Conext™ Monitor 20
Device for Photovoltaic Plant Monitoring and Control

Installation and Operation Manual
Conext Monitor 20
Device for Photovoltaic Plant Monitoring and Control

Installation and Operation Manual
Exclusion for Documentation

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(b) assumes no responsibility or liability for losses, damages, costs or expenses, whether special, direct, indirect, consequential or incidental, which might arise out of the use of such information. The use of any such information will be entirely at the user’s risk; and
(c) reminds you that if this manual is in any language other than English, although steps have been taken to maintain the accuracy of the translation, the accuracy cannot be guaranteed. Approved content is contained with the English language version which is posted at www.schneider-electric.com.

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Contact Information
www.schneider-electric.com

For other country details please contact your local Schneider Electric Sales Representative or visit our website at: http://www.schneider-electric.com/sites/corporate/en/support/operations/local-operations/local-operations.page
About This Manual

Purpose
The purpose of this Installation and Operation Manual is to provide explanations and procedures for installing, operating, maintaining, and troubleshooting the photovoltaic plant monitoring and control device Conext Monitor 20 (part number PVSCMC1120).

Scope
The manual provides safety guidelines, detailed planning and setup information, procedures for installing, as well as the information about operating and troubleshooting Conext Monitor 20.

Conext Monitor 20 will be alternatively referred to as data logger in the document.

Audience
The information in chapters “Introduction” on page 1–1 and “Operation” on page 3–1 is intended for the owner and operator of the data logger, and does not require any special training or qualifications. The information in chapters “Installation and Configuration” on page 2–1 and “Troubleshooting” on page 4–1 is intended for qualified personnel only.

Qualified personnel have training, knowledge, and experience in:

- Installing electrical equipment
- Applying all applicable installation codes
- Analyzing and reducing the hazards involved in performing electrical work
- Changing any TCP/IP-related settings

Organization
This manual is organized into the following chapters.

Chapter 1, “Introduction” contains information about the features and functions of Conext Monitor 20.

Chapter 2, “Installation and Configuration” provides information and procedures for installing and configuring the Conext Monitor 20.


Chapter 4, “Troubleshooting” describes the error messages that might be reported through the control panel of the data logger and recommended solutions.

Appendix A provides the electrical, environmental, and other specifications of the Conext Monitor 20.
“Information About Your System” can be used to record information about your Conext Monitor 20 package.

Conventions Used

This manual uses the following conventions for conveying important safety related information.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Alternating Current</td>
</tr>
<tr>
<td>DC</td>
<td>Direct Current</td>
</tr>
<tr>
<td>DHCP</td>
<td>Dynamic Host Configuration Protocol</td>
</tr>
<tr>
<td>LAN</td>
<td>Local Area Network</td>
</tr>
</tbody>
</table>
Related Information

You can find more information about Schneider Electric, as well as its products and services, at www.schneider-electric.com.

Product Recycling

Do not dispose of this product with general household waste!

Electric appliances marked with the symbol shown must be professionally treated to recover, reuse, and recycle materials, in order to reduce negative environmental impact. When the product is no longer usable, the consumer is legally obligated to ensure that it is collected separately under the local electronics recycling and treatment scheme.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition/description</th>
</tr>
</thead>
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<tr>
<td>LED</td>
<td>Light Emitting Diode (indicator light)</td>
</tr>
<tr>
<td>PC</td>
<td>Personal Computer</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>PV</td>
<td>Photovoltaic</td>
</tr>
<tr>
<td>RCR</td>
<td>Ripple Control Receiver</td>
</tr>
<tr>
<td>SELV</td>
<td>Safety Extra Low Voltage</td>
</tr>
<tr>
<td>TCP/IP</td>
<td>Transmission Control Protocol/Internet Protocol</td>
</tr>
<tr>
<td>USB</td>
<td>Universal Serial Bus</td>
</tr>
</tbody>
</table>
Important Safety Instructions

READ AND SAVE THESE INSTRUCTIONS - DO NOT DISCARD

This manual contains important safety and operating instructions for the Conext Monitor 20 that must be followed during installation and configuration procedures.

⚠️ DANGER

ELECTRIC SHOCK AND FIRE HAZARD
- All the wiring must be done by qualified personnel to ensure compliance with all applicable installation codes and regulations.
- Turn OFF all the devices before connecting cables. The Conext Monitor 20 does not have an ON/OFF switch.
- Suitable only for connection to Class 2, energy limited, safety extra-low voltage circuits (SELV).
- For indoor use only.
- Do not disassemble the Conext Monitor 20 except for the slide-in protective cover provided for access to connectors. No user-serviceable parts inside.

Failure to follow these instructions will result in death or serious injury.

⚠️ WARNING

RISK OF ELECTRIC SHOCK
- Read all the instructions, cautionary markings, and all other appropriate sections of this manual before installing, operating, or troubleshooting on the Conext Monitor 20.
- Exercise extreme caution at all times to prevent accidents.
- These instructions are for use by qualified personnel only.
- All the cables connected to the Conext Monitor 20 must be suitably protected against lightning strikes.

Failure to follow these instructions can result in death or serious injury.
HAZARD OF EQUIPMENT DAMAGE

- Connect communication cables only to the corresponding designated ports as explained in this manual.
- Do not change any settings unless you are familiar with the device.
- Changes to any TCP/IP-related settings should be performed by qualified personnel only.
- Attempting to service the Conext Monitor 20 by a non-qualified personnel will void the warranty. See the warranty for instructions on obtaining service.

Failure to follow these instructions can result in damage to equipment.
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1 Introduction

Chapter 1, “Introduction” contains information about the features and functions of Conext Monitor 20.
Description of the Conext Monitor 20

The Conext Monitor 20 is a data logger for small-scale PV systems. Using an intelligent algorithm, it recognizes and reports locally any errors through indicator lights (LEDs). It is also designed to send the data to the web portal ‘Conext Monitor Web’ via the internet. The data logger helps to make a simplified energy management system. The Conext Monitor 20 is compatible with Conext RL and TL series of inverters.

Figure 1-1 shows the major components of a typical Conext Monitor 20 installation.

![Typical installation](image)

**Figure 1-1** Typical installation

Physical Features

Figure below shows the location of important physical features of the data logger.

![Location of important physical features](image)

**Figure 1-2** Location of important physical features
### Intended Use

Conext Monitor 20 is installed indoors and it is suitable and intended for the following purpose:

- PV systems in the range of 1-20 kWp power and with a maximum of three inverters (Conext RL or Conext TL).

Using the device in the intended manner also includes observing all the information in this manual.

The following is not permitted:

- Using the device with defective parts.
- Using the device outdoors.
- Altering or modifying the device and its constituent parts.

