Important information
ComatReleco reserves the right to alter, correct, and/or improve the technical documentation and the products described in the technical documentation at its own discretion and without giving prior notice, insofar as this is reasonable for the user. The same applies to any technical changes that serve the purpose of technical progress.

The receipt of technical documentation (in particular user documentation) does not constitute any further duty on the part of ComatReleco to provide information on modifications to products and/or technical documentation. You are responsible for verifying the suitability and intended use of the products in your specific application, in particular with regard to observing the applicable standards and regulations. All information made available in the technical data is supplied without any accompanying guarantee, whether expressly mentioned, implied or tacitly assumed. In general, the provisions of the current standard Terms and Conditions of ComatReleco apply exclusively, in particular as concerns any warranty liability.

This user manual contains important information for the commissioning, operation, maintenance and disposal of the device. You will also receive information and important tips for your safety and help with any issues. The user manual must be made physically or electronically available with the equipment and must be included in the supply when the equipment is transferred. It is also available on the ComatReleco web portal.

Copyright
This manual, including all illustrations contained herein, is copyright protected. Any changes to the contents or the publication of extracts of this document is prohibited.

ComatReleco reserves the right to register its own intellectual property rights for the product identifications of ComatReleco products that are used here. Registration of such intellectual property rights by third parties is prohibited.

Other product identifications may be afforded legal protection, even where they may not be indicated as such.

Disclaimer
The owner of this device is responsible for ensuring that the instructions and notes in this manual are read, understood and followed by the personnel concerned before putting the device into operation. Failure to observe the instructions may result in serious bodily injury and/or damage to property. ComatReleco assumes no liability for personal injury, damage to property or financial losses.

Unauthorized modifications and changes to the device can affect safety and are not permitted. This leads to a limitation of the warranty and may result in loss of product conformity.
Tabel of contents

1 Introduction ..................................................................................................................................................................................5
  1.1 Validity ...........................................................................................................................................................................................5
  1.3 Product conformity .........................................................................................................................................................................6
  1.5 Contact details ...............................................................................................................................................................................6

2 Safety Instructions .......................................................................................................................................................................7
  2.1 Meaning of symbols .......................................................................................................................................................................7
  2.2 General Safety Instructions .............................................................................................................................................................7
  2.3 User groups / personal qualification ..............................................................................................................................................8
  2.4 Intended use ..................................................................................................................................................................................8
  2.5 Unintended use ..............................................................................................................................................................................8
  2.6 Foreseeable misuse ........................................................................................................................................................................9

3 Product description........................................................................................................................................................................10
  3.1 Overview ...................................................................................................................................................................................10
  3.2 Product variants ...........................................................................................................................................................................10
  3.3 Transport and storage .................................................................................................................................................................10
  3.4 Included in the delivery ................................................................................................................................................................10
  3.5 Mobile Communications ..............................................................................................................................................................11
    3.5.1 Network coverage .................................................................................................................................................................11
    3.5.2 Country versions .................................................................................................................................................................11
    3.5.3 Zone description .................................................................................................................................................................11
    3.5.4 Supported frequency bands ................................................................................................................................................11
  3.6 Communication ...........................................................................................................................................................................12
    3.6.1 Message types .................................................................................................................................................................12
  3.7 Behavior of the device under specific conditions ..................................................................................................................13
  3.8 Hardware description ...............................................................................................................................................................15

4 Installing the device ...................................................................................................................................................................18
  4.1 Installation instructions ...............................................................................................................................................................18
  4.2 Mounting ....................................................................................................................................................................................18
    4.2.1 Mounting the device ..........................................................................................................................................................18
    4.2.2 Dismantling the device .........................................................................................................................................................18
  4.3 Wiring ..........................................................................................................................................................................................19
    4.3.1 Power supply .......................................................................................................................................................................19
    4.3.2 Wiring of the CMS-10R/D inputs ........................................................................................................................................19
    4.3.3 Wiring the CMS-10R/DA inputs .........................................................................................................................................20
    4.3.4 Wiring the CMS-10R/DAC inputs ...................................................................................................................................20
    4.3.5 Wiring the CMS-10R/D/DA/DAC relay outputs ..................................................................................................................21
  4.4 Antennas .....................................................................................................................................................................................21
    4.4.1 Rod antenna (CMS-ANT2) ..................................................................................................................................................21
    4.4.2 Magnetic base antenna (CMS-ANT-MAG2/2.5M) ....................................................................................................................21
    4.4.3 Exterior antenna (CMS-ANT-SPEZ2/5m) .............................................................................................................................21
    4.4.4 Antenna extension (CMS-ANT-KAB.../5M, .../10M, .../20M) .............................................................................................21

5 IoT Portal ...................................................................................................................................................................................23
  5.1 Introduction ..................................................................................................................................................................................23
    5.1.1 System requirements ..........................................................................................................................................................23
    5.1.2 Meaning of symbols ............................................................................................................................................................23
1 Introduction

1.1 Validity

This user manual is valid for the following devices and software versions:

Hardware

<table>
<thead>
<tr>
<th>Type designation</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS-10R-D/AC110-240V</td>
<td>• 4G, 3G, 2G IoT ComatReleco Messaging System</td>
</tr>
<tr>
<td></td>
<td>• 6 x digital inputs 110 - 240 V ~</td>
</tr>
<tr>
<td>CMS-10R-DA/DC12-48V</td>
<td>• 4G, 3G, 2G IoT ComatReleco Messaging System</td>
</tr>
<tr>
<td></td>
<td>• 6 x switchable inputs digital / analogue 0 - 10 V =~</td>
</tr>
<tr>
<td>CMS-10R-DAC/DC12-48V</td>
<td>• 4G, 3G, 2G IoT ComatReleco Messaging System</td>
</tr>
<tr>
<td></td>
<td>• 4 x switchable inputs digital / analogue 0 - 10 V =~</td>
</tr>
<tr>
<td></td>
<td>• 2 x analogue inputs 4 - 20 mA =~</td>
</tr>
</tbody>
</table>

The validity also applies to all country versions that are listed in the zone description in chapter 3.5.3.

Software

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Firmware</td>
<td>as of version 1.0.0</td>
</tr>
<tr>
<td>IoT Portal</td>
<td>as of version 1.0.0</td>
</tr>
</tbody>
</table>

1.2 Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2G</td>
<td>Second generation (2G) digital cellular networks used by mobile terminals.</td>
</tr>
<tr>
<td>3G</td>
<td>Third generation (3G) digital cellular networks used by mobile terminals.</td>
</tr>
<tr>
<td>4G</td>
<td>Fourth generation (4G) digital cellular networks used by mobile terminals.</td>
</tr>
<tr>
<td>Call-in</td>
<td>Control of a digital output by a telephone call.</td>
</tr>
<tr>
<td>CMS-10R</td>
<td>ComatReleco Messaging System.</td>
</tr>
<tr>
<td>dBm</td>
<td>Is a level unit used to indicate that a power ratio is expressed in decibels (dB) with respect to one milliwatt (mW).</td>
</tr>
<tr>
<td>Delay time</td>
<td>Is a value that is entered in the trigger window and delays the sending of a message for a certain time.</td>
</tr>
<tr>
<td>E-mail</td>
<td>Forwarding of messages via the Internet.</td>
</tr>
<tr>
<td>Escalation chain</td>
<td>Successive call from several subscribers (depending on the service profile) with a message by SMS, push message or e-mail. The escalation chain is stopped as soon as a participant acknowledges the message by SMS, push message or e-mail.</td>
</tr>
<tr>
<td>eSIM card</td>
<td>Memory chip on which all data of the telephone provider necessary for the mobile phone connection and identification are stored. The eSIM card is permanently installed on the device.</td>
</tr>
<tr>
<td>Event</td>
<td>An event is a forwarding of information by e-mail, push message or SMS. Depending on the service profile, a certain number of events per month are available.</td>
</tr>
<tr>
<td>Fallback mode</td>
<td>If the IoT Portal fails, pending alarms are sent via SMS to defined recipients.</td>
</tr>
<tr>
<td>Firmware</td>
<td>The firmware is the operating software with which the user software is loaded and operated.</td>
</tr>
<tr>
<td>IoT</td>
<td>Internet of Things.</td>
</tr>
<tr>
<td>IoT Portal</td>
<td>Virtual data storage (cloud)</td>
</tr>
<tr>
<td>LED</td>
<td>Light Emitting Diode, indicating lamps.</td>
</tr>
<tr>
<td>Limit value (upper, lower)</td>
<td>As soon as the value at an input exceeds or falls below this limit (threshold), an action is triggered.</td>
</tr>
<tr>
<td>Neutral conductor</td>
<td>Returning conductor or cable transmitting electrical energy.</td>
</tr>
<tr>
<td>Outer conductor</td>
<td>Voltage-carrying conductor or cable (commonly referred to as a &quot;pole conductor&quot; or &quot;phase&quot;) that transmits electrical energy.</td>
</tr>
<tr>
<td>Provider</td>
<td>Mobile network operator.</td>
</tr>
<tr>
<td>Push message</td>
<td>Push notifications are messages that appear on your phone without opening the app in question.</td>
</tr>
<tr>
<td>Spam (folder)</td>
<td>Or also called the &quot;junk mail folder&quot;. Unsolicited mass messages sent by e-mail.</td>
</tr>
<tr>
<td><strong>SMS</strong></td>
<td>Short Message Service. Short message service (for mobile phones), which can be used to send texts to the recipient's display.</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Threshold</td>
<td>Is equivalent to limit value.</td>
</tr>
<tr>
<td>Trigger window (trigger value)</td>
<td>This is a trigger that initializes an action when a previously defined value is exceeded or undershot.</td>
</tr>
<tr>
<td><strong>TLS</strong></td>
<td>Transport Layer Security is an encryption protocol for secure data transmission over the Internet.</td>
</tr>
<tr>
<td><strong>UTC time zone</strong></td>
<td>The time zone in which the device is located must be entered in the <em>Manage</em> menu. The time zone can be found out on the mobile phone with most clock apps, or on the Internet, for example by clicking on the following <a href="#">Link</a>. Examples: London = UTC, Berne = UTC + 1, New York = UTC - 5. Summer time/winter time is not changed automatically and must be taken into account during entry! See also chapter 5.8.2.</td>
</tr>
<tr>
<td><strong>VPN</strong></td>
<td>Virtual Private Network realizes an encrypted remote access.</td>
</tr>
</tbody>
</table>

