OPERATING INSTRUCTIONS

SID Pro

Sensor Visualization





Described product

SID Pro

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Original document

This document is an original document of SICK AG.

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1 About this document

1.1 Limitation of liability

Applicable standards and regulations, the latest technological developments, and our many years of knowledge and experience have all been taken into account when assembling the data and information contained in this document.

The manufacturer accepts no liability for damage caused by:

- Failure to observe this document.
- Non-compliance with notes and regulations.
- Unauthorized mounting and installation.
- Unauthorized technical and other changes.
- Use of unauthorized spare parts, wear and tear parts, and accessories.
- Unauthorized changes, adjustments, and/or manipulations of software.

The actual scope of delivery may differ from the features and illustrations shown here where special variants are involved, if optional extras have been ordered, or as a result of the latest technical changes.

1.2 Function of this document

This document describes the following product:

SID Pro

- The document must be made available to all persons who work with the product. ►
- Read through the document carefully and ensure that you have full understood the ► content before working with the product.

1.3 Further information

Other documents relevant for the product

Document	Manufacturer
Operating instructions GOT315W	Axiomtek
GOT315W data sheet	Axiomtek
Mounting instructions for the monitor arm	item

1.4 Symbols and document conventions

Warnings and other notes

DANGER

Indicates a situation presenting imminent danger, which will lead to death or serious injuries if not prevented.



WARNING

Indicates a situation presenting possible danger, which may lead to death or serious injuries if not prevented.



CAUTION

Indicates a situation presenting possible danger, which may lead to moderate or minor injuries if not prevented.

5

NOTICE

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Indicates a situation presenting possible danger, which may lead to property damage if not prevented.

Highlights useful tips and recommendations as well as information for efficient and trouble-free operation.

Instructions to action

- The arrow denotes instructions to action.
- 1. The sequence of instructions is numbered.
- 2. Follow the order in which the numbered instructions are given.
- \checkmark The tick denotes the results of an action.

2 Safety information

2.1 **Basic safety instructions**



Danger of electric shock due to electrical voltage. Contact will result in death, burns or shock.

- ► Electrical work may only be performed on the system by qualified specialist personnel.
- Interrupt the voltage supply.
- Check residual voltage on the system components. ►
- Use extra caution. ►
- Always connect equipotential bonding (earthing).
- Ensure that the ground potential is the same at all grounding points.
- Do not disconnect or remove the protective conductor.



Risk of injury and damage caused by electrical current

Due to equipotential bonding currents, incorrect earthing can lead to the following dangers and faults: Voltage is applied to the metal housing, cable fires due to cable shields heating up, the product and other devices become damaged.

- Generate the same ground potential at all grounding points.
- Ground the equipotential bonding via the functional ground connection with a low impedance.



The surface of the device can become hot during operation.

- Do not touch hot surfaces.
- Before commencing disassembly, switch off the device and allow it to cool down as necessary.



The cooling fins must not be covered or restricted in their functionality.

NOTICE

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- Only qualified persons from the relevant departments are permitted to work on the ► device.
- Follow operating processes.
- Follow local regulations.
- Only authorized persons are permitted access to the system.
- Generate the same ground potential at all grounding points.

Special local conditions:

The local laws, regulations, technical rules and internal company operating instructions at the usage site must be observed.

Storage of documents:

This document and further technical documentation/information

- Must be kept available for reference.
- Must be handed on to new operating entities/new specialist personnel.

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2.2 Important information

NOTICE General disclaimer

SICK AG shall not be liable for any damage arising out of any incompatibility between the software provided to you, OEM software, any relevant software patches and the software previously provided to you (except the factory default), and your other software and/or hardware.

NOTICE

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Possible incompatibility due to customer software programs

All software components required for the intended use of the device have been preinstalled on the device.

SICK AG shall not be liable for any damage arising out of any incompatibility between the factory pre-installed software components and software installed by the customer. Do not change the factory settings.

NOTICE

Possible incompatibility due to extending the hardware components

All hardware components required for the intended use of the device have been preinstalled in the device.

Do not make any hardware modifications.

Do not extend the hardware components installed in the device.

NOTICE

Own responsibility for data backup in the event of repairs

After repair by the SICK Service department, the device will be returned to the customer in the delivery state. Customer-specific data and images will be deleted.