---

### Table 1-1 Call outs for Figure 1-2

<table>
<thead>
<tr>
<th>Button</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LED display</td>
</tr>
<tr>
<td>2</td>
<td>Micro USB</td>
</tr>
<tr>
<td>3</td>
<td>RESET button</td>
</tr>
<tr>
<td>4</td>
<td>ACTION button</td>
</tr>
<tr>
<td>5</td>
<td>MENU button</td>
</tr>
<tr>
<td>6</td>
<td>Connection for the plug-in power supply</td>
</tr>
<tr>
<td>7</td>
<td>Modbus-RS 485 for inverter (RJ12 socket)</td>
</tr>
<tr>
<td>8</td>
<td>Ethernet connection</td>
</tr>
<tr>
<td>9</td>
<td>Digital-in for ripple control receiver (RJ45 socket)</td>
</tr>
<tr>
<td>10</td>
<td>Power Control switch</td>
</tr>
<tr>
<td>11</td>
<td>Protective cover</td>
</tr>
<tr>
<td>12</td>
<td>Spare RJ12 socket (for future use)</td>
</tr>
<tr>
<td>13</td>
<td>Spare RJ12 socket (for future use)</td>
</tr>
</tbody>
</table>
Introduction

- Using spare parts and accessories which are not tested and approved by Schneider Electric.

Safety Label

The safety label on the data logger is as shown in Figure 1-3 below:

Figure 1-3  Danger label

Location of Labels

The locations of safety and rating labels on the data logger are as shown in Figure 1-4 below:

Figure 1-4  Location of labels
Chapter 2, “Installation and Configuration” provides information and procedures for installing and configuring the Conext Monitor 20.
Installation Overview

Safety Instructions for Installation and System Start-up

<table>
<thead>
<tr>
<th>WARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARD OF ELECTRIC SHOCK</td>
</tr>
<tr>
<td>• Installation should be done only by a qualified personnel as defined in “Audience” on page iii.</td>
</tr>
<tr>
<td>• Check the installation site on the wall for any electrical cables and ensure not to drill through the cables.</td>
</tr>
<tr>
<td>• Use the power pack provided in the package.</td>
</tr>
</tbody>
</table>

Failure to follow these instructions can result in death or serious injury.

<table>
<thead>
<tr>
<th>NOTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RISK OF EQUIPMENT DAMAGE</td>
</tr>
<tr>
<td>• Do not disassemble the Conext Monitor 20 except for the slide-in cover provided for access to connectors.</td>
</tr>
<tr>
<td>• Protect the power supply against overvoltage, using suitable overvoltage protection devices.</td>
</tr>
<tr>
<td>• Connect the cables only to the specific sockets provided for this purpose.</td>
</tr>
<tr>
<td>• Suitable only for connection to Class 2, energy-limited, SELV.</td>
</tr>
<tr>
<td>• Check the polarity when connecting cables.</td>
</tr>
</tbody>
</table>

Failure to follow these instructions can result in equipment damage.

Unpacking

Before you install the data logger, perform the steps in this section.

Verify the Package Contents

Unpack the data logger along with all the accessories and check that the contents as listed in Table 2-1 are intact and complete.

Table 2-1 Packing list

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conext Monitor 20</td>
<td>1</td>
<td>Data logger</td>
</tr>
</tbody>
</table>
### Checking the Data Logger

**To check the data logger:**

- Check the data logger for damage from shipping. If it is damaged, contact Schneider Electric customer support.

### NOTICE

**RISK OF EQUIPMENT DAMAGE**

To avoid possible damage, always use the original packaging while transporting or sending the device.

Failure to follow these instructions can result in equipment damage.

### Table 2-1 Packing list (Continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power pack, 24 V DC, 0.83 A</td>
<td>1</td>
<td>DC adapter for power supply to data logger along with AC pins for Europe, UK and Australia</td>
</tr>
<tr>
<td>Schneider Electric Connect cable (RS 485 cable)</td>
<td>1</td>
<td>Cable required to connect the data logger to the inverter</td>
</tr>
<tr>
<td>RJ45-RJ45 adapter</td>
<td>1</td>
<td>RJ45-RJ45 adapter for extension of Schneider Electric Connect cable</td>
</tr>
<tr>
<td>USB cable</td>
<td>1</td>
<td>Cable required to connect the data logger to the computer</td>
</tr>
<tr>
<td>Ethernet cable</td>
<td>1</td>
<td>Cable required to connect the data logger to the router</td>
</tr>
</tbody>
</table>
| Set of screws                                  | 1        | • Two pan head pozidrive self tapping screws (#6, length: 30 mm, material: zinc-plated steel)  
|                                                |          | • Two anchor screw plug (diameter: 6 mm, length: 30 mm, material: nylon)    |
|                                                |          | • Two washers (inner diameter: 4.3 mm, outer diameter: 12 mm, thickness 1.5 mm, material: zinc-plated steel) |
| Quick start guide                              | 1        | Instructions for installing the data logger                                |
• Check the name plate label on the backside of the data logger to make sure it is the model that is ordered.

**Tools Required**

To install the inverter, the following tools are required:

- #2 pozidrive screw driver
- Drilling machine with drill bit diameter 6 mm
- Hammer may be required to insert the plugs

**Installing the Data Logger on the Wall**

To install the unit on the wall, perform the steps in this section:

1. Attach the screws to the mounting wall, as shown in Figure 2-1.
2. Use plugs in dry wall applications.
3. Hang the device from the screws, and ensure it is fixed firmly in place.

![Figure 2-1 Mounting the device on the wall](image)
De-energizing the Inverter and Conext Monitor 20

HAZARD OF ELECTRIC SHOCK

- Switch off the inverter(s) and the data logger before making any connections.
- Always read the installation and safety instructions given in the manual for the corresponding inverter.
- Any service or maintenance on the inverters must be carried out only by qualified personnel.

Failure to follow these instructions will result in death or serious injury.

De-energizing the Conext Monitor 20

If the data logger is already energized, disconnect the power supply to the DC adapter or disconnect the DC adapter from the data logger.

Connecting an Inverter

For details of the RS485 connection, refer to the inverter manual.

It is recommended to use a UNITRONIC® Li2YCYv (TP) cable from "Lapp Kabel" or an equivalent cable type. This cable is suitable for laying in soil.

Refer to Figure 1-2 on page 1–2 for the description of the data logger parts mentioned below.

To connect an inverter, perform the steps in this section:

Refer to Figure 1-2 on page 1–2 for the description of the data logger parts mentioned below:

1. Remove the protective cover of the data logger.
2. Using the Schneider Electric connect cable provided, or by making a cable according to Figure 2-2, connect the RJ12 plug of the cable to the RJ12 socket on the data logger and RJ45 plug end to the RJ45 Modbus socket provided on the inverter (refer to Installation and Operation manual of the inverter).
3. Use the RJ45 extender adapter provided with the data logger to extend the cable length as required.