### 1.3 Product conformity

![CE Mark]

The EC Declaration of Conformity can be found in the Quick Guide on the ComatReleco web portal [Link](#).

### 1.4 Further documents

Further documents such as brief instructions, drawings, technical data, general terms and conditions, etc. can be found on the ComatReleco webportal, Service & Support/Downloads category [Link](#).

### 1.5 Contact details

**Manufacturer's address**
ComatReleco AG  
Bernstrasse 4  
CH-3076 Worb (Switzerland)  
Phone +41 31 838 55 77  
E-mail support@comatreleco.com  
Web www.comatreleco.com
2 Safety Instructions

2.1 Meaning of symbols

DANGER

⚠️

Indicates a hazard with high risk potential. Failure to observe the safety measures could result in serious injury or death.

WARNING

⚠️

Indicates a hazard with medium risk potential. Failure to observe the safety measures could result in serious injury or damage to property.

INFORMATION

ℹ️

Here you will find further information and helpful hints.

DISPOSAL

🗑️

Observe the special disposal regulations for electronic devices.

PROTECTIVE INSULATION

🛡️

The Class 2 protective insulation symbol is printed on the device. The device is protected against accidental contact with live electrical parts by class 2 protective insulation. With this electrical protection class, no protective conductor (earthing) must be connected.

2.2 General Safety Instructions

DANGER

- Only mount and dismantle the device when it is disconnected from the power supply. This applies to the power supply as well as to all inputs and outputs.
- During operation, the electrical connection points of the device carry hazardous voltages! These connection points must not be touched.
- The installation of the device must only be carried out by qualified electricians.
- The device must be installed and operated according to national regulations and specifications.
- This device is not suitable for use in wet areas, explosive atmospheres (e.g. in areas where the air contains high concentrations of flammable chemicals, vapours or particles such as grain, dust or metal powder), or in the vicinity of medical devices.
WARNING

- Do not apply a voltage greater than 240 V ~ (for CMS-10R-D), or 48 V (for CMS-10R-DA and CMS-10R-DAC) to the device.
- It must be possible to disconnect the device from the power supply by means of an adequate disconnecting device (fuse, circuit breaker, etc.) provided on the installation side. The disconnecting device must be located as close as possible to the device.
- When connecting to the 240 V ~ mains, it is essential that the power supply and the supply of the inputs are connected to the same outer conductor.
- Check that all cables are correctly connected before commissioning.
- The device is intended for installation in a housing (a control cabinet, distribution box or terminal box). The housing must meet the requirements of a fire protection housing of the safety standard IEC/EN 62368-1 and have a protection class of at least IP20 (according to IEC/EN 60529). It must also provide protection against electric shocks (touch protection). The device must not be operated until it has been installed.

SAFETY INSTRUCTIONS

- Read the user manual carefully before use!
  Make sure that the versions of the product documentation valid for your device are available throughout the entire life cycle of the device (see chapter 1.1).
- This device is not suitable for monitoring sensitive systems or time-critical processes. Mobile phone network failures, poor reception or interruptions in the power supply can impair the functions.
- The device may only be operated with the defined antenna types (see chapter 4.4).

2.3 User groups / personal qualification

Device installation

All installation, assembly and wiring work must only be carried out by qualified electricians who are familiar with the applicable standards, regulations and safety provisions for installation and automation technology.

Using the device

The users of the IoT Portal and the app must have PC user skills, must be able to operate a web browser and must know the associated terms. Users can be electricians as well as end users who are authorized as the owner or as the owner’s authorized representatives to manage, configure or make changes to the devices. The owner of the equipment is responsible for ensuring that all users have understood the user manual and the functions of the equipment and are aware of the effects of the functions performed with the equipment (remote operation).

2.4 Intended use

Devices of the CMS-10R series are remote monitoring and remote control devices for industrial and building technology. They transmit changes in the value of the digital and/or analogue inputs via the mobile phone network by e-mail, by SMS or by push message to the notification service (IoT Portal, app). The potential-free changeover contacts of the relay outputs can be switched in the IoT Portal, using the app, by SMS or telephone control.

The devices are available in different country versions. If you have any questions about the availability of the equipment in your region, please refer to the chapter 3.5 or contact ComatReleco technical support (support@comatreleco.com).

2.5 Unintended use

- Applications with high requirements regarding availability or redundancy.
- Use of the devices if the availability of the Internet connection or the IoT Portal is not fully guaranteed.
2.6 Foreseeable misuse

- If an incorrect device configuration is loaded in the device or if settings not corresponding to the application have been made, this can lead to undesired behaviour of the inputs and outputs.
- After an update or import of the device configuration, it must be checked in the device to prevent undesired behaviour of the inputs and outputs.
3 Product description

3.1 Overview

Devices of the CMS-10R series are remote monitoring and remote control devices for industrial and building technology. They transmit changes in the value of the digital and/or analogue inputs via the mobile phone network by e-mail, by SMS or by push message to the notification service (IoT Portal, app). The potential-free changeover contacts of the relay outputs can be switched in the IoT Portal, using the app, by SMS or telephone control.

Thanks to the integrated eSIM card, the device connects automatically worldwide (see chapter 3.5) to the strongest local mobile network of all possible generations (4G, 3G, 2G).

All operations are temporarily stored on a server with hosting in Switzerland and forwarded to the corresponding end device. The devices have a fallback mode, which enables temporary communication via SMS if the connection to the server is not possible.

The configuration is done via a browser on a computer or tablet with an Internet connection. For configuration and/or administration, you will need a user account on the ComatReleco IoT Portal.

Examples of possible applications
- Monitoring of systems
- Monitoring of machines and buildings
- Monitoring of pumps and filling levels
- Heating, ventilation and air-conditioning technology
- Remote switching, etc.

3.2 Product variants

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage and frequency</td>
<td>110 - 240 V ~, 45 - 65 Hz</td>
<td>12 - 48 V = =</td>
<td>12 - 48 V = =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating voltage range</td>
<td>85 - 255 V ~</td>
<td>8.4 - 60 V = =</td>
<td>8.4 - 60 V = =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inputs</td>
<td>6 digital</td>
<td>6 digital / analogue 0 - 10 V = =</td>
<td>4 digital / analogue 0 - 10 V = =</td>
<td>2 analogue 4 - 20 mA = =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outputs</td>
<td>4 x relay with changeover contacts, 10 A / 250 V ~</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Countries</td>
<td>Z2: Device type for Europe, Middle East, Africa and Asia</td>
<td>Z1: Device type worldwide</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile networks</td>
<td>4G, 3G, 2G (supported frequency bands, see chapter 3.5.4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessories included</td>
<td>Rod antenna CMS-ANT2</td>
<td>Rod antenna CMS-ANT2</td>
<td>Rod antenna CMS-ANT2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.3 Transport and storage

The device is delivered in its original cardboard packaging and is therefore protected as well as possible during transport.

If you do not use the device for a longer period of time, store it at room temperature in a dry place.

When returning the device, please pack it in the same way as you received it with the original packaging so that it can be transported safely.

3.4 Included in the delivery

On receipt of the device, check the delivery against the delivery note.

If you discover a defect or missing parts on receipt, contact your seller immediately.

Please refer to the ComatReleco web portal for the delivery conditions and information regarding the return of goods ➔ Link.
3.5 Mobile Communications

3.5.1 Network coverage
The devices are equipped with an integrated eSIM card. Communication via the mobile network is available via 750 providers worldwide. The network coverage on site depends on the network expansion of the local provider. The device automatically selects the network generation with the highest field strength at the location.

