-050UB3XLEAX	2095608
	• **Connection type head A:** Female connector, M12, 4-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 4-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 1 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-010UB3M2A14	2095997
	• **Connection type head A:** Female connector, M8, 4-pin, angled, A-coded • **Connection type head B:** Male connector, M12, 4-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 4-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG8U14-050UA3M2A14	2096683
	• **Connection type head A:** Male connector, M12, 5-pin, A-coded • **Connection type head B:** Female connector, M12, 4-pin, A-coded • **Connection type head C:** Female connector, M12, 4-pin, A-coded • **Description:** Unshielded	YM2A15-000S01FY2A4	2099600

	Brief description	Type	part no.
network devices			
		SIG350-0004AP100	6076871
		SIG350-0005AP100	6076923
		SIG350-0006AP100	6076924
		SIG300-0A0GAA100	1131014
		SIG300-0A04AA100	1131011
		SIG300-0A05AA100	1131012
		SIG300-0A06AA100	1131013

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

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