**Connecting a Ripple Control Receiver (optional)**

**To connect a ripple control receiver, perform the steps in this section:**

1. Using a standard Ethernet CAT5 cable, terminate each end of the cable with the pinout shown in Figure 2-3.

Note: The Ripple control receiver or the Ethernet cable required to attach the ripple control receiver is not provided with the data logger.
Table 2-2 describes the factory settings for the reduction levels:

**Table 2-2  Factory settings for reduction levels**

<table>
<thead>
<tr>
<th>Reduction level</th>
<th>% Grid feed-in (factory setting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>1</td>
<td>60%</td>
</tr>
<tr>
<td>2</td>
<td>30%</td>
</tr>
<tr>
<td>3</td>
<td>0%</td>
</tr>
<tr>
<td>No signal</td>
<td>70%</td>
</tr>
<tr>
<td>Invalid signal</td>
<td>70%</td>
</tr>
</tbody>
</table>
2. Connect the ripple control receiver to the data logger through the digital-in socket (refer to Figure 1-2, “Location of important physical features” on page 1–2).

3. To enable the Power Control, move the Power Control switch to the left, to the "ON" position (see Figure 1-2, “Location of important physical features” on page 1–2) (see also section “Power Control” on page 3–5).

4. To make adjustments in the feed-in menu, use the buttons on the data logger (refer to “Feed-in Menu of Control Panel” on page 3–11) or use the software (refer to the section “Device Manager section of Conext Monitor 20 Config Tool” on page 3–16), if necessary.

**Energizing the Conext Monitor 20 and inverters**

To energize the Conext Monitor 20 and inverters, perform the steps in this section:

1. Connect the DC output of the power adapter to the power supply input of the data logger and then plug the adapter to the AC socket.

2. Reinstall the protective cover on the data logger.

3. Energize the inverter and the data logger.

If no inverters are installed yet, an inverter search begins automatically when the data logger starts up. The LED’s status changes based on the number of inverters connected. For more details on the LED’s status, refer to the section “Default view” on page 3–4 in “Chapter 3 Operation”.

**Setting up an Internet Connection**

To setup an internet connection, perform the steps in this section: refer to Figure 1-1 on page 1–2.

**Automatic Set-up in Network With DHCP**

1. De-energize the Conext Monitor 20 and any connected inverters.

2. Remove the protective cover from the data logger.

3. Connect the data logger to the network through an Ethernet cable plugged into the Ethernet connection.

4. Reinstall the protective cover and energize the data logger. The data logger is allocated an IP address automatically.

**Manual Set-up in Network Without DHCP**

1. De-energize the Conext Monitor 20 and any connected inverters.

2. Remove the protective cover from the data logger.

3. Connect the data logger to the network through an Ethernet cable plugged into the Ethernet connection.

4. Reinstall the protective cover and energize the data logger.
5. Enter the network settings using the Conext Monitor 20 Config Tool (for more details, refer to the section “Data Logger Set-up Using Conext Monitor 20 Config Tool” on page 2–9).

Check the Network

Press the ACTION button for two seconds.

The “Status1” LED is ON when the portal connection is successful.

Conext Monitor 20 Config Tool Installation

To install the software, perform the steps in this section:

1. Before connecting the data logger to computer, install the “Conext Monitor 20 Config Tool” software on your computer.


Data Logger Set-up Using Conext Monitor 20 Config Tool

To set-up the data logger using Conext Monitor 20 Config tool, perform the steps in this section:

1. Connect the USB communication cable between the data logger and the computer. The three “Status” LEDs on the device are ON and all other LEDs are OFF. Refer to the “Overview of the Control Panel” on page 3–2.

2. From the Start menu or from the shortcut icon on the desktop, launch the software on your computer.

3. To start the installation process, click the Installation assistant button, as shown in Figure 2-4.
4. After each step of the installation process, click the Next button to go to the next step. For an audible alarm signal in addition to the optical display (flashing LED notice) in the event of a fault, check the ‘Sound signals activated’ check box. Refer to Figure 2-5.

5. To transfer the audible alarm settings to the data logger, click the ‘Transfer’ button.
6. Select ‘DHCP enabled’ (if DHCP is enabled in the network), so that the IP address is allocated automatically or enter the LAN settings for the data logger. Refer to Figure 2-6.

7. To transfer the settings to the data logger, click the ‘Transfer’ button. Refer to Figure 2-6.


9. To transfer the grid feed-in and alert settings to the data logger, click the Transfer button. Refer to Figure 2-7.
**Figure 2-6** Setting and transferring DHCP enabled or disabled settings to the data logger
10. To search for the inverter(s) connected to the data logger, click ‘Search inverter’. Refer to Figure 2-8.

- If an inverter is marked as “not connected”, click the Conext Monitor 20 button on the left hand side, to see the error log details.

**Figure 2-7** Setting and transferring grid feed-in and alert settings to the data logger
This chapter is for use by qualified personnel only.

PC does not Recognize the Data Logger

If the PC is connected to the data logger before the installation of the Conext Monitor Config tool, the PC will not recognize the data logger.

To force the PC to recognize a Conext Monitor that was installed before the Conext Monitor Config Tool:

1. Open the Control Panel and click System. The System Properties window opens.
This chapter is for use by qualified personnel only
3. Select and right-click the Conext Monitor device and then click Update Drivers.

![Opening the Device Manager](image)

**Figure 2-11** Opening the Device Manager

4. To complete the installation, click Install the software automatically (Recommended) and then click Continue.
Web portal set-up using Conext Monitor Web

To set up the web portal using Conext Monitor Web, perform the steps in this section:

1. Using the web browser, go to the following link
   www.conext-monitor-web.com/registration

The registration screen opens.
Conext Monitor Web registration

2. Enter the basic details of 'Data logger', 'User data' and 'System' for registration.

After submitting the information if a Portal Communication error message appears, it means the data logger is not identified at the portal. To ensure the portal connectivity, refer to the section “Setting up an Internet Connection” on page 2–8.

3. Submit the registration.
4. Receive an e-mail to verify the registration.
5. To complete the registration, click on the activation link in the e-mail or enter the activation key provided in the e-mail in the login page.