SICK will not back up the customer-specific data and images.

Before sending the device to SICK, back up the customer-specific images and data. After backing up the customer-specific images and data, delete them from the device.

NOTICE

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No redundant data storage

The device is not a RAID system. There is no redundant data storage.

Damage to the hard drive can result in loss of data.

Regularly back up the data stored on the device to an external storage medium.

2.3 Requirements for the qualification of personnel

- Qualified persons have the specialist training, skills, experience and knowledge of the relevant regulations and standards needed to be able to perform work assigned to them and to identify and avoid any potential dangers independently.
- Electricians have the professional training, skills, experience and knowledge of the relevant standards and provisions needed to work on electrical systems and to detect and avoid any potential dangers independently.

2.4 Intended use

The device is an industrial PC that operates in conjunction with SICK sensors. The device is integrated into a SICK system and receives the data from the individual system components.

The product must only be used within the limits of the prescribed and specified technical specifications and operating conditions at all times.

Incorrect use, improper modification or manipulation of the product will invalidate any warranty from SICK; in addition, any responsibility and liability of SICK for damage and secondary damage caused by this is excluded.



WARNING

The product must only be used for the intended use. Non-intended use can pose a hazard to people and cause damage to the device.

I NOTE

Intended use also includes observance of these operating instructions, in particular the safety notes as well as the repair and maintenance requirements.

2.5 Improper use

Any use outside of the stated areas, in particular use outside of the technical specifications and the requirements for intended use, will be deemed to be incorrect use.

- The product does not constitute a safety component in accordance with the respective applicable safety standards for machines.
- The product must not be used in explosion-hazardous or corrosive areas or under extreme ambient conditions.
- Any use of accessories not specifically approved by SICK AG is at your own risk.

2.6 RoHS Directive

This product has been designed for specific applications in large industrial systems according to Article 2 (4) e, RoHS 2011/65 / EU, and must therefore only be used in such systems.

The product is neither suitable nor approved for use outside of these systems. SICK therefore cannot provide any warranty or accept any liability whatsoever for such use.

2.7 Cybersecurity

Overview

To protect against cybersecurity threats, it is necessary to continuously monitor and maintain a comprehensive cybersecurity concept. A suitable concept consists of organizational, technical, procedural, electronic, and physical levels of defense and considers suitable measures for different types of risks. The measures implemented in this product can only support protection against cybersecurity threats if the product is used as part of such a concept.

You will find further information at www.sick.com/psirt, e.g.:

- General information on cybersecurity
- Contact option for reporting vulnerabilities
- Information on known vulnerabilities (security advisories)

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3 Product description

3.1 Scope of delivery

- ! NOTICE
 - After delivery, inspect the product for transport damage and report any such damage immediately.
 - Check that the delivery includes all components listed on the delivery note.

3.2 Product characteristics

The product is a powerful panel PC with preinstalled Windows 10 IoT Enterprise LTSC operating system.

3.2.1 Integration

Overview

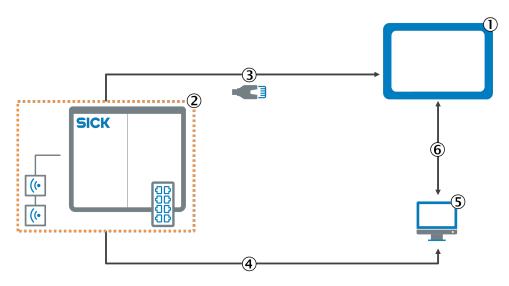


Figure 1: Integration of the panel PC into the SICK system

- 1 Panel PC
- SICK system
- ③ Transmission of measurement and read results, image data and status information via Ethernet
- ④ Data output
- (5) Client computer
- 6 Customer network (connection optional)

Analytics Solutions can be accessed locally using the touch screen of the panel PC or optionally from a computer in the customer network via a network connection.

3.2.2 Hard drive partitions

The hard drive of the device is divided into three partitions.

Partition	Contents
C:\	Partition with the pre-installed Windows 10 IoT Enterprise LTSC operating system

Partition	Contents
D:\	 Partition with pre-installed software components: SOPAS configuration software
E:\	Optional: Analytics Solutions Partition for saving the accepted measurement and read results, camera images and status information in a directory structure. The directory structure must be configured accordingly.

