



SM1000-E222100

SM1000

EDGE COMPUTING DEVICES

SICK
Sensor Intelligence.

Ordering information



Type	part no.
SM1000-E222100	1144176

Other models and accessories → www.sick.com/SM1000



Detailed technical data

Features

Product category	Programmable devices, IO-Link Master
Supported products	IO-Link Devices Binary switching sensors Binary actuators
Further functions	Web server integrated IIoT interface available (dual talk)
Processor	TI SITARA AM6421
Random Access Memory	512 MB LPDDR4
Flash memory	5 GB
Scope of delivery	Blind plug (11 x M12)
Application development kit	SICK AppStudio Can be programmed within the SICK AppSpace environment
Toolkit	SICK algorithm API

Mechanics/electronics

Display		
	Size	10.1 "
	Resolution	1,024 dpi x 600 dpi
	Brightness	400 cd/m²
	Service life of backlight	50,000 h
	Viewing angle	80° (right) 80° (left) 80° (top) 80° (bottom)
	Color	8-bit LVDS (16.7 million colors)
	Touch display	Projective capacitive multi-touch TFT
Connections		

¹⁾ Class 2 not required.

IO-Link	4 x M12, 5-pin female connector, A-coded
Ethernet	4 x M12, 4-pin socket, D-coded
Serial/INC	2 x M12, 8-pin socket, A-coded
Power supply	1 x M12, 4-pin plug, A-coded
USB-C	1 x USB-C 2.0
Power voltage supply	
Supply voltage	$\geq 11.5 \text{ V DC } ^{1)}$
Current consumption	
	$\leq 20 \text{ mA}$
Voltage supply	
Total current (S1 ... S4)	2 A
Voltage supply (pin 1)	500 mA
Output current port class A (DO) (pin 2)	200 mA
Output current port class A (DO) (pin 4)	200 mA
Output current port class A (DO) (pin 5)	200 mA
Current carrying capacity per port max.	500 mA
Output current	
Serial voltage supply	1 A
	5 A
Digital inputs	
Number	12, configurable
Input characteristics	EN 61131-2 type 1
Type	PNP
Filter time	0 ms ... 15 ms
Delay time at signal change	2 ms ... 5 ms
Circuit protection	Short-circuit protected
Digital outputs	
Number	12, configurable
Type	PNP
	NPN
	Push-pull
Switching frequency	$\leq 50 \text{ Hz}$
Circuit protection	Short-circuit protected
Optical indicators	
	8 LED yellow (IO activity pin 2 and 5)
	4 LED green (IO activity pin 4)
	4 LED green (Ethernet bus link)
	1 LED green (Fieldbus device status)
	1 LED red (Fieldbus device status)
	1 LED green (Power supply)
Enclosure rating	
	IP54 (In fastened condition)
Protection class	
	III
Housing material	
	Polyamide (ELEMELT PA514)
Housing color	
	Black
Weight	
	1,940 g

¹⁾ Class 2 not required.

Dimensions (L x W x H)	292.5 mm x 162.1 mm x 39 mm
Mounting system type	Screw-on, 4 hole mounting

¹⁾ Class 2 not required.

Communication interface

IO-Link	✓
Remark	V1.1.3
Number of ports	4
Port Class	A
Data transmission rate	COM1, COM2, COM3
Additional features	Data Storage
Ethernet	✓
Data transmission rate	10/100 MBit/s
Specification	Data output, EtherNet/IP, EtherCAT, REST
USB-C	✓
Specification	Configuration, firmware updates
Serial	✓
Additional features	Also configurable as an encoder interface: HTL or TTL
Specification	RS-232, RS-485
REST API	✓
Specification	JSON integration for IO-Link version (V1.0.0)
Factory setting	Static: P1 port: 192.168.0.1; P2 port: 192.168.1.1
MQTT	✓
Specification	JSON integration for IO-Link version (V1.0.0)
SD card slot	1x microSD slot 4 GB or more Class 4 (4 MB/s) or higher
Operator interfaces	Touch display, Web server integrated, SOPAS (via USB or network)

Ambient data

Ambient operating temperature	-20 °C ... +50 °C
Ambient temperature, storage	-30 °C ... +70 °C ¹⁾
Electromagnetic compatibility (EMC)	EN 61000-6-2:2016 EN 61000-6-4:2020
Shock load	EN 60068-2-27
Permissible relative humidity	0% ... 95%, non-condensing

¹⁾ At 24 V.

General notes

Note	Silicone-free. Not free of paint wetting impairment substances.
Operating system	Linux