The roaming time to switch from one mobile network to another or to connect to the IoT Portal from abroad can take up to 5 minutes!

3.5.2 Country versions
The devices are intended for use in various countries. Since the frequency bands available for mobile communications vary greatly from country to country, the device is offered with two different modem types.

For identification purposes, the ordering designations of the devices are provided with a corresponding suffix Z1 or Z2 (e.g. CMS-10R-DA/DC12-48V-Z2), which describes the zone.

Before purchasing and using the device, make sure that it works in the country of destination. Contact ComatReleco technical support if you have any questions. The following country versions are available.

3.5.3 Zone description

Zone 1:
Worldwide Zone 2 + Argentina, Armenia, Australia, Azerbaijan, Belarus, Bolivia, Brazil(*), Cambodia, Canada, Chile, China(*), Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, El Salvador, French Antilles, French Guiana, Georgia, Ghana, Guatemala, Guyana, Haiti, Honduras, Hong Kong, India, Indonesia, Israel, Jamaica, Japan, Kazakhstan, Kyrgyzstan, Kuwait, Macau, Malaysia, Mauritius, Mexico, Moldova, New Zealand, Nicaragua, Panama, Paraguay, Peru, Philippines, Puerto Rico, Reunion, Russia, Singapore, Sri Lanka, Suriname, Swaziland, Tajikistan, Taiwan, Trinidad and Tobago, Turkey(*), United States, Uruguay, Uzbekistan, Venezuela

Zone 2:
Europe Albania, Andorra, Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Czech Republic, Croatia, Cyprus Denmark, Estonia, Faroe Islands, Finland, France, Germany, Gibraltar, Greece, Guernsey, Hungary, Iceland, Isle of Man, Ireland, Italy, Jersey, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Montenegro, Netherlands, Northern Macedonia, Norway, Poland, Portugal, Romania, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Kingdom, Vatican City

Middle East Bahrain, Qatar, Saudi Arabia, United Arab Emirates(*)

Africa Cameroon, Congo, Egypt, Gabon, Ivory Coast, Kenya, Morocco, Nigeria, Senegal, South Africa

Asia South Korea, Thailand

(*) On request.

3.5.4 Supported frequency bands

<table>
<thead>
<tr>
<th>Standard</th>
<th>Zone</th>
<th>Frequency bands</th>
</tr>
</thead>
<tbody>
<tr>
<td>2G-E-GSM</td>
<td>Z1</td>
<td>E-GSM: B2 (1900 MHz), B3 (1800 MHz), B5 (850 MHz), B8 (900 MHz)</td>
</tr>
<tr>
<td></td>
<td>Z2</td>
<td>E-GSM: B3 (1800 MHz), B8 (900 MHz)</td>
</tr>
<tr>
<td>3G-E-UTRA</td>
<td>Z1</td>
<td>E-UTRA: B1 (2100 MHz), B2 (1900 MHz), B4 (1700 MHz), B5 (850 MHz), B6 (800 MHz), B8 (900 MHz), B19 (800 MHz)</td>
</tr>
<tr>
<td></td>
<td>Z2</td>
<td>E-UTRA: B1 (2100 MHz), B8 (900 MHz)</td>
</tr>
<tr>
<td>4G-LTE</td>
<td>Z1</td>
<td>LTE-FDD: B1 (2100 MHz), B2 (1900 MHz), B3 (1800 MHz), B4 (1700 MHz), B5 (850 MHz), B7 (2600 MHz), B8 (900 MHz), B12 (700MHz), B13 (700 MHz), B18 (850 MHz), B19 (850 MHz), B20 (800 MHz), B25 (1900 MHz), B26 (850 MHz), B28 (700 MHz)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LTE-TDD: B38 (2600 MHz), B39 (1900 MHz), B40 (2300 MHz), B41 (2500 MHz)</td>
</tr>
<tr>
<td></td>
<td>Z2</td>
<td>LTE-FDD: B1 (2100 MHz), B3 (1800 MHz), B7 (2600 MHz), B8 (900 MHz), B20 (800 MHz), B28A (700 MHz)</td>
</tr>
</tbody>
</table>
3.6 Communication

- Thanks to the built-in eSIM card, no additional telecom subscription is required.
- The events configured in the IoT Portal send a defined message via app, e-mail or SMS to the selected recipients after each status change. The recipients are processed cyclically according to the selected sequence.
- The outputs can be switched on and off in the IoT Portal, via the app, via an SMS message or via the call-in function.
- For an overview of the system status, the status of the inputs and outputs can also be requested via app or SMS. The status of the inputs and outputs can be sent with each message.
- By means of a switch-off delay, the individual relay outputs can be set so that the switching contact is switched on by a command and automatically switches back to the initial position after an adjustable time.
- If desired, the device will automatically respond at regular intervals with an appropriate message (status message).
- An interruption of the power supply is detected by the device and it sends a message as the last event, if this is activated under Manage/Events/Shutdown. When the power supply is restored, the device responds with another message.
- Should the IoT Portal not be accessible, the Fallback mode becomes active and the device sends pending alarms directly and only via SMS to the preset recipients. The status message now only works via SMS.

3.6.1 Message types

Push messages
The device sends push messages to one or more recipients via the server according to the configuration. These can be sent simultaneously or in the form of an escalation chain.

E-mail messages
The device sends e-mail messages to one or more recipients via the server according to the configuration. These can be sent simultaneously or in the form of an escalation chain.

SMS messages
The device sends SMS messages to one or more recipients via the server according to the configuration. These can be sent simultaneously or in the form of an escalation chain. The device can also send SMS messages directly if connection to the server is not possible.
3.7 Behavior of the device under specific conditions

In case of power failure
If a power failure is detected at the power supply, the remaining energy in the device is used to initiate the distribution of the message through the IoT Portal and then the device shuts down automatically. The message is distributed either by simultaneous alarm activation or by an escalation chain. The settings are permanently stored in the internal memory. The outputs are switched off. The connection from the device to the IoT Portal is stopped.

As soon as the power failure at the power supply has been rectified, the device restores the most recent settings of the electrical outputs and applies the most recent configuration of the inputs, regardless of how long the power failure lasted. At the same time, the mobile connection is re-established and the device connects to the IoT Portal. Pending configurations from the IoT Portal are then transferred to the device.

If acknowledgement is activated, the waiting time continues and the events are sent to the message recipients according to the setting of the maximum acknowledgement runs.

⚠️
As soon as the power supply is restored after a power failure, it is essential to check that all outputs are in the correct and desired state.

Message when the supply voltage is switched on
If this message is activated, the device informs the recipient when the operating voltage is available again and the device switches to normal operation.

In the event of connection interruptions to the mobile radio network
During an interruption of the connection to the mobile radio network, events that occur are stored in the device temporarily.

Once the connection to the mobile network is restored, the cached events are sent to the IoT Portal. Pending configurations from the IoT Portal are then transferred to the device. If acknowledgement is activated, the waiting time continues and the events are sent to the message recipients according to the setting of the maximum acknowledgement runs.

Failure of the IoT Portal (fallback)
Should the IoT Portal not be accessible, the Fallback mode becomes active and the device sends pending alarms directly and only via SMS to the preset recipients.

The control of the outputs by Call-in and SMS control messages works as in normal operation. The notification of the message receivers is only made by SMS.

Once the connection to the IoT Portal has been re-established, the events are sent to the message recipients according to the settings under Notifications (push, e-mail and SMS).

⚠️
Please note that the SMS account must not be empty! For the automatic renewal of SMS packages, see chapter 5.7.3.2.

The status of all inputs and outputs can be queried via SMS in fallback mode. To do this, send the command status to the device via SMS.

The acknowledgement code in fallback mode is given as follows: code

The acknowledgement message is sent to all message recipients with: OK: Mobile phone number

It can take up to 10 minutes after unpairing the device from the IoT Portal for the message to be transmitted.

With manual reset
By pressing the reset button (press the Reset button on the device for at least 4 seconds), the device is restarted. The outputs are switched off. The connection from the device to the IoT Portal is stopped. After a successful restart, the device restores the last statuses of the outputs and adopts the last received configuration of the inputs. At the same time, the mobile connection is re-established and the device connects to the IoT Portal. Pending configurations from the IoT Portal are then transferred to the device.

For firmware update
Make sure that the device is not used during the firmware update!

When the firmware update is started, the device starts downloading the latest firmware. After the firmware has been successfully downloaded, the device is restarted. The relay outputs are switched off. After the firmware update, the outputs are not set back. The device also establishes the last statuses of the outputs and adopts the last received configuration of the inputs. At the same time, the mobile connection is re-established and the device connects to the IoT Portal. Pending configurations from the IoT Portal are then transferred to the device.

If the firmware update was unsuccessful, the device starts with the old firmware and the existing configuration.