3.3 Optional accessories and services

Separately available accessories

- Monitor bracket and fastening materials for mounting
- Power supply unit with bare ended power cord

Patch management

- Patch management available on request
- Regular installation of security updates for the pre-installed Windows operating system.

4 Mounting

4.1 Important information



All transport, assembly, mounting, and electrical installation work must only be carried out by qualified persons.

- Qualified persons have the specialist training, skills, experience and knowledge
 of the relevant regulations and standards needed to be able to perform work
 assigned to them and to identify and avoid any potential dangers independently.
- Electricians have the professional training, skills, experience and knowledge of the relevant standards and provisions needed to work on electrical systems and to detect and avoid any potential dangers independently.

4.2 Mounting the panel PC

Overview

The following mounting variants exist:

- Panel mounting (in the control cabinet)
- VESA mounting (procedure is described below)
 - VESA mounting system with telescopic and swivel function is available as an accessory.
 - The rear of the panel PC has a mounting hole pattern that is intended for use with the VESA bracket.

Approach

- 1. Insert the two sliding nuts into the slot on the aluminum profile.
- 2. Attach the mounting arm to the frame using the two screw holes in the mounting profile.
- 3. Mount the VESA bracket on the rear of the panel PC using the four fixing screws.
- 4. Place the VESA bracket on the mounting arm and screw them together.

5 Electrical installation

5.1 Important information

DANGER DURCH ELEKTRISCHE SPANNUNG

Supply voltage: 24 V DC.

Touching live devices, which may still be energized, can lead to death, burns or electrical shock.

- Electrical work may only be performed on the system by qualified specialist personnel.
- Always connect equipotential bonding (earthing).
- Do not disconnect or remove the protective conductor.
- The voltage supply must be disconnected when attaching or detaching electrical connections.
- ▶ Before working on electrical components, observe the five safety rules:
 - Disconnect.
 - Secure against being switched back on.
 - Ensure that there is no voltage.
 - Ground and short-circuit.
 - Cover or enclose live parts in the vicinity.

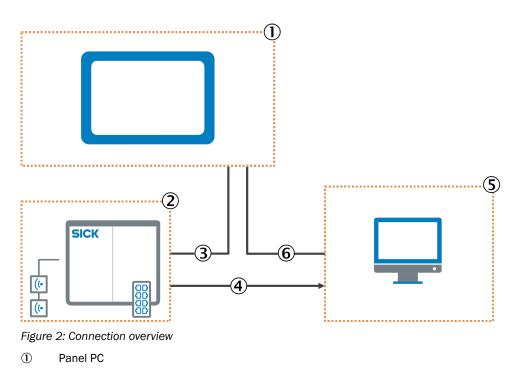
NOTICE

!

All electrical work may only be performed by qualified persons.

- Qualified persons have the specialist training, skills, experience and knowledge of the relevant regulations and standards needed to be able to perform work assigned to them and to identify and avoid any potential dangers independently.
- Electricians have the professional training, skills, experience and knowledge of the relevant standards and provisions needed to work on electrical systems and to detect and avoid any potential dangers independently.

5.2 Connection overview



- 2 SICK system
- 3 Data cable (Ethernet)
- ④ Data output
- Client computer
- 6 Customer network (connection optional)

5.3 Relevant connections on the device

Overview

The following connections are relevant for integrating the device into the SICK system.

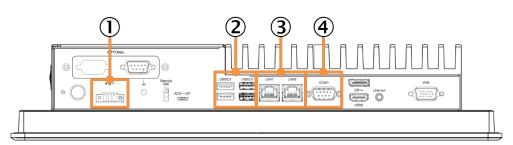


Figure 3: Relevant connections on the rear of the panel PC

- ① Voltage supply
- 2 USB connections
- ③ Ethernet ports
 - LAN1: DHCP
 - LAN2: 192.168.0.102

connection

- to the customer interface for accessing the panel PC via the customer network
- of the data cable for integrating the panel PC into the SICK system
- of the configuration PC
- (4) COM1 for RS232/422/485

I NOTE

⁴ A description of all the connections on the device can be found in the manufacturer's operating instructions.