Certificates

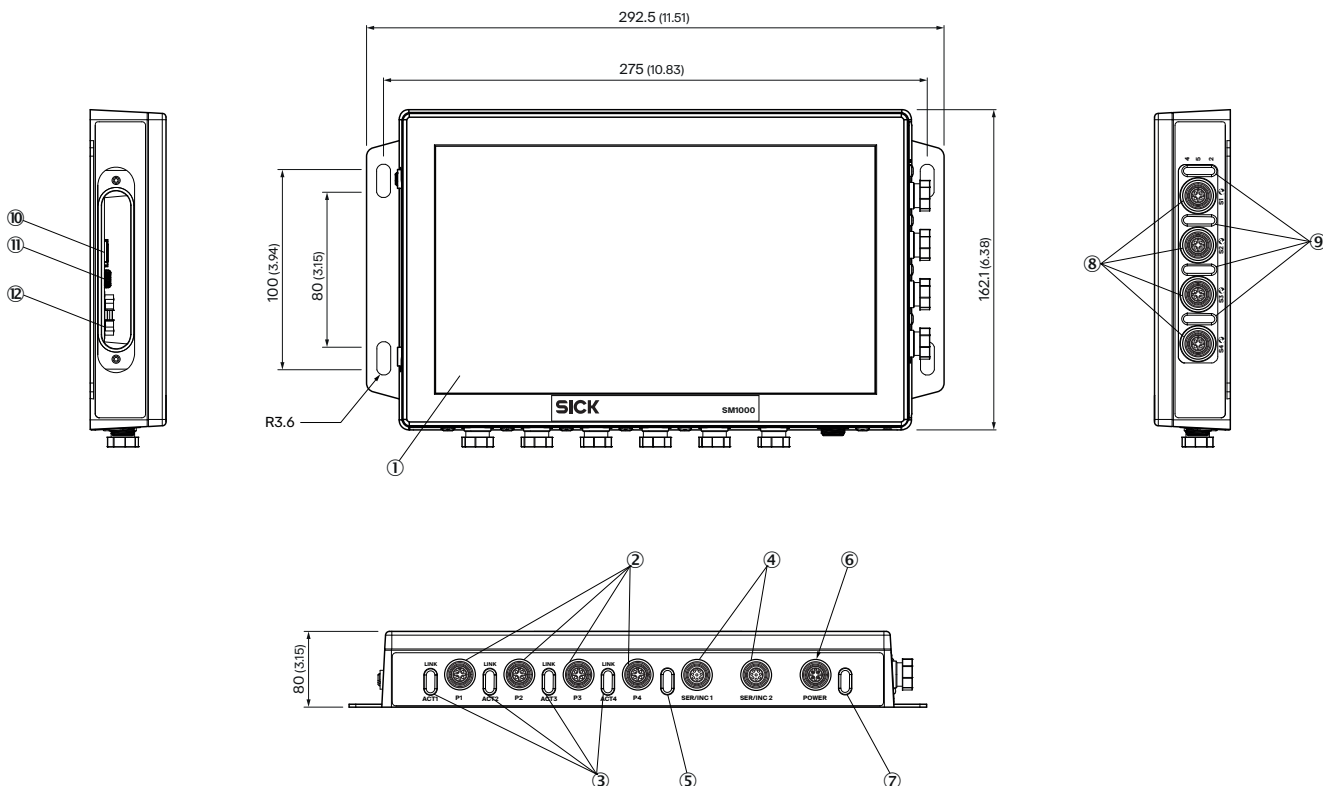
EU declaration of conformity	✓
UK declaration of conformity	✓
Moroccan declaration of conformity	✓

China RoHS	✓
cULus 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

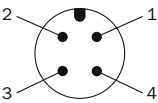
Dimensional drawing



Dimensions in mm (inch)

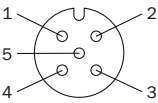
- ① touch display
- ② 4 x M12, 4-pin socket, D-coded (Ethernet)
- ③ Ethernet status LED
- ④ 2 x M12, 8-pin socket, A-coded (Ser/Inc)
- ⑤ Fieldbus status LED
- ⑥ 1 x M12, 4-pin plug, A-coded (power supply)
- ⑦ Status LED power
- ⑧ 4 x M12, 5-pin socket, A-coded (IO-Link)
- ⑨ IO-Link status LED
- ⑩ SD card slot
- ⑪ USB-C port
- ⑫ Battery for real time clock

PIN assignment Power supply



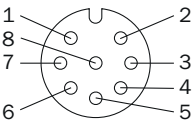
Pin	Signal	Description
1	L+	24 V DC Nominal
2	NC	Not connected
3	M	0 V
4	NC	Not connected

PIN assignment IO-Link ports



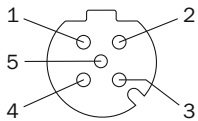
Pin	Description
1	L+ (U _s +)
2	DI/DO
3	L- (U _s -)
4	IO-Link/DI/DO
5	DI/DO

PIN assignment Serial / Encoder ports



Pin	Mode		
	RS-232	RS-485 INC/TTL (RS-422)	INC/HTL
1	-	-	A- (in/out)
2	-	-	A+ (in/out)
3	-	T-	B- (in/out)
4	TxD	T+	B+ (in/out)
5	-	R-	Z- (in/out)
6	RxD	R+	Z+ (in/out)
7	GND		
8	24 V		


PIN assignment Ethernet ports






Pin	Description
1	Tx +
2	Rx +
3	Tx -
4	Rx -
5	N.C.

Recommended accessories

Other models and accessories → www.sick.com/SM1000

	Brief description	Type	part no.
Power supply units and power supply cables			
	<ul style="list-style-type: none"> Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: 1 A Description: 24 V power supply unit with assembled M12 female connector, 5-pin, A-coded. Including male connector for Europe, USA, England, Australia 	Power supply unit	6075718
	<ul style="list-style-type: none"> Input voltage: 100 V AC ... 240 V AC Output voltage: 24 V DC Output current: 2.1 A 	PS50W-24V	7028789

	Brief description	Type	part no.
device protection and care			
	<ul style="list-style-type: none">• Description: Protective cap for M12 socket or unused ports	DOS-12SK	5309189
	<ul style="list-style-type: none">• Product family: Cleaning agents• Description: Cloth for cleaning optical surfaces	Lens cloth	4003353
Mounting systems			
	<ul style="list-style-type: none">• Description: M12 mounting key set for SW13 with calibrated torque 0.6 Nm• Packing unit: 1 piece• Suitable for: M12 Standard	TOOL-TW06M12AF13	5337208

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:

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