The installed firmware version is displayed in the Overview menu (Figure 36 (8)) and in the Manage menu (Figure 37). In addition, the fact that a firmware update is available remains displayed in the Manage on the Cogwheel icon (Figure 37 (6)).
In case of internal firmware error

If an internal firmware error occurs, the device is automatically restarted after 2 minutes at the latest. The behaviour is the same as for a manual reset (see also the On Manual Reset section above).
3.8 Hardware description

The antenna is connected to an antenna socket. Different antennas can be connected, depending on the area of application (see also chapter 4.4). The tightening torque of 1 Nm must not be exceeded!

Screws with a maximum thread diameter of 3.9 mm can be used for mounting. The tightening torque of 1 Nm must not be exceeded!
3 Power supply
Strands or wires with a maximum cross-section of 2.5 mm² can be connected to the screw terminals. The identically named terminals are electrically connected in the device and can be used as feed-through to avoid multiple assignment of the terminals.
Terminal designation for version ~: L (outer conductor), N (neutral conductor)
Terminal designation for version +=: + (plus), - (minus)
The terminals with the designation N/"-" form the common reference potential for the inputs.
For details about the power supply of the different types of devices, see chapter 9.2.

4 Status LEDs
Radio signal
These LEDs indicate the currently used radio standard (2G, 3G or 4G). The colour indicates the signal strength:

- LED not lighting up: Fallback: Event storage on the device
- LED flashing orange: Fallback: SMS directly to recipient
- LED lights up orange: Normal operation
- LED flashes green: Fallback: SMS directly to recipient
- LED lights up green: Normal operation

5 USB port:
This connection is intended for internal purposes!

6 Serial no. label
The device serial number must be entered when pairing the device.

7 Status LEDs
Outputs
- LED not lighting up: Relay switched off. Relay contact is open
- LED lights up: Relay switched on. Relay contact is closed

8 Relay outputs
4 changeover contacts are available, regardless of the device type.

9 Ventilation slots
Ensure that the ventilation slots are not taped or covered by components to ensure adequate cooling of the device.

10 Reset button
Triggers a reset function (see chapter 3.7).
Press the reset button for at least 4 seconds to reset the device.

11 Test button
A functional test of the connection to the IoT Portal is performed. If the button is pressed, a message is sent by e-mail, SMS or push message (depending on the setting) and the status is displayed in the IoT Portal in the menu Overview/Test (see Figure 36 (17)).

12 Pair button
Used to pair the device with the IoT Portal.

13 RUN LED
- LED not lighting up: The device is switched off or is not working, see chapter 7.2.
- LED flashing: The device and the firmware are ready for use and are in operation

14 STAT LED
The LED indicates the operating status.

- LED not lighting up: Normal operation
- LED flashing: Firmware update/restart
- LED lights up: Device shuts down/exits all running tasks
- LED flashing: Device shuts down/terminates connection to IoT platform and mobile network

ComatReleco CMS-10R | User Manual | 45013-055-51-005 | 16
Digital inputs

- **LED not lighting up**: Input value = logic level 0 (low)
- **LED lights up**: Input value = logic level 1 (high)

**analogue inputs**

- **LED not lighting up**: Input level ≤ lower threshold value
- **LED flashing**: Lower threshold value < input level < upper threshold value
- **LED lights up**: Input level ≥ upper threshold value

### Inputs

Digital / Analogue

The inputs are interpreted as logic level "1" (high) as soon as the applied input voltage is higher than the switch-on threshold. The voltage levels must always have the same reference potential as the device power supply!

**Switch-on threshold**

- Logic 1:
  - CMS-10R-D/AC110-240V-Zx: > 85 V ~
  - CMS-10R-DA/DC12-48V-Zx: > 9.5 V ~
  - CMS-10R-DAC/DC12-48V-Zx: > 9.5 V ~

**Analogue (voltage)**

If the input is configured as "analogue", voltage levels from 0 – 10 V ~ are converted to a user-scalable value (temperature, flow rate, etc.). If the voltage is higher than 10 V ~ (but less than or equal to the operating voltage), the configured maximum value is set.

**Analogue (current)**

This input type with a range of 4 – 20 mA ~ is designed for use as a current loop interface. The whole range from 4 - 20 mA ~ is converted into a scalable value. Furthermore, the detection of a line break is possible.

**DIN rail mounting bracket**

DIN rail mounting bracket for mounting the device on a 35 mm DIN rail.
4 Installing the device

DANGER

Risk of death due to electric shock!
Only mount or dismantle the device when it is disconnected from the power supply.

WARNING

The work described in this chapter must only be carried out by qualified electricians (see also chapter 2.3)!

4.1 Installation instructions

- Follow the installation instructions described. Observe the regulations and safety regulations applicable to installation and operation, including the national safety regulations, as well as the generally recognised rules of technology. The safety-relevant data can be found in the package insert and the certificate of conformity.
- The device may not be opened or modified and no repairs may be made to the device. Repairs may only be carried out by the manufacturer. In the event of damage, replace the device with an equivalent device.
- The device may only be installed permanently (not as a mobile unit).
- With protection class IP20 (IEC 60529/EN 60529), the device may only be used in clean and dry environments. Do not expose the device to any mechanical and/or thermal stress beyond the limits according to the technical data.

Before installation, make sure that the country zone of the device (Z1 or Z2) corresponds to the country version valid at the installation site (see chapter 3.5.2).

4.2 Mounting

4.2.1 Mounting the device
The device can be mounted on a 35 mm DIN rail or on a vertical surface using the mounting holes.

Carrier rail mounting
- Place the device on the carrier rail from above
- Snap the device onto the rail from the front with even pressure until it audibly clicks into place

Mounting on a vertical surface
- Make sure that the surface is level
- The device must be mounted on a vertical surface so that the air can circulate through the ventilation slots
- Screw the device onto the surface. Select screws with a maximum head diameter of 6 mm and a maximum thread and shaft diameter of 3.9 mm. The tightening torque must not exceed 1.0 Nm.

4.2.2 Dismantling the device

Carrier rail mounting
- Remove all electrical connection wires
- Insert a screwdriver into the tab at the bottom of the device and unlock it with a downward movement
- Lift the device out of the carrier rail
4.3  Wiring

4.3.1  Power supply
When connecting to the 230 V ~ mains, it is essential that the power supply and the supply of the inputs are connected to the same outer conductor. No voltage exceeding 240 V ~ may occur on the device. The device is insulated and therefore does not require a protective conductor connection (earthing). Connect the device according to one of the following connection variants.

4.3.2  Wiring of the CMS-10R/D inputs
Connect the digital inputs to an outer conductor (L).

The digital inputs must not be connected to different outer conductors (L1, L2, L3)!

Figure 4
4.3.3 Wiring the CMS-10R/DA inputs

Connect the contacts of the digital inputs to a potential (+).

Connect the analogue sources between (+) and (-).

I 1 - 6: Digital inputs or analogue inputs (0 - 10 V ==)

4.3.4 Wiring the CMS-10R/DAC inputs

Connect the contacts of the digital inputs to (+).

Connect the analogue sources between (+) and (-).

Connect the power sources to (+).

I 1 - 4: Digital inputs or analogue inputs (0 - 10 V ==)
I 5 - 6: Current inputs 4 - 20 mA ==
4.3.5 Wiring the CMS-10R/D/DA/DAC relay outputs

The input signal of the relay contact must be connected to terminal 11 and the load to terminal 12 or 14. A minimum contact load of 10 mA (12 V =) must be connected as a load.

No three-phase voltage (400 V / 3-phase) must be applied to the outputs!

4.4 Antennas

A CMS-ANT2 rod antenna is included. However, certain installation situations require the use of a remote antenna. The following antenna types are available:

4.4.1 Rod antenna (CMS-ANT2)
Suitable for use in an environment with good signal strength and for use in a control cabinet/distribution box with insignificant shielding effect against electromagnetic waves (plastic housing / timber construction houses).

4.4.2 Magnetic base antenna (CMS-ANT-MAG2/2.5M)
Recommended wherever a control cabinet/distribution box significantly reduces the signal strength owing to its shielding effect and the antenna has to be placed outside.

4.4.3 Exterior antenna (CMS-ANT-SPEZ2/5m)
Recommended for locations with low signal strength. To achieve better signal strength, the antenna can be mounted outside the building with a suitable feed-through. The antenna is suitable for outdoor installation thanks to its weatherproof construction and the mounting kit supplied.

4.4.4 Antenna extension (CMS-ANT-KAB.../5M, .../10M, .../20M)
All listed antenna types can be operated with an extension cable. We recommend the use of an extension cable for magnetic base and exterior antennas.