5.4 Connecting the voltage supply

The following connection variants are possible:

- Connecting the device to the mains supply This variant is suitable when expanding a SICK system with an industrial PC. NOTE | The socket must be provided by the customer at the installation location.
- Connecting the device to the fuse module in the control cabinet
 This variant is particularly suitable for use when setting up a new SICK system and it is planned to integrate an industrial PC.

5.4.1 Connecting the device to the mains supply

Important information



DANGER FROM ELECTRICAL VOLTAGE

The system is supplied with line voltage. Risk of electrical shock. Contact will result in death, burns or shock.

- Electrical work may only be performed on the system by qualified specialist personnel.
- Interrupt the voltage supply.
- Check residual voltage on the system components.
- Use extra caution.
- Always connect equipotential bonding (earthing).
- Do not disconnect or remove the protective conductor.
- The voltage supply must be disconnected when attaching or detaching electrical connections.

Prerequisites

A suitable power supply unit with two connecting cables for connecting the device to the mains supply is available as an accessory.

Approach

- 1. Connect the wires of the cable extending from the power supply unit to the supply connector.
- 2. Plug in supply connector.
- 3. Screw together the plug connection.
- 4. Establish a connection to the local mains supply via the power cord.

5.4.2 Connecting the device to the fuse module in the control cabinet

Overview

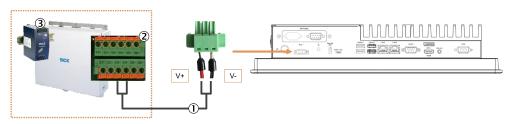


Figure 4: Connection to the fuse module in the control cabinet

- ① 2-wire connecting cable open at both ends
- 2 Terminals in the control cabinet (24 V DC)
- ③ Power supply unit

Important information



Do not use the service socket of the control cabinet

- The socket provided in the control cabinet is not factory equipped with a residual current device (RCD).
- Do not use the socket to connect the device!
- The socket can only be used by qualified electricians for service purposes, e.g., to connect a laptop. If necessary, insert a mobile plug-in FI circuit-breaker in the socket according to the safety concept provided by the customer.

Approach

- 1. Connect the wires of the cable to the supply connector
- 2. Plug in supply connector.
- 3. Screw together the plug connection.
- 4. Lead cable through the PG connector of the control cabinet and fasten cable entry.
- 5. Remove approx. 10 mm of the insulation from both wires.
- 6. Twist the wire ends.



Do not use ferrules!

Do not solder the wire ends!

7. Lay wires on the fuse module of the control cabinet in accordance with the circuit diagram.

5.5 Connecting the data cable

Overview

The device is connected to the SICK system via an Ethernet cable with RJ45 plug connectors at both ends. The device is connected to the SICK system at a free port on the controller or the Ethernet switch.

The device can be connected via one of the available ports.

Information about the Ethernet ports on the device

- Total number of Ethernet ports: 2
- Thereof freely configurable ports (DHCP interfaces): 1

Ports	IP address
1 (LAN1)	DHCP
2 (LAN2)	192.168.0.102*

If this IP address is changed, it will no longer be possible to access the device via the remote desktop connection.

i NOTE

Which port to use on the device depends on the IP address range the other devices of the SICK system are in, and over which interface the configuration PC is to be connected.

5.6 Connecting the customer network (optional)

Prerequisites

- The customer interface must be connected via the DHCP port LAN1.
- The port used must first be configured to be in the address range of the customer network and be enabled in the firewall of the customer network.

Approach

- Configure the Ethernet port on the device.
- ► To do so, assign an IP address from the address range of the customer network.
- Plug the Ethernet cable into the DHCP port.
- Connect the cable to the customer network.

6 Commissioning

6.1 Important information

I NOTICE

☐ Commissioning may only be performed by qualified persons.

- Qualified persons have the specialist training, skills, experience and knowledge
 of the relevant regulations and standards needed to be able to perform work
 assigned to them and to identify and avoid any potential dangers independently.
- Electricians have the professional training, skills, experience and knowledge of the relevant standards and provisions needed to work on electrical systems and to detect and avoid any potential dangers independently.

6.2 Configuration

Configuration is performed via a separate configuration computer or directly via the touch screen on the panel PC.