Figure 2-13 Registration page for Conext Monitor 20 Web
3 Operation

Overview of the Control Panel

Figure 3-1  Conext Monitor 20 Control panel

Table 3-1  Possible display states of the LED

<table>
<thead>
<tr>
<th>Button</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Operation LED</td>
</tr>
<tr>
<td>2</td>
<td>Info 1 LED</td>
</tr>
<tr>
<td>3</td>
<td>Info 2 LED</td>
</tr>
<tr>
<td>4</td>
<td>Info 3 LED</td>
</tr>
<tr>
<td>5</td>
<td>Warning LED</td>
</tr>
</tbody>
</table>
LED Displays

The LEDs can have any one of the following states:

Table 3-2  Possible display states of the LED

<table>
<thead>
<tr>
<th>Button</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>☲</td>
<td>LED OFF</td>
</tr>
<tr>
<td>●</td>
<td>LED ON</td>
</tr>
<tr>
<td>☀</td>
<td>LED flashes</td>
</tr>
<tr>
<td>☀ 1x</td>
<td>LED flashes once followed by a longer pause</td>
</tr>
<tr>
<td>☀ 2x</td>
<td>LED flashes twice followed by a longer pause</td>
</tr>
<tr>
<td>☀ zx</td>
<td>LED flashes z times followed by a longer pause</td>
</tr>
</tbody>
</table>
An example of the LED display on the device is as shown in Table 3-3.

**Table 3-3** An example of the LED display on the device

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Operation LED ON" /></td>
<td><img src="image" alt="Warning LED flashing" /></td>
<td><img src="image" alt="Status 1 LED flashing" /></td>
<td><img src="image" alt="Status 2 LED flashing" /></td>
<td><img src="image" alt="Status 3 LED flashing" /></td>
</tr>
<tr>
<td><img src="image" alt="Operation LED ON" /></td>
<td><img src="image" alt="Warning LED flashing" /></td>
<td><img src="image" alt="Status 1 LED flashing" /></td>
<td><img src="image" alt="Status 2 LED flashing" /></td>
<td><img src="image" alt="Status 3 LED flashing" /></td>
</tr>
<tr>
<td><img src="image" alt="Operation LED ON" /></td>
<td><img src="image" alt="Warning LED flashing" /></td>
<td><img src="image" alt="Status 1 LED flashing" /></td>
<td><img src="image" alt="Status 2 LED flashing" /></td>
<td><img src="image" alt="Status 3 LED flashing" /></td>
</tr>
<tr>
<td><img src="image" alt="Operation LED ON" /></td>
<td><img src="image" alt="Warning LED flashing" /></td>
<td><img src="image" alt="Status 1 LED flashing" /></td>
<td><img src="image" alt="Status 2 LED flashing" /></td>
<td><img src="image" alt="Status 3 LED flashing" /></td>
</tr>
</tbody>
</table>

- Operation LED is ON.
- Warning LED is flashing, indicates an error at this instance.
- Status 1 LED is flashing, indicates that the last portal communication has failed.

**Operation LED**

As long as the power supply to the data logger is ON and it is not in the PC software mode (see section “PC Software Mode” on page 3–14) the Operation LED is always ON.

**Default view**

When the menu options of the data logger are not accessed through MENU and ACTION buttons, the following diagram summarizes the possible default states of the LEDs:

**Table 3-4** Default view (no menu selected):

<table>
<thead>
<tr>
<th>Info</th>
<th>Inverter 1</th>
<th>Inverter 2</th>
<th>Inverter 3</th>
<th>Error</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Operation LED ON" /></td>
<td>Connected and OK</td>
<td>Connected and OK</td>
<td>Connected and OK</td>
<td>Log error</td>
</tr>
<tr>
<td><img src="image" alt="Warning LED flashing" /></td>
<td>Error/problem</td>
<td>Error/problem</td>
<td>Error/problem</td>
<td>Error/problem</td>
</tr>
<tr>
<td><img src="image" alt="Status 1 LED flashing" /></td>
<td>No setup</td>
<td>No setup</td>
<td>No setup</td>
<td>No error</td>
</tr>
</tbody>
</table>
Portal Test / Send Status Data to Portal

To do the portal test:

In the default view, press the ACTION button for two seconds.

A connection is created to the portal to send the current status and the display is updated.

Power Control

Enabling Power Control

To enable the power control perform the steps in this section:

1. Open the protective cover.
2. Move the Power Control switch to the left to the ON position. The Power Control mode is enabled.

Since certain configurations are not allowed when the Power Control is enabled, the Warning LED permanently lights up in submenus of such configurations.

3. Close the protective cover.
Disabling the Power Control

Ensure power reduction level 0 (100% of P nominal) command from ripple receiver is in effect as the inverter stores and operates with the last commanded power reduction reference limit.

To disable the power control, perform the steps in this section:

1. Open the protective cover.
2. Move the Power Control switch to the right to the OFF position. The Power Control is disabled.
3. Close the protective cover.

Note: If Power Control is activated, the following actions cannot be performed:

- Update firmware.
- Load back up configuration or reset the configuration for data logger.
- Set grid feed-in levels and alerts on “connection loss”.
- Search and remove the inverters.
Menu Structure

The menu structure is shown in Figure 3-2 below

![Menu Structure Diagram]

**Figure 3-3** Menu structure

### Basic Menu Operation

**Invoking the Standard Menu from the Default View of the Control Panel**

**To invoke the standard menu:**

Press the MENU button for two seconds.

The data logger emits an audible signal, (if the sound signal is activated). The standard menu is activated.

**Invoking the Feed-in Menu from the Default View of the Control Panel**

**To invoke the feed-in menu:**

Press the MENU and ACTION buttons for two seconds.

The data logger emits an audible signal, (if the sound signal is activated). The feed-in menu is activated.

**Switching the Submenu**

**To switch the submenu:**

Invoke the standard or feed-in menu option, and then press the MENU button.
The submenu switches to the next submenu.

**Activating the Settings Mode**

**To activate the Settings mode:**

In the desired submenu, press the ACTION button for two seconds.

The data logger emits an audible signal, (if the sound signal is activated). The Settings mode is activated.

**Table 3-5** Settings mode for different submenus for Conext Monitor 20

<table>
<thead>
<tr>
<th>Main menu</th>
<th>Submenu</th>
<th>Action in Settings Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard menu</td>
<td>Inverter</td>
<td>Inverter scan to identify inverters under management</td>
</tr>
<tr>
<td>Standard menu</td>
<td>Network</td>
<td>Network scan to identify issues, if any, in portal connectivity</td>
</tr>
<tr>
<td>Standard menu</td>
<td>Alarms</td>
<td>Enable/disable audible alarm</td>
</tr>
<tr>
<td>Feed-in menu</td>
<td>Status</td>
<td>No Settings mode</td>
</tr>
<tr>
<td>Feed-in menu</td>
<td>Configuration</td>
<td>Set % power at power reduction levels 1, 2 and 3</td>
</tr>
<tr>
<td>Feed-in menu</td>
<td>Configuration (advanced)</td>
<td>Set % power at power reduction level 0 or % power for missing/ unexpected signal from ripple control receiver.</td>
</tr>
</tbody>
</table>

Note: If no button is pressed for over one minute within a menu, the display automatically reverts to the default view. (Refer to Table 3-4).