<table>
<thead>
<tr>
<th>Product</th>
<th>Order designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rod antenna 50 mm</td>
<td>CMS-ANT2</td>
</tr>
<tr>
<td>Magnetic base antenna with 2.5 m cable</td>
<td>CMS-ANT-MAG2/2.5M</td>
</tr>
<tr>
<td>Exterior antenna with 5 m cable</td>
<td>CMS-ANT-SPEZ2/5M</td>
</tr>
<tr>
<td>Antenna extension 5 m</td>
<td>CMS-ANT-KAB/5M</td>
</tr>
<tr>
<td>Antenna extension 10 m</td>
<td>CMS-ANT-KAB/10M</td>
</tr>
<tr>
<td>Antenna extension 20 m</td>
<td>CMS-ANT-KAB/20M</td>
</tr>
</tbody>
</table>
• The CMS-10R may only be operated with antennas from the ComatReleco range of accessories.
• The CMS-ANT2 rod antenna supplied is not suitable for installation in a control cabinet (owing to the shielding effect).
• When using extension cables, make sure that the total length of 25 m is not exceeded. If possible, only one extension cable should be used and not several short ones.
• When the device is in operation, persons must always keep a distance of 20 cm from the antenna!
5 IoT Portal

5.1 Introduction

IoT stands for Internet Of Things.
No programming skills are required to use and operate this portal.
Basic knowledge of how to use a PC, web browser operation and an understanding of the relevant terms are required.

Open IoT Portal ➔ Link

5.1.1 System requirements
Web browser Google Chrome, Mozilla Firefox and Microsoft Edge in the current version.

5.1.2 Meaning of symbols

OFF / deactivated function.

ON / activated function.

Open the Account settings / account settings menu

Open the Account settings / SMS package menu

Activate push notifications. Currently deactivated

Deactivate push notifications. Currently activated
5.1.3 Role as user, owner or installer

Each User must create an account in the IoT Portal and can take on the role of Owner or Installer for the use of a device.

The Owner has all rights and is the only one who can hold service profiles. Payment claims are only made to Owners.

The Installer is entitled to install and commission a device of a third party, defined as the Owner. This allows the installer to set up a device fully in advance without incurring communication costs. Once it has been set up, it can be handed over to the owner, i.e. the installer can be removed (see chapter 5.8.2).

However, the Owner must choose the subscription and pay the follow-up costs.

<table>
<thead>
<tr>
<th>Role</th>
<th>Service profile set up</th>
<th>SMS packages purchase</th>
<th>Show status</th>
<th>Control device (control inputs/outputs)</th>
<th>Rights</th>
<th>Manage device (Adding, pairing, unpairing devices, updating firmware, adjusting configurations)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Installer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>✓</td>
<td>✓</td>
<td>✓(+)</td>
<td>✓(+)</td>
<td>✓(+)</td>
<td></td>
</tr>
</tbody>
</table>

(*) Rights can be assigned individually. See chapter 5.8.3.
5.2 Initial commissioning

You need a user account in the IoT Portal for commissioning. If you do not have a user account, you must create a new account.

Commissioning steps (variants)

- Create user account
  - Chapter 5.2.1
- Login
  - Chapter 5.2.1
- Add a device as the installer
  - Chapter 5.3.1
- Add a device as the owner
  - Chapter 5.3.2
- Add a device as a user with invitation code / machine without invitation code
  - Chapter 5.3.3

Variant 1 (preferred)

- Configure device
  - Chapter 5.8
- Pair device (after configuration)
  - Chapter 5.4.1

Variant 2

- Pair device (before configuration)
  - Chapter 5.4.2
- Configure device
  - Chapter 5.8

With the Pair function, the one-year, fee-based service profile is started!

Variant 1 (favoured) offers the possibility to create/modify the device configuration in advance without activating the fee-based service profile.
5.2.1 Login / Create user account / Forgotten password

**Login (if you already have an account)**
Enter your e-mail address and password and press Login.

**Login (if you do not yet have an account)**
Select Create account.
Fields marked with an asterisk (*) must be filled in.
Please read and accept the privacy statement.
You will receive an e-mail in which you must confirm your e-mail address. If you have not received a confirmation e-mail, check your spam folder or have your IT Manager adjust the firewall settings.

**Forgotten password**
On the home page, select Reset password.
Enter the e-mail address of your account and select Send recovery e-mail.
You will receive an e-mail with a link to the IoT Portal to enter a new password. When done you can login using this new password.

**Language**
You can choose the login language.

5.3 Add a device

5.3.1 Add a device as installer

Once you have created a user account and logged in, the device overview appears.
You must answer any system question about whether notifications are allowed with Allow.

Select Add a device to configure a new device.

Select Set up a new device.
Select No because you are the device installer.

Enter the owner's e-mail address.

Case A) If the user already has an account in the IoT Portal he will receive an e-mail with a link that can be used to log in the IoT Portal and accept or decline the invitation.

If the user accepts the invitation, the user is the owner. If the user rejects the invitation, the installer remains the owner.

The invitation to the owner is only valid for 30 days. After that under Manage, Change owner the invitation can be resent (see chapter 5.8.2, Figure 37 (2)).

Then continue with Figure 19 in chapter 5.3.2.

Case B) The user does not yet have an account in the IoT Portal database.

The user receives an e-mail with a link to create an account and log in to the IoT Portal.

He must create an account before being able to accept/reject the invitation.

The invitation to the owner is only valid for 30 days. After that under Manage, Change owner the invitation can be resent (see chapter 5.8.2, Figure 37 (2)).

Then continue with Figure 19 in chapter 5.3.2.
5.3.2 Add a device as owner

Once you have created a user account and logged in, the device overview appears. You must answer any system question about whether notifications are allowed with Allow. Select + Add a device to configure a new device.

Select Set up a new device.

Select Yes, because you are the device owner.
5.3.3 Add a device with invitation code

Give the device a name (max. 30 characters) and select the device model.

Select one of the next steps:
- Pair (see chapter 5.4)
- Configure (see chapter 5.8)
- Home page (switch to the devices overview) (see chapter 5.6)

Once you have created a user account and logged in, the device overview appears. You must answer any system question about whether notifications are allowed with "Allow."

Select "Add a device" to configure a new device.

Select "With invitation code" if you have received an invitation code by e-mail or SMS from another user.
Enter the invitation code that you received by e-mail or SMS.

You will then be able to use the device.
5.4 Pair device

5.4.1 Pairing the device after device configuration (variant 1, preferred)

Select the desired device in the device view (Figure 33). Choose *Pair*.

Then continue with Figure 26.

5.4.2 Pairing the device after adding (variant 2)

This is the last step of the *Device setup* procedure (see chapter 5.3)

Choose *Pair*.

Enter the device serial number.

The serial number can be found on the label on the front of the device (see Figure 2 (6)).

Example: 2020C7000143

The device must now be connected to the power supply and in operation.
If you have entered a valid serial number, the **Device registered** information appears to the right.

Choose **Pair**.

Press the **Pair** button on the device (Figure 2 (12)) to acknowledge pairing.

After successful pairing, select one of the next steps:
- Close ➔ back to the devices overview (chapter 5.6)
- Manage your device ➔ Configure device (chapter 5.8)

It can take up to 10 minutes before the status is displayed in the IoT Portal.
5.5 Set up service profile

A service profile must be selected after the device has been paired.
The service profile can only be selected and managed by the owner of the device.
For further information on the service profile, see chapter 5.8.6.

Select a service profile according to the functions you require.
During the one-year term of the service profile, you can switch to the
next higher service profile at any time. It is only possible to switch to
a lower service profile after the term has expired.

Select the desired number of SMS packages and add them to your
shopping cart.
This step can be skipped.
SMS packages can be purchased later at any time. See chapter
5.8.6.3.

In this view (shopping cart) the costs are listed.
Select the payment method.
Then confirm the purchase with the Confirm button.

All invoices can be viewed and printed in PDF format at any time in the
Service profile history (see chapter 5.8.6.4).
5.6 Devices overview

The devices overview is displayed in a device view or in a list view. Different information is sometimes visible.

**Device view**

![Device view screenshot](image1)

**List view**

![List view screenshot](image2)

After successful configuration of a new device, the IoT Portal provides an overview of all devices. With **Search** and a keyword, the corresponding device can be found. By ticking **My owned devices** as the owner, **My assigned devices** as the user and **My installed devices** as the installer, the devices can be filtered.
Switching between device view and list view

Search field for device search

Filter criteria for displaying the devices

The number of remaining available SMS in the purchased SMS package is displayed. These SMS can be used by all devices that belong to the same owner.

Open the **SMS Package** menu (see chapter 5.7.3)

Select language for the IoT Portal

Activate/deactivate push messages

Account settings for the user account (see chapter 5.7)

Add a new device

Device overview with connection status, service profile.

Open the **Overview** menu with a mouse click (see chapter 5.8.1)

Status overview of the inputs and outputs and direct on/off switching of the outputs

Device overview with connection status, service profile, available SMS, firmware version

Open the **Overview** menu with a mouse click (see chapter 5.8.1)

### 5.7 Account settings

#### 5.7.1 Menu: Profile

The account holder’s details are entered/changed in this menu (see Figure 33 (8)). Fields marked with an asterisk (*) must be filled in.

The entries for **e-mail** and **mobile phone number** are particularly important, are used for communication with the account holder.

#### 5.7.2 Menu: Password

The password for IoT access can be changed.

#### 5.7.3 Menu: SMS package

Basically, a distinction is made between two SMS credit balances:

#### 5.7.3.1 Service profile

The number of SMS available per month depends on the selected **Service profile**.