Depending on how the data cable is connected, the configuration computer is connected directly to the device or via the controller or Ethernet switch.

6.3 Configuration software

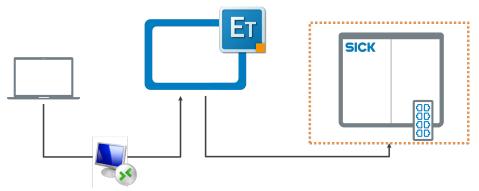
The following software components are pre-installed on the device:

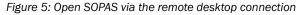
• SOPAS configuration software

6.3.1 Starting the SOPAS configuration software

Approach

Start SOPAS either on the configuration PC, or on the device via a remote desktop connection depending on the connection scenario.





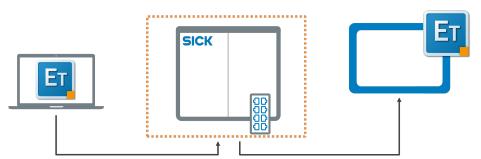


Figure 6: Open SOPAS on the configuration computer

Start the program via the desktop icon or the Windows Start menu.



✓ A new project is automatically created in SOPAS ET. One or more devices are combined and edited in a single project.

6.3.2 Establishing the remote desktop connection

Overview

A default remote desktop user has been created on the device and configured for establishing a remote desktop connection.

The following users are pre-installed on the device:

- Engineering
- Operator
- System admin

All pre-configured users can be changed or removed with administrator rights via the Windows settings. If the **System admin** user is removed, SICK support no longer has the option of restoring the system if passwords are lost.

Prerequisites

- Make sure that the device has been switched on and is running properly.
- The device must not be in energy saving or sleep mode.

Approach

Starting the remote desktop connection

- 1. Open the start menu of the operating system.
- 2. Under Programs, select the Remote Desktop Connection program.
- 3. Click Show Options.
- 4. In the **Computer** field, enter the IP address of the predefined Ethernet port (LAN2): 192.168.0.102

i NOTE

The network connection is established via the IP address of the predefined Ethernet port, regardless of how the configuration PC is connected.

5. In the **User name** field, enter the remote desktop user already set up on the device: "**Engineering**".

The password is entered later when establishing the connection.

NOTICE

!

Change the standard passwords during initial commissioning!

- Passwords must be kept safe, otherwise the system can no longer be accessed.
- If service is needed, the access data must be made available to the service team.

Starting the remote desktop connection

- 1. Click on Connect.
- \checkmark The remote desktop connection is established.
- 2. Log in to the device as the remote desktop user Engineering .
- The password can be obtained from the local technical contact person.
- 3. Click OK.
- ✓ The security prompt regarding the identity of the remote computer is displayed.
- 4. Accept the certificate identified on the device by clicking Yes.
- \checkmark The desktop of the device is displayed.

7 Operation

7.1 Switching the device on/off

Switching on

- Connect the voltage supply.
- ✓ The device automatically boots up and starts the operating system.

Switching off

- Shut down the operating system.
- ✓ The operating system is shut down. The device is switched off.
 - (1) NOTE | The device is still connected to power.

Switching on again

- Press the pushbutton on the device or interrupt and restore the voltage supply.
- ✓ The device automatically boots up and starts the operating system.

8 Maintenance

8.1 Important information



Maintenance and repair measures may only be carried out by qualified persons.

- Qualified persons have the specialist training, skills, experience and knowledge
 of the relevant regulations and standards needed to be able to perform work
 assigned to them and to identify and avoid any potential dangers independently.
- Electricians have the professional training, skills, experience and knowledge of the relevant standards and provisions needed to work on electrical systems and to detect and avoid any potential dangers independently.



DANGER

Risk of fatal electric shock if the insulation on the cables is damaged!

- Check the electrical installation regularly. Defects such as loose connections or scorched cables must be rectified immediately.
- Make sure that all cable connections are secure.
- Check the threaded connections on the devices and inside the control cabinet and, if necessary, tighten them.

NOTICE

!

Own responsibility for data backup in the event of repairs!

After repair by the SICK Service department, the device will be returned to the customer in the delivery state. Customer-specific data and images will be deleted. SICK will not back up the customer-specific data and images.