**Standard Menu of Control Panel**

This menu allows you to check the inverters, network and alarms status. It also allows you to carry out an inverter or a network scan and enables or disables the audible alarm. Alternatively, you can change the settings using the software (see section “Conext Monitor 20 Config Tool” on page 3–15).
Submenu 1: Inverters

This view shows the status of the inverters that are currently managed by the data logger. It can manage up to three inverters. If an inverter is recognized during a scan, it is added to the list of inverters to be managed. The number of Info LEDs in the ON state is equal to the number of inverters that are recognized and are ready.

If an inverter was previously recognized to be managed by the data logger but is no longer connected, the corresponding Info LED flashes.

If three inverters are already managed, no new inverter can be found during the scan.

**To initiate an inverter scan, perform the steps in this section:**

1. Press the MENU button to invoke the standard menu.
2. Press the MENU button to select the first submenu. The Operation LED flashes once (1x).

The Info LEDs status indicates the details about the inverters under management as shown in table Table 3-6.

### Table 3-6 Info LEDs status in the Inverters submenu

<table>
<thead>
<tr>
<th>Status</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>!</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="led1" alt="LED" /></td>
<td>Inverter 1 is recognized and is ready</td>
<td>Inverter 2 is recognized and is ready</td>
<td>Inverter 3 is recognized and is ready</td>
<td>Power Control enabled</td>
</tr>
<tr>
<td><img src="led2" alt="LED" /></td>
<td>Inverter 1 is not installed or free</td>
<td>Inverter 2 is not installed or free</td>
<td>Inverter 3 is not installed or free</td>
<td>Power Control disabled</td>
</tr>
<tr>
<td><img src="led3" alt="LED" /></td>
<td>Inverter 1 is not found</td>
<td>Inverter 2 is not found</td>
<td>Inverter 3 is not found</td>
<td></td>
</tr>
</tbody>
</table>

3. To launch an automatic inverter scan, press the ACTION button for approximately two seconds. The settings mode activates.

The Status 1-3 LEDs flash as long as the scan is in progress. The status of the Info LEDs shows the result of the scan.

Note:

- Automatic inverter scan cannot be launched if the Power Control is enabled. Refer to section “Power Control” on page 3–5.
- To delete inverters from the management system, use the software (refer to the section “Conext Monitor 20 Config Tool” on page 3–15).
Submenu 2: Network

To initiate a network scan, perform the steps in this section:

1. Press the MENU button to invoke the standard menu.
2. Press the MENU button twice to select the second submenu. The Operation LED flashes two times (2x).

The Info LEDs status indicates the details about the network as shown in Table 3-7.

Table 3-7 Info LEDs status in the Network submenu

<table>
<thead>
<tr>
<th>Status</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>!</th>
</tr>
</thead>
<tbody>
<tr>
<td>●</td>
<td>TCP/IP connection OK</td>
<td>Internet connection OK</td>
<td>Portal connection OK</td>
<td></td>
</tr>
<tr>
<td>○</td>
<td>TCP/IP connection not possible</td>
<td>Internet connection not possible</td>
<td>Connection to the portal not possible</td>
<td></td>
</tr>
</tbody>
</table>

3. To launch an automatic network scan, press the ACTION button for approximately two seconds. The settings mode activates.

The Status 1-3 LEDs flash as long as the scan is in progress. The status of the Info LEDs shows the result of the scan.

Submenu 3: Alarms

To view and change the alarm settings, perform the steps in this section:

1. Press the MENU button to invoke the standard menu.
2. Press the MENU button three times to select the third submenu. The Operation LED flashes three times (3x).
The Info LEDs status indicates the details of the audible alarm as shown in Table 3-8.

### Table 3-8  Info LEDs status in Alarms submenu

<table>
<thead>
<tr>
<th>Status</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>!</th>
</tr>
</thead>
<tbody>
<tr>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td>Audible alarm enabled</td>
</tr>
<tr>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td>Audible alarm disabled</td>
</tr>
</tbody>
</table>

3. To change the audible alarm settings, press the ACTION button for approximately two seconds. The settings mode activates.

The Status 1 LED in the ON mode indicates activation of settings mode.

4. To change the alarm settings, release the ACTION button and press again.
5. To confirm the new settings, press the MENU button.
6. To return to the default view, press the MENU button again.

### Feed-in Menu of Control Panel

This menu allows you to change the settings related to grid feed-in management. Alternatively, change the settings using the software (see section “Conext Monitor 20 Config Tool” on page 3–15).

### Submenu 1: Status

To view the status of the reduction levels, perform the steps in this section:

1. Press the MENU button twice to invoke the feed-in menu.
2. Press the MENU button to select the first submenu. The Operation LED flashes once (☼ 1 x).
   - The Info LEDS indicate the status of the reduction levels 1, 2 and 3 (active/inactive) as shown in Table 3-9.
This chapter is for use by qualified personnel only

Table 3-9 Info LEDs status in Status submenu

<table>
<thead>
<tr>
<th>Status</th>
<th>LED 1</th>
<th>LED 2</th>
<th>LED 3</th>
<th>LED 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>●</td>
<td>Red</td>
<td>Red</td>
<td>Red</td>
<td>!</td>
</tr>
<tr>
<td>○</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- If the current reduction level is zero, then no Info LED is ON.
- If the current reduction level is invalid then Warning LED flashes and no Info LED is ON.
- If the Power Control is disabled, all the three Info LEDs are ON.

Submenu 2: Configuration

To configure the power at each reduction level, perform the steps in this section:

1. Press the MENU button twice to invoke the feed-in menu.
2. Press the MENU button twice to select the second submenu. The Operation LED flashes twice (☼ 2x).
3. Press the ACTION button for approximately two seconds. The settings mode activates.
   - The LEDs display configuration setting for reduction level 1:
     Status 1 LED is ON and Info 1 LED flashes (☼ Zx). This implies that power at reduction level 1 is \((Z \times 10)\)% of \(P_{\text{Nom}}\).
4. To change the power at reduction level 1, press the ACTION button.
   - Every time the Action button is pressed, the power reduces by 10%.
5. If the current power reduction level is 100%, press the ACTION button once to turn it into 0%.
6. To confirm the configuration for power at reduction level 1 and to move to the configuration setting for power at reduction level 2, press the MENU button.
7. To configure the power at reduction level 2 and then to move to the configuration setting at reduction level 3, repeat the steps 4 through 6.
NOTE: Feed-in configuration cannot be activated if the Power Control is enabled. Refer to the section “Power Control” on page 3–5.