- Eco: 0 SMS per month
- Standard: 10 SMS per month
- Professional: 30 SMS per month

The service profile SMS can only be used for the associated device. No SMS packages can be purchased in addition. For further information, see chapter 5.8.6.

#### 5.7.3.2 SMS packages in the Account settings/SMS package menu item

The SMS packages purchased here belong to the **Owner** and can be used for all devices owned by this owner.

When the SMS of the service profile are used up, they are debited from the owner’s SMS account.

If both accounts are at 0, no more SMS can be sent!

In order to ensure that a transmission is always guaranteed, we recommend to activate the **Automatic purchase** of the SMS packets.

The SMS packages are not transferable.
**Automatic purchase**

An automatic purchase of the chargeable SMS packages can be activated/deactivated. The following entries are necessary:

- Desired number of SMS packages
- The payment methods
- The limit (minimum number of SMS) when the automatic renewal should be triggered.

If information is to be sent via SMS and to ensure that SMS packets can be sent at all times, this activation is recommended.

**SMS packages purchase**

One or more SMS packages can be purchased. Select *Purchase* to add the amount to the shopping cart. Choose the payment method in the shopping cart. The payment can be initiated using the *Purchase* button.

**SMS packet history**

The SMS package purchases made are listed and in the *Receipt* column the invoices can be downloaded as PDF.
5.8 Configure device

5.8.1 Menu: Overview

- **<-- Home button**: back to the higher-level Devices overview menu (see chapter 5.6)
- **Device type**
- **Device name and service profile**
- **Names of the device owner and the device installer**
- **Device serial number**
- **Number of SMS available in the current month (according to the selected service profile)**
- **Number of events available in the current month (according to the selected service profile)**
- **Firmware version and firmware status (current / update available)**
- **Connection status of the device**
- **Mobile network provider and signal strength display (1 - 3 bars)**
  - Signal strength 2G (dBm) 3G (dBm) 4G (dBm)
  - Not connected < -102 < -103.7 < -93.3
  - Poor ≤ -89 ≤ -90 ≤ -80
  - Good > -89 > -90 > -80
  - Excellent > -74 > -75 > -70
- **Device telephone number**
- **Press the Refresh button to retrieve all the statuses of the device again.**
- **Use the "Start support session" button to give the ComatReleco AG support team of permission to access your device for one hour in case of a problem.**
- **Contact details for support with the dealer (e-mail, telephone)**
- **Status of inputs**
- **Status of the outputs (can be switched on/off directly if the corresponding authorizations are available)**
- **Status of the Test button (on the device)**
- **Various documents can be accessed online**
- **Menu list**
5.8.2 Menu: Manage

1. Change the device name
2. Change owner (only the owner can perform this) (see chapter 5.8.2.1)
3. Remove installer (can be done by the owner and the installer). If the installer has been removed, the Add installer button appears (see Chapter 5.8.2.1).
4. The time zone in which the device is located must be entered (see also Glossary, chapter 1.2).
   IMPORTANT: summer time/winter time is not changed automatically and must be taken into account during entry! Examples:
   - The device is located in Zurich: Winter time = UTC+01:00, summer time = UTC+02:00
   - The device is located in New York: Winter time = UTC-05:00, summer time = UTC-04:00
   - The device is located in Hong Kong: Winter time = UTC+08:00, summer time = identical
   This entry is important so that the time entered in the Manage menu and the Inputs menu in the Periodic status report function corresponds to the time at the device location.
5. Configure events (see chapter 5.8.2.2)
6. Manage device (see chapter 5.8.2.3)

5.8.2.1 Change owner / Remove installer

A new owner can be defined with the Change owner button (Figure 37 (2)).
Case A) If the new owner already has an account on the IoT portal, he will receive an invitation to the owner by e-mail. This contains a link to accept or reject the invitation.
Case B) The new owner does not yet have an account in the database of the IoT portal. He will receive an owner invitation by e-mail in which he is asked to create an account before he can accept or reject the invitation by clicking on the link.
The invitation is valid for 30 days. After that it is set to Ignored and is no longer valid. As long as the new owner has not accepted the invitation,
The current owner remains active. The installer can be removed with the **Remove Installer** button (Figure 37 (3)). This function can be used when the installer has completed his installation and configuration tasks and no longer needs access to the device.

### 5.8.2.2 Configure events

With **Configure events** (Figure 37 (5)), notifications can be sent using the following three notification options:

- E-mail
- SMS
- Push message

**Not all special characters can be used in SMS messages. These special characters are recognized and displayed via an error message. They must be removed.**

The events can be activated or deactivated as desired with the slide button on the right of the respective bar.

#### Startup

The entered message is sent after the device is started up.

**Startup** is executed when:

- you restart the device yourself (**Reset** button on the device)
- the device is restarted (due to a firmware update or possible problems)

#### Shutdown

The entered message is sent after a power failure or a restart (power failure, watchdog, manual reset and firmware download).

This message is sent before the device switches off.

Short power failures (t < 1s) are not detected by the power supply and do not lead to any changes in the status of the device.

Longer power failures (longer than 1s) are detected and, depending on the setting, lead to the sending of an SMS, push message or e-mail. The device then switches itself off.

In the event of a power failure, after the device is automatically restarted and logged into the mobile network, the initial states are restored to the status before the failure.

**Since these are monostable output relays, the relays are closed during the duration of the power failure: e.g. contact 11-14 = open, contact 11-12 = closed.**

#### Reset button

The entered message is sent after pressing the **Reset button** on the device.

To perform a manual reset, the **Reset button** must be pressed for at least 4 seconds. The device will be restarted. The outputs are switched off. The connection from the device to the IoT Portal is stopped. After a successful restart, the device restores the last statuses of the outputs and adopts the last received configuration of the inputs. At the same time, the mobile connection is re-established and the device connects to the IoT Portal. Pending configurations from the IoT Portal are then transferred to the device.
**Periodic status report**

This function is used to monitor the operation of the device. In addition to a message, when the device should report can be set.

**Every hour:**

The reference time is 00.00h. Example: a message every 5 hours is sent at 00.00h, 05.00h, 10.00h, 15.00h, 20.00h and then again at 00.00h.

**Daily, weekly, monthly:**

The entered time is the time at the device location. By entering the UTC time (*Manage* menu), the time is automatically converted correctly, depending on the device location and the summer time/winter time.

- Note that the number of events available each month is not exceeded (see Figure 36 (7)), as a large number of events are triggered, especially for short intervals.

**The device connects to the IoT Portal**

The entered message is sent when the device is connecting to the IoT Portal.

**The device disconnects from the IoT Portal**

The device runs in fallback mode (see chapter 3.7.)

The entered message is sent when the device disconnects from the IoT Portal.

**Period event count reached**

If the maximum number of events (depending on the selected service profile, see chapter 5.8.6) is reached, this is the only message that is sent even without event quota. This message is only sent once unless the device is restarted.

**Test button**

The entered message is sent as soon as the *Test* key (Figure 2 (11)) on the device is pressed.
After the settings have been made, they must be applied with the **Apply** button. If you press the **Close** button, the settings are not applied.

---

**Message receiver**

Here you can use (+) to select who is to receive the activated messages and via which channel. If there are several receivers, this is referred to as an **Escalation chain**, provided that the **Acknowledgement** is switched on.

SMS, push and e-mail messages can be combined. The order of the users/machines can then be changed with the mouse using drag & drop.

- The **Eco** service profile contains a maximum of two message recipients.
- The **Standard** and **Professional** service profiles contain a maximum of five message recipients.

**Acknowledgement**

If acknowledgement is **Activated** and the recipient does not acknowledge receipt via push message, SMS or e-mail within the set waiting time, the event message is sent to the next recipient. The IoT Portal processes the assigned recipient numbers cyclically and then starts again with the first number. Once the device receives an acknowledgement, the process is stopped. Depending on the service profile, the recipient numbers are called up several times until confirmation is received.

**Eco** service profile: max. 1 pass
**Standard** service profile: max. 3 passes
**Professional** service profile: max. 5 passes

If the acknowledgement is **Not activated**, all listed recipients receive a message at the same time without repetition.

The waiting time for acknowledgement can be set between 1 and 60 minutes.

This function window is also available for the inputs and outputs.

---

**SMS output control / help message**

The message receiver can be allowed to request an output control message via SMS.

To do this, the receiver sends the **Help** message via SMS to the phone number of the device (see Figure 36 (11)). Afterwards, the current SMS control messages of all outputs (see Figure 62 (5)) whose message is activated are sent back to the message recipient.

Any user can request an output control message, even if they are not entered in the **Message receiver** window.

---

After the settings have been made, they must be applied with the **Apply** button. If you press the **Close** button, the settings are not applied.
5.8.2.3 Manage device

The cogwheel icon (Figure 37 (6)) offers you the following settings options:

- Unpair the device from the owner account. The device can then no longer be used. It can take up to 10 minutes before the status is displayed in the IoT Portal.
- Import configuration (e.g. from an old CMS-10 or another new CMS-10R device) When importing a configuration, all values must be checked again afterwards!
- Export the current configuration (as a backup of the configuration, or to transfer it to another device)
- Delete the device (devices must be unpaired first)
- Perform a firmware update for the device (see chapter 5.9)

When importing from an old CMS-10 device, the type (user or machine) and rights (view status, control device, manage device) can be set individually or for all of them.