- Before sending the device to SICK, back up the customer-specific images and data.
- After backing up the customer-specific images and data, delete them from the device.

8.2 Cleaning the cooling fins of the device

Overview

The cooling fins at the rear of the housing increase the heat-dissipating surface of the heat producing components.

The cooling fins must be cleaned regularly to guarantee heat dissipation during operation.

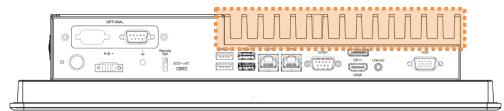


Figure 7: Cooling fins on the panel PC

Important information



Risk of damage to electronic devices!

- Never use compressed air for cleaning!
- Only knock the dirt off the ventilation grilles or clean them with a brush.
- ► Never wet-clean the grilles.

Approach

- Remove dust and dirt from the cooling fins.
- Use a dry cloth or an industrial vacuum cleaner to do so.
- Do not use cleaning agents!

9 Decommissioning

!

NOTICE

☐ Disposal of batteries, electrical and electronic devices

- In accordance with international directives and regulations, batteries, accumulators, and electrical or electronic devices must not be disposed of with household waste.
- The owner is obligated to dispose of the devices at the end of their service life via the appropriate public disposal points.
- This icon on the product, packaging, or in this document indicates that a product is covered by these provisions:





NOTICE

The applicable local and statutory environmental regulations and guidelines for the disposal of industrial and electrical waste must be observed.

The following assemblies may contain substances that need to be disposed of separately:

- Electronics: capacitors, accumulators, batteries.
- Displays: Liquid in the LC displays.

10 Technical data

10.1 Features

Supported products	Programmable devices SICK AppEngine Analytics Solutions Devices with integrated web server
Processor	Intel [®] Pentium [®] G5400T Tj 100/88 °C
Random Access Memory	16 GB RAM
Memory	1 x 2.5" SATA HDD/SSD
Hard drive	256 GB SSD (expandable)
Operating system	Windows 10 IoT Enterprise LTSC
Other functions	Watch Dog Timer Intel® integrated Gfx graphic engine

10.2 Interfaces

Ethernet	✔(2) RJ-45
Data transmission rate	1,000 Mbit/s (GigE)
USB	 ✓ (4) 2 x USB 3.0, 2 x USB 2.0
Serial	1 x COM for RS232/422/485
Audio	1 x Line out
Video	1 x HDMI 1 x DP 1 x FGS
Memory card	1 x M.2 Key E Slot 1 x Full-size Mini-Card Slot

10.3 Mechanics and electronics

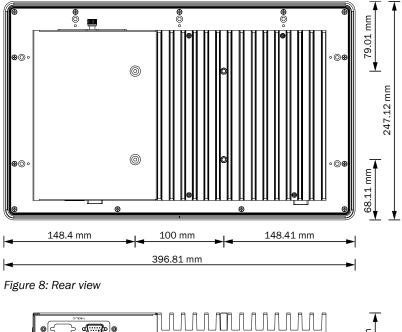
Display	
Size	15.6 ″
Resolution	1,366 px x 768 px
Brightness	400 cd/m ²
MTBF	104,277 hours
Viewing angle	Right: 85°, left: 85°, top: 50°, bottom: 80°
Touch display	Projective capacitative multi-touch LCD
Housing	
Front screen	ITO glass, chemically reinforced, $2.4 \pm 0.2 \text{ mm}$
Frame	Aluminum
Supply voltage V _s	+24 V DC
Power consumption	60 W
Enclosure rating	front side: IP65
	Rear: Not defined
Weight	8,500 g
Dimensions (W x H x D)	396.8 mm x 247.1 mm x 53 mm

Mounting type	VESA mounting
	Panel mounting

10.4 Ambient data

Electromagnetic compati- bility (EMC)	EN 61000-6-4 EN 61000-6-2
Ambient temperature, operation	0 °C +50 °C
Ambient temperature, stor- age	-20 °C +80 °C
Permissible relative humidity	20 90% at 40° C, non-condensing

10.5 Dimensional drawings



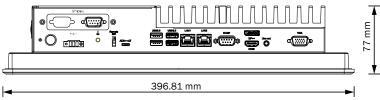


Figure 9: Side view

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