Submenu 3: Configuration (advanced)

To modify the advanced configuration settings, perform the steps in this section:

1. Press the MENU button twice to invoke the feed-in menu.
2. Press the MENU button three times to select the third submenu. The Operation LED flashes three times (☼ 3x).
3. To activate the Settings mode, press the ACTION button for approximately two seconds.
   - The LEDs display configuration setting for reduction level 0:
     The Status 1 LED is ON and Info 1 LED flashes (☼ zx). This implies that power at reduction level 0 is \((Z \times 10)\)% of \(P_{\text{Nom}}\).
4. To change the power at reduction level zero, press the ACTION button.
   - Every time the ACTION button is pressed, the current power reduction level increases by 10%.
5. If the current power reduction level is 100%, press the ACTION button once to turn it into 0%.
6. To confirm the configuration for power at reduction level 0, and to move to the configuration setting for power at missing signal from RCR, press the MENU button.
7. To configure the power at missing signal from RCR, and then to move to configure the power at unexpected signal from RCR, repeat steps 4 through 6.

NOTE: Feed-in configuration cannot be activated if the Power Control is enabled.
Factory settings

Table 3-11 lists the default factory settings for Conext Monitor 20.

Table 3-11 Default factory settings for Conext Monitor 20

<table>
<thead>
<tr>
<th>Audible signal for alarms</th>
<th>enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power at missing signal from RCR</td>
<td>70% of $P_{\text{Nom}}$</td>
</tr>
<tr>
<td>Power at unexpected signal from RCR</td>
<td>70% of $P_{\text{Nom}}$</td>
</tr>
<tr>
<td>Power at reduction level 0</td>
<td>100% of $P_{\text{Nom}}$</td>
</tr>
<tr>
<td>Power at reduction level 1</td>
<td>60% of $P_{\text{Nom}}$</td>
</tr>
<tr>
<td>Power at reduction level 2</td>
<td>30% of $P_{\text{Nom}}$</td>
</tr>
<tr>
<td>Power at reduction level 3</td>
<td>0 % of $P_{\text{Nom}}$</td>
</tr>
<tr>
<td>DHCP</td>
<td>enabled</td>
</tr>
</tbody>
</table>

To reset the device to the factory settings, refer to the section “Resetting the device to delivery status” on page 3–34.

PC Software Mode

When Conext Monitor 20 is connected to the PC using a USB cable, the PC software mode is enabled on the data logger. In the PC software mode, the three “Status LEDs” are ON and all the other LEDs are OFF. This mode does not allow to view or to change any settings using the data logger control panel.

Table 3-12 LEDs display in PC software mode

USB cable connected, USB Mode enabled, no connection or driver errors

<table>
<thead>
<tr>
<th>1</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>!</th>
</tr>
</thead>
<tbody>
<tr>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>!</td>
</tr>
</tbody>
</table>
USB enabled, logged on to the USB host and ready for use

Conext Monitor 20 Config Tool

The Conext Monitor 20 Config Tool allows you to manage the data logger configuration.

Info section of Conext Monitor 20 Config Tool

The Info section provides the information on the software and hardware versions, the license terms, and the conditions for the tool.

Figure 3-4  Info section of Conext Monitor 20 Config Tool
Device Manager section of Conext Monitor 20 Config Tool

The Device Manager section provides several setting options for the data logger.

**Figure 3-5** Device manager section of Conext Monitor 20 Config Tool

- System: To access the information such as the current plant, output values, communication status of the data logger with the inverter(s), the portal and the ripple control receiver, press the System button (🏠).

---

This chapter is for use by qualified personnel only.
Figure 3-6 System screen of Conext Monitor 20 Config Tool

- Conext Monitor 20: To access the information about the hardware number, the firmware version and the driver name, press the Conext Monitor 20 button ( ).

Upgrade the firmware, save or load the configuration and activate or deactivate the alarms, if required. During a firmware update, all the eight LEDs flash one after the other. Once the firmware update is complete, the device restarts and reconnects to the software.
This section also allows you to access the fault log and to mark the faults as ‘read’.

**Figure 3-7** Conext Monitor 20 screen of Device manager section (part 1)
Network: To get access to the functionality that allows you to activate or deactivate the portal communication, press the Network button ( ).

This section also allows you to check the grid connection status and manage the LAN settings.
This chapter is for use by qualified personnel only

**Power Control:** To access the Power Control functionality, press the Power Control button ( ).

*Figure 3-9* Network screen of device manager section (part 1)

*Figure 3-10* Network screen of device manager section (part 2)
The power control functionality allows you to set the grid feed-in power levels in response to the signals from the ripple control receiver. This also allows you to set up an alert for connection loss and view the power control log.

Figure 3-11  Power control screen of device manager section (part 1)
Inverters: To get access to the functionality to search for new inverters to be monitored by the data logger, or to remove one or more of the existing inverters, press the Inverter button ( ).
**Figure 3-13** Inverter control screen of device manager section (part 1)

<table>
<thead>
<tr>
<th></th>
<th>Inverter 1</th>
<th>Inverter 2</th>
<th>Inverter 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>AL 3000 E</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>185111420440</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bus Address</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC Power (W)</td>
<td>1390</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Produced (Wh)</td>
<td>394500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last Status</td>
<td>Online (0000)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[Image of the inverter control screen]
NOTE: If the Power Control is activated, the following actions cannot be performed:

- Update the data logger firmware.
- Load back up configuration or reset the configuration for the data logger.
- Set grid feed-in levels and alerts on connection loss.
- Search and remove the inverters.

**Conext Monitor Web**

Dashboard Screen

After logging into the web portal, access the dashboard of the Conext Monitor Web.

The following table describes various sections of the dashboard screen.

Table 3-13 Sections of the dashboard screen

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Top bar</td>
</tr>
<tr>
<td></td>
<td>Contains the system designation as entered at the time of registration.</td>
</tr>
<tr>
<td>2</td>
<td>System data</td>
</tr>
<tr>
<td></td>
<td>Contains data such as today’s yield, date of installation, installed power,</td>
</tr>
<tr>
<td></td>
<td>total energy generation and the technical data (entered at the time of</td>
</tr>
<tr>
<td></td>
<td>registration).</td>
</tr>
</tbody>
</table>
Table 3-13 Sections of the dashboard screen

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Performance</td>
<td>Provides local and regional benchmarking of yield in the current month and the current year as well as yield in the past month and the past year.</td>
</tr>
<tr>
<td>4 Environmental savings</td>
<td>Provides information about the environmental impact due to the installation of the PV plant example: CO₂ emission avoided, number of trees saved and so forth.</td>
</tr>
<tr>
<td>5 Energy generation charts</td>
<td>The charts provide information about the energy generated per hour/day/week/month/year.</td>
</tr>
<tr>
<td>6 Bottom Bar-Settings</td>
<td>Provides access to the settings screen (see section &quot;Settings Screen&quot; on page 38).</td>
</tr>
<tr>
<td>7 Bottom Bar-Status</td>
<td>Provides information about the device connectivity status.</td>
</tr>
<tr>
<td>8 Bottom Bar- Language</td>
<td>Provides option to switch the language</td>
</tr>
</tbody>
</table>

**Settings Screen**

To view the Settings screen, perform the step in this section:

Click the Settings button ( ) at the bottom bar of the dashboard screen as explained in the “Dashboard” section.
Table 3-14 describes various sections of the dashboard screen.