Under Action a note appears when an invitation SMS is sent to the corresponding number.
5.8.3 Menu: Users / machines

The device can be configured with the role of either Installer or Owner.
See chapter 5.1.3.

In this menu all registered users and machines are listed.

5.8.3.1 Add/edit users

The maximum number of users depends on the selected service profile.

The following rights can be selected per user/installer:

<table>
<thead>
<tr>
<th>Rights</th>
<th>Possible functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status access</td>
<td>● sees all states of the inputs and outputs (Overview menu)</td>
</tr>
<tr>
<td></td>
<td>● can receive and acknowledge messages</td>
</tr>
<tr>
<td>Control access</td>
<td>● sees all states of the inputs and outputs (Overview menu)</td>
</tr>
<tr>
<td></td>
<td>● can receive and acknowledge messages</td>
</tr>
<tr>
<td></td>
<td>● can control the relay outputs</td>
</tr>
<tr>
<td>Manage access</td>
<td>● sees all states of the inputs and outputs (Overview menu)</td>
</tr>
<tr>
<td></td>
<td>● can receive and acknowledge messages</td>
</tr>
<tr>
<td></td>
<td>● has full access to all management options</td>
</tr>
</tbody>
</table>
Press the *Add a user* button (Figure 50 (2)) to open this window.

Select the desired communication method (SMS or e-mail) and enter the mobile phone number or e-mail address.

Select the desired rights for the user.

The functions of the different rights can be found in chapter 5.8.3.1.

Case A) If the user already has an account in the IoT Portal, he is added immediately by clicking on the *Add user* button.

Case B) The user does not yet have an account in the IoT Portal database.

Select the desired rights for the user.

The functions of the different rights can be found in chapter 5.8.3.1.

Case B1: Select *Send invitation*. The user receives an SMS or e-mail with an invitation code to log in to the IoT Portal and add a device with the code.

The invitation to the user is only valid for 30 days. The invitation must then be sent again under *User* (see chapter 5.8.3.1, Figure 53).

Case B2: Select *Create account*. Then you have to fill in the necessary information and create the account for the new user directly. The user receives an e-mail with its login credentials and a link to confirm his account.

**Unconfirmed user**

As long as the invited user has not confirmed his account, his business card will say *User not confirmed*.

The e-mail or SMS with the invitation code can be resent via the *Edit* menu item.
### 5.8.3.2 Delete user

With the **Delete** menu item, the business card of a user and thus access to the device can be deleted after a security prompt.

---

**Change user rights**

This window is called up on the business card via the **Edit** menu items (Figure 50 (4)).

The rights can be selected. The functions of the different rights can be found in chapter 5.8.3.1.

E-mail address and telephone number must be changed in the respective user account (see chapter 5.7.1).
5.8.3.3 Add/Edit/Delete Machine

For example, a machine can be a telephone server, alarm server or pager system. Messages from the device can be sent to such a machine, which in turn can automatically forward the messages to various recipients (on-call service, etc.)

Only the message text is sent to a machine via SMS, without the names of the device and inputs/outputs and without values and units of the analogue inputs.

When sending e-mails, however, the same information is sent as to a user.

The SMS are sent from the telephone number +41 798 07 20 06 in Switzerland and +1 917 746 07 51 abroad.

![Add machine](image)

**Add machine**

Use the **Add a machine** button (Figure 50 (3)) to open this window.

For a machine, the telephone number or e-mail address must be entered. In the second field it must be confirmed, because the machine cannot answer a confirmation e-mail like the user.

In the lower area a message (test SMS) can be sent to the machine for checking purposes.

By default, the message to a machine is sent using the UCS2 character set. If only characters from the GSM7 character set are sent, only the GSM7 character set is used.
5.8.4 Inputs

The device type that is defined when a new device is created determines the configuration options of the inputs.

<table>
<thead>
<tr>
<th>Type</th>
<th>Scope of functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS-10R/D</td>
<td>6 Digital voltage inputs</td>
</tr>
<tr>
<td></td>
<td>Input voltage range: 110 - 240 V ~</td>
</tr>
<tr>
<td>CMS-10R/DA</td>
<td>6 digital or analogue voltage inputs (switchable)</td>
</tr>
<tr>
<td></td>
<td>Input voltage range (digital): 0 - 10 V ==</td>
</tr>
<tr>
<td></td>
<td>Input voltage range (analogue): 12 - 48 V ==</td>
</tr>
<tr>
<td>CMS-10R/DAC</td>
<td>4 digital or analogue voltage inputs (switchable)</td>
</tr>
<tr>
<td></td>
<td>Input voltage range (digital): 0 - 10 V ==</td>
</tr>
<tr>
<td></td>
<td>Input voltage range (analogue): 12 - 48 V ==</td>
</tr>
<tr>
<td></td>
<td>2 current inputs 4 - 20 mA == (I5 and I6).</td>
</tr>
</tbody>
</table>

The inputs are sampled at 10 Hz, i.e. if a signal is present at the input for less than 100 milliseconds, it is not detected.

5.8.4.1 Configure digital inputs

![Image of configuration interface]

1. Activate or deactivate input
2. Enter input name
3. Select type of input depending on the device type (digital or analogue / digital is preselected)
4. Trigger window [s]: the value at the input must be higher than the trigger value (85 V ~ for CMS-R-D, or 9.5 V == for CMS-R-DA/DAC) for the entered time in order to be taken into account by the device. This time can be set from 0.5 - 86,400 seconds (24 h).

The device therefore only sends the predefined message after the set time if the signal is still present. This prevents unstable or repeatedly occurring input pulses (e.g. bouncing of a switch) from sending several identical notifications.

5. Message if input is controlled (input high)
Message if input is not controlled (input low)

Message receiver: use (+) to select who is to receive the messages and via which channel, and set the acknowledgement
(see also chapters 5.8.2.2, Figure 46)

After the settings have been made, they must be applied with the Apply button. If you press the Close button, the settings are not applied.

It may happen that several inputs change state at the same time. Individual messages are sent for each input for each activated event.

Each change of state at an input that leads to a message is processed in sequence according to its occurrence. Several messages can thus be triggered simultaneously. For example, the two states “Pump failure” and “Excess temperature” (2 separate inputs) are reported simultaneously. However, the messages are processed i.e. sent one after the other.
5.8.4.2 Configure analogue inputs

The desired inputs must be defined as "Analogue" here. The analogue inputs are designed for a standardized voltage signal 0 - 10 V or current signal 4 - 20 mA. The resolution here is 12.5 mV or 20 µA for the entire range.

To display the voltage input in another unit, such as temperature, enter the minimum and maximum values of the desired unit in the Value field. The IoT Portal thus automatically converts the unit of voltage into the desired unit.

![Image of IoT Portal interface](image-url)
1. Activate or deactivate input
2. Enter input name
3. Select input type (digital or analogue) (depending on the device type)
4. Enter unit designation (m, V, °C, etc.)
5. Select number of decimal places displayed (0 - 3)
6. Enter the minimum value of the display value (corresponds to 0 V =, resp. 4 mA =)
7. Enter the maximum value of the display value (corresponds to 10 V =, resp. 20 mA =)
8. Trigger window [s]: the value at the input must be higher/lower than the trigger value (threshold, reference value and steps) for the entered time in order to be taken into account by the device. This time can be set from 0.5 - 86,400 seconds (24 h). The device therefore only sends the predefined message after the set time if the signal is still present. This prevents unstable or repeatedly occurring input pulses (e.g. bouncing of a switch) from sending several identical notifications.
9. Enter the upper and lower limit value and the desired messages. Each of the four limit values can be activated/deactivated. The value and the unit of the analogue inputs is sent with the message.
10. A graphical view of the limit definition can be viewed via the question mark. To close the window, click on the graphic again (see Figure 61).
11. The activated messages can be sent periodically. In addition to a message, you can set how often the device should send the information (hourly to monthly). The input value and the unit are also transmitted. See also Figure 41.
12. Change events: another limit value can be defined at which a message is sent. This limit value can be within or outside the upper and lower limit value. The additional limit value is entered in the **Reference value** field. The value at which a message is to be sent is entered in the **Step** field. Example: Limit value = 7 V, step = 2 V → the message is sent when the voltage falls below 5 V or exceeds 9 V. The desired message is entered in the **Message** field.
13. Message receiver: use (+) to select who is to receive the messages and via which channel, and set the acknowledgment (see also chapter 5.8.2.2, Figure 46).

**Analogue value processing: Measured value is greater than limit value.**

![Graphical representation of analogue value processing](image)

- The current measured value is above the upper limit value 1

The event is only detected if the measured value has exceeded the upper limit value for longer than the trigger value. The event is delayed by the trigger value time 2. The display of the LED at the input is also delayed. Notification is given when the upper limit value has been exceeded and fallen below again 3.
Analogue value processing: *Measured value is smaller than limit value.*

- The current measured value is below the upper limit value (4).
  - The event is only detected if the measured value has fallen below the lower limit value for longer than the trigger value. The event is delayed by the trigger value time (5). The display of the LED at the input is also delayed. Notification is given when the upper limit value has been undercut and exceeded again (6).

**Graphical view of the interpretation of the limit values**

This graphic is opened via the question mark (Figure 58 (10)) and is closed by clicking on the graphic.
### 5.8.5 Menu: Outputs

**WARNING**

This device is not suitable for monitoring sensitive systems or time-critical processes. Mobile network failures or interruptions in the power supply can impair safe operation.

The four relay outputs can be switched on or off in the IoT Portal, via the app, via an SMS or via a call-in telephone call.

---

**Figure 62**

1. **Activate or deactivate input**
2. **Enter input name**
3. **Auto turn off:**
   
   An output is automatically switched off after an adjustable time without the need to send a switch-off command in the IoT Portal, in the app via SMS or call-in. Switching times from 1 second to 23:59:59 (hh:mm:ss) can be set. If the output switches off after the set time has elapsed, a message is sent confirming this action. If a switch-off command is sent before the set time has elapsed, it will be taken into account. The **time** function (is deactivated by default), **events** and **notifications** shall be enabled.
4. **Events:**
   
   Each output can be activated or deactivated individually. The entered message is sent when the output is switched.
SMS control messages:
The output can be switched on and off via SMS text. However, the device only reacts to the exact wording, i.e. the message (switching command) in the SMS must correspond exactly to the wording in the Output on or Output off field. Upper and lower case are ignored. Spaces between words and other characters must be entered correctly.
The same wording must not be used for the SMS messages for the different outputs. A different wording must be entered for each activated output.
If a time is entered for Auto turn off (3), the output switches off automatically after this time.

Not all special characters can be used in SMS messages. These special characters are recognised by the programming software and indicated by an error message and must be removed.

With Send confirmation, the device sends a message via SMS to the person who sent the switching command in the SMS, with Output on or Output off.

With Allow only registered numbers, only switching commands from phone numbers which are registered in the menu Users/Machines are considered.
When this function is switched off, the outputs can be controlled from any telephone number, provided the telephone number of the device is known. For security reasons, only registered telephone numbers should be considered if possible (function switched on)!

With the Call-in function, each activated output is switched on by caller identification for the time entered in (3). The device detects the incoming call and switches on the outputs without answering the call. The outputs are automatically switched off again after the preset time (Automatic switch-off).
In this way, an action can be carried out without incurring any costs. The telephone number of the device can be found in the Overview menu (Figure 36 (11)).
The call-in function can only be triggered by mobile phone numbers that are registered in the menu User/Machines.

To activate the Control by call-in field, the Auto turn off (3) of the output must be activated. If it is not activated, a message appears when the Apply button is pressed.

A call is answered by the device as a call rejection. Depending on the telephone provider, a busy signal is heard. However, the call-in function is still executed correctly.

Message receiver: use (+) to select who is to receive the messages and via which channel, and set the acknowledgment (see also chapter 5.8.2.2, Figure 46).

After the settings have been made, they must be applied with the Apply button.
If you press the Close button, the settings are not applied.
5.8.6 Menu: Service profile

The Service profile menu item is only visible if you are logged in to the IoT Portal as the owner and have selected a service profile (see also chapter 5.5)!

5.8.6.1 Details of the current service profile

Select a service profile from different variants. This service profile and the contingents (e.g. SMS) contained therein are bound to the respective device.

The service profile starts to run from the first pairing with the device, even if the device was unpaired/paired at a later time.

Once a service profile has been selected, a higher service profile can be selected at any time. A downgrading to a lower service profile is only possible after the one-year contract period has expired. In order to be able to perform a downgrade, the automatic renewal must be deactivated. If not, the same service profile is automatically renewed.

However, the service profile will run until the contract expires and cannot be cancelled. Before the contract expires, you will be asked to renew the service profile. If the contract is not renewed, the device becomes inactive and can be reactivated by selecting a service profile.

5.8.6.2 Service profile extension

Select whether or not the service profile should be automatically renewed. This function is activated by default. In order to ensure uninterrupted operation, we recommend that you leave the Auto renew function activated.

The service profile cannot be downgraded during the one-year term and can only be changed within 30 days after the service profile expires. 30 days after expiration, the device becomes inactive. If the device is inactive, select a service profile so that the device can be activated again.

The following reminder e-mails are sent to the owner:

- 30 days before the renewal/expiry of the service profile
- After renewal/expiry of the service profile
- 7 days before device being set to inactive
- 1 day before device being set to inactive

Reminder that the service profile will be renewed or expired. It can be renewed or modified within 30 days after the expiry of the one-year period.

Reminder that the service profile was renewed or has expired. If it has expired the service profile can be renewed or modified within 30 days.

Reminder that after 7 days the device will become inactive if the service profile is not renewed or modified.

Reminder that after 1 day the device will become inactive if the service profile is not renewed or modified.
5.8.6.3 SMS packages purchase

The SMS purchased here belong to the owner and can be used for all devices. The number of available SMS per owner is shown in the devices overview (Figure 33 (4)). The invoices for the SMS packages you have purchased appear under *Account settings/SMS package/SMS package history* (see chapter 5.7.3).

5.8.6.4 Service profile history

In the *Service profile history*, all invoices of the service profile are displayed and can be downloaded in PDF format in the *Receipt* column.
5.9 Firmware update

As soon as a firmware update is available, this pop-up window appears automatically. Press the **Update** button to start the update process.

The time for the update can be chosen freely, but should be carried out as soon as possible.

You will then be guided through the updating process. The update may take a few minutes.

**WARNING**

⚠️

During the installation of a firmware update the device is out of operation!

Make sure that the device is not used during installation.

If the update has not started automatically, the settings window can be opened via the cogwheel icon in the **Manage** menu (Figure 37 (6)). An available firmware update is displayed.

Click the **New firmware available** button to perform the update. You will then be guided through the updating process. The update may take a few minutes.
6 Operation via smartphone or tablet

Tablet
Installing the app
For scope of functions and operation see chapter 6.1
or
Open the IoT Portal in the browser
For scope of functions and operation see chapter 5
(To use the IoT Portal in the browser, the app must be uninstalled!)

Smartphone
Installing the app
For scope of functions and operation see chapter 6.1

6.1 Description of the app

Via the app, the states of the inputs can be viewed and the outputs can be switched on and off directly.
It is not possible to configure the device.

Install app
For tablets and smartphones with the operating systems iOS or Android the ComatReleco IoT Portal app is available for free download:
Apple Store: ➔ [Link]
Google Play Store ➔ [Link]

When setting up the app, you can log in with an existing account or create a new account.
The password can also be reset or a new password can be requested.

6.1.1 Overview

In the tabs below the menu bar the different types of devices (My owned/My assigned/My installed) can be displayed.

The device name, type and connection status are displayed on the left below the device display.

In the right half the values and status of the inputs are displayed and below the outputs can be switched on or off directly.

A pop-up window is opened via the three points in the menu bar.

Log out
Log out of the user account in the app.

Add a device
You can add a device using the invitation code you received by e-mail or SMS. This is then also visible in the IoT Portal.

The version of the app is displayed at the bottom.
6.1.2 Detailed views

In the overview (Figure 67) on the left, tap on the device display to show the detailed view.

The connection status, signal quality and phone number of the device are displayed.
The display (or the input/output statuses) can be updated below.
The status of the inputs is displayed below.

Using your finger, swipe from bottom to top to view the additional information (Figure 70).

The outputs can be switched on and off directly via the sliders.

Under **Documents**, the download area on the ComatReleco web portal can be opened, where all documents relating to the device are available.
7    Maintenance and troubleshooting

7.1    Maintenance

The device is maintenance-free.

7.2    Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUN LED does not flash</td>
<td>No power supply</td>
<td>➢ Check power supply</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Restart the device</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Press the Reset button on the device for at least 4 seconds</td>
</tr>
<tr>
<td>The device is not connected to the IoT Portal</td>
<td>Network error</td>
<td>➢ Check whether a 2G, 3G or 4G LED is lit on the device</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Check if the RUN LED on the device is flashing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Check the connection status in the IoT Portal (green LED). Update IoT Portal (Overview menu, or press F5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Restart the device</td>
</tr>
<tr>
<td>Mobile radio connection is poor</td>
<td>Connection signal strength is poor</td>
<td>➢ Check the signal strength in the IoT Portal (see chapter 5.8.1 (10))</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Check the colour of the status radio signal LEDs on the device (see chapter 3.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Use a remote antenna if necessary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(see chapter 4.4)</td>
</tr>
<tr>
<td>The link in the e-mails does not work</td>
<td>Outdated web browser. A safety monitoring function</td>
<td>➢ Use the Google Chrome, Mozilla Firefox or Microsoft