**Table 3-14  Sections of the settings screen**

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Dashboard Technical System Data</td>
<td>• Allows you to edit the system data that was entered at the time of the registration (refer to the section “Web portal set-up using Conext Monitor Web” on page 2–17)</td>
</tr>
<tr>
<td></td>
<td>• Allows you to upload an image of the PV plant.</td>
</tr>
<tr>
<td>2 Side bar - Dashboard</td>
<td>Displays the dashboard screen (refer to the section “Dashboard Screen” on page 3–25)</td>
</tr>
</tbody>
</table>
This chapter is for use by qualified personnel only

Table 3-14  Sections of the settings screen

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
</table>
| 3 Side bar - Meter Reading | • Displays a screen that allows you to edit the solar energy harvest reading for one or more days.  
If the data logger is installed a few days after the installation of the inverter, or if the data logger was disconnected from the inverter for a few days, the total energy harvest information displayed by the portal and by the inverter may not be consistent with each other.  
• This feature helps to adjust the energy harvest reading on the portal so as to ensure that it is consistent with the inverter energy reading displayed by the inverter.  
(refer to the section “Meter Reading” on page 3–29) |
| 4 Side bar - Solar account | • Displays the information about the remuneration through FiT (feed-in tariff).  
• This menu also allows you to enter the per kWh remuneration rate and the currency.  
(refer to the section “Solar Account” on page 3–30) |
| 5 Side bar - Status | Displays the basic inverter information and status:  
- data logger firmware type  
- data logger firmware version  
- number of inverters and power control on/off status  
  - Serial number and Bus ID  
  - inverter AC power (W)  
  - inverter status  
  - inverter type |
To view the meter reading, perform the steps in this section:

1. In the Settings screen, click the Meter reading button. The Meter reading screen opens.

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side bar - Exchange</td>
<td>Displays a screen that allows you to replace the existing data logger with a new data logger without losing the portal data.</td>
</tr>
<tr>
<td>Top bar - Administration</td>
<td>Provides access to edit settings for user/system data, password and language.</td>
</tr>
<tr>
<td>Top bar - Terms and Conditions</td>
<td>Provides information regarding the terms and conditions for the usage of the portal.</td>
</tr>
<tr>
<td>Top bar - Logout</td>
<td>Logs out of the portal.</td>
</tr>
</tbody>
</table>

**Figure 3-17**  Meter reading screen
2. In the Meter reading screen, click the Enter meter reading button. The basic inverter information and status displays.

![Enter new meter reading screen]

**Figure 3-18 Enter new meter reading screen**

This screen allows you to update the meter reading for the current day or for a particular day in the past.

3. To save the updated meter reading, click the Save button.

The energy generation values displayed in the Dashboard screen update accordingly.

**Solar Account**

To view and edit FiT remuneration, perform the step in this section:

In the Setting screen, click the Solar Account button. The Solar Account screen opens.
Figure 3-19 Solar Account screen

Status

To view the status information, perform the step in this section:

In the Setting screen, click the Status button. The Status screen opens.
This chapter is for use by qualified personnel only.

To replace the existing data logger with a new data logger without losing the portal data:

In the Settings screen, click the Exchange button.
Restarting the Device

To restart the device, perform the step in this section:

Press the RESET button (refer to Figure 3-22) with the help of a pin or paperclip, up to approximately 3–4mm deep. The device restarts.

![Reset button](image)

Figure 3-22  Resetting the device

Resetting the configuration

NOTE:

- If the device is reset, all the data collected in it, the error memory, the power control log and the configuration will be deleted. The information and data collected on the portal will not be affected.
- If necessary, back up your configuration using the Conext Monitor 20 Config tool before resetting the device.

To reset the data logger configuration, perform the steps in this section:

1. Press and hold down the ACTION button.
2. Press the RESET button or restart the device by disconnecting it from the mains (refer to the section “Restarting the Device” on page 3–33). After 10 seconds, the reset begins and the Status and Info LEDs flash one after the other.
3. Release the ACTION button. Once the device is reset, the LEDs go off and the device restarts.

The Conext Monitor 20 Config Tool also allows you to reset the configuration.
To reset the configuration, perform the steps in this section:

1. Launch the Conext Monitor 20 Config Tool.
2. Launch the Device Manager.
3. Select the Conext Monitor 20 category.
4. In the Configuration section, press the RESET button.

Resetting the device to delivery status

If the device becomes unusable and it is no longer possible to change the firmware, it is possible to reset the device to the delivery status.

NOTE:

- If the device is reset, all the data collected in it and the configuration will be deleted. The information and data collected on the portal will not be affected.
- To avoid losing the device configuration, periodically back up your configuration using the Conext Monitor 20 Config Tool.

To reset the data logger to the delivery status, perform the steps in this section:

1. Press and hold down the MENU and ACTION buttons at the same time.
2. Press the RESET button or restart the device by disconnecting it from the mains (refer to the section “Restarting the Device” on page 3–33). After 10 seconds, the reset begins and the Status and Info LEDs flash one after the other.
3. Release the MENU and ACTION buttons. Once the device is reset, the LEDs go off and the device restarts with the basic firmware.
Chapter 4, “Troubleshooting” describes the error messages that might be reported through the control panel of the data logger and recommended solutions.
Error Display Through the Control Panel

Figure 4-1 Conext Monitor 20 Control panel

Table 4-1 Call outs for Figure 4-1

<table>
<thead>
<tr>
<th>Button</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Operation LED</td>
</tr>
<tr>
<td>2</td>
<td>Info 1 LED</td>
</tr>
<tr>
<td>3</td>
<td>Info 2 LED</td>
</tr>
<tr>
<td>4</td>
<td>Info 3 LED</td>
</tr>
</tbody>
</table>

This chapter is for use by qualified personnel only
The Warning LED illuminates and the Status and Info LEDs flash to indicate the errors. The data logger emits short beeps if the audible alarm feature is enabled.

Table 4-2  Conext Monitor 20 troubleshooting

<table>
<thead>
<tr>
<th>Error</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Info 1, Info 2 or Info 3 LED flashes | Communication error or inverter error in one of the three inverters | • Check the error display on the inverter.  
• Use Conext Monitor 20 Config tool to obtain error descriptions.  
• Refer to the inverter manual for finding resolutions to the displayed errors.  
• If the inverter does not display an error, it is a communication error.  
• Check the inverter RJ45 connect cable. |
## Table 4-2 Conext Monitor 20 troubleshooting

<table>
<thead>
<tr>
<th>Error</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Status 1 LED is flashing             | Portal communication is not functioning | • Check the right-hand LED on the Ethernet socket.  
• If it does not light up, the issue is a physical connection problem such as:  
  • Cable is defective  
  • Cable is incorrectly connected  
  • Router is defective  
• Perform network test on the device to ascertain the network problem (refer to the section “Submenu 2: Network” on page 3–10).  
• If the first Info LED alone is illuminated, it implies that there is no Internet connection.  
  • Check whether the router is creating an Internet connection.  
  • If the first two Info LEDs are illuminated, the portal cannot be accessed at present.  
    • Wait for a moment and try again.  
    • If the error persists, contact customer care.  
• Use Conext Monitor 20 Config tool for the exact error descriptions. |
| Status 3 LED is flashing             | Missing signal or error signal from the ripple control receiver. | • Check the cable to the ripple control receiver.  
• Check the ripple control receiver interconnection. |
| PC does not recognize the data logger | PC is connected to the data logger before the installation of the Conext Monitor 20 Config tool. | Follow the instructions under the section “PC does not Recognize the Data Logger” on page 2–14. |
Table 4-2  Conext Monitor 20 troubleshooting

<table>
<thead>
<tr>
<th>Error</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration page - Portal Communication error</td>
<td>The data logger is not identified at the port</td>
<td>Follow the instructions under the section “Setting up an Internet Connection” on page 2–8.</td>
</tr>
</tbody>
</table>

Acknowledging an error

The flashing Warning LED indicates the existence of at least one error. An audible alarm signal is also emitted unless this is disabled.

To disable the further audible signals for an existing error or to acknowledge a current error:

Press the MENU or ACTION button.

The audible signal is disabled until the next error but the error status continues to display and remains entered in the error memory (error log) as unread. An error that ceases to exist is acknowledged automatically.

All the errors are saved to the internal error memory. New entries are marked as unread. If there are currently no errors but there are unread errors in the error memory, the warning LED illuminates permanently. This enables you to view the errors that were left unnoticed.

To view the error log for detailed troubleshooting and to mark the error as read, perform either of the following two methods:

- Use the Conext Monitor 20 Config tool and click on the ‘Mark as Read’ button in the ‘Conext Monitor 20’ section of the Conext Monitor 20 Config Tool.

or

- Press the MENU and ACTION buttons simultaneously on the control panel of the data logger.

In order to prevent a recurrent alarm, acknowledge the error as described above during the period after the error is identified and before it is rectified.
Appendix A provides the electrical, environmental, and other specifications of the Conext Monitor 20.
Electrical Specifications

Communication Interfaces

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
</table>
| Inverter (Modbus RS 485)      | Connector: 1 x RJ 12, 2-wire serial, termination: 120 Ohms  
Inverter connect cable of length: 2 m (6.56 ft) and RJ45-RJ45 adapter for extension provided  
Products supported: Conext RL, Conext TL (max. plant size 20 kW, max. number of inverters is three) |
| Ethernet                      | Connector: 1 x RJ45, 10 Mbps (HTTP(s), DHCP,REST)  
Ethernet connect cable provided of length: 1 m (3.28 ft) |
| USB-Device                    | Connector: USB-MicroType B, full speed 12 Mbps,  
Protocols: CDC, RS232 emulation  
USB connect cable provided of length: 1.8 m (5.91 ft) |

Other Interfaces

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ripple control receiver</td>
<td>Connector: 1 x RJ45, 4 x digital inputs (EN62053-31)</td>
</tr>
</tbody>
</table>

Power Supply Options

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC input</td>
<td>24 V +/- 5%, using 2.1 x 5.5 mm (0.08 x 0.22 in) center-positive socket</td>
</tr>
<tr>
<td>AC frequency of power adapter</td>
<td>47 - 63 Hz</td>
</tr>
<tr>
<td>AC voltage of power adapter</td>
<td>100 - 240 VAC</td>
</tr>
<tr>
<td>Power consumption</td>
<td>1.7 W typical</td>
</tr>
</tbody>
</table>
### Memory

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal flash</td>
<td>5 days data</td>
</tr>
</tbody>
</table>

### General Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>0.2 kg (0.44 lbs)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>107 mm H x 152 mm W x 37 mm D</td>
</tr>
<tr>
<td></td>
<td>4.2 in. H x 6.0 in. W x 1.5 in D</td>
</tr>
<tr>
<td>Shipping weight</td>
<td>0.7 kg (1.54 lbs)</td>
</tr>
<tr>
<td>Shipping dimensions (H x W x D)</td>
<td>160 x 332 x 122 mm (6.3 x 13.1 x 4.8 in)</td>
</tr>
<tr>
<td>Housing/mounting system</td>
<td>ABS PA-765A / Wall-mount: Two pan-head pozidrive self-tapping screws (#6,</td>
</tr>
<tr>
<td></td>
<td>length: 30 mm and material: zinc-plated steel)</td>
</tr>
<tr>
<td>IP rating/mounting Location</td>
<td>IP 21, indoor only</td>
</tr>
<tr>
<td>Status display</td>
<td>8 x Light Emitting Diodes (LEDs)</td>
</tr>
<tr>
<td>Push buttons</td>
<td>3 x (Menu, Action &amp; Reset)</td>
</tr>
<tr>
<td>Switch</td>
<td>1 x (for Power Control on/off)</td>
</tr>
<tr>
<td>Audible alarm</td>
<td>Yes (with on/off control)</td>
</tr>
<tr>
<td>Temperature</td>
<td>Operating: 0 °C to 40 °C (32 °F to 104 °F); Storage: -20 °C to 65 °C (-4</td>
</tr>
<tr>
<td></td>
<td>°F to 149 °F)</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>20% to 90% (non-condensing)</td>
</tr>
<tr>
<td>Part number</td>
<td>PVSCMC1120</td>
</tr>
</tbody>
</table>
## Specifications

### Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty</td>
<td>2 years</td>
</tr>
<tr>
<td>Portal compatibility with browsers</td>
<td>IE8 and above, Firefox 13.0.1 and above, Google Chrome 20.0.1132.47m and above, Apple Safari 5.1.7 and above</td>
</tr>
</tbody>
</table>

### Regulatory Approvals

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marking</td>
<td>CE, RCM</td>
</tr>
<tr>
<td>Safety</td>
<td>EN 60950-1</td>
</tr>
<tr>
<td>EMC immunity</td>
<td>EN61000-6-2, EN61000-4-11</td>
</tr>
<tr>
<td>EMC emission</td>
<td>EN55022 Class B, EN 61000-3-2, EN61000-3-3</td>
</tr>
<tr>
<td>Substances/environmental</td>
<td>RoHS</td>
</tr>
</tbody>
</table>
Information About Your System

As soon as you open your Conext Monitor 20 package, record the following information and be sure to keep your proof of purchase.

☐ Serial Number _________________________________
☐ Part Number _________________________________
☐ Purchased From _________________________________
☐ Purchase Date _________________________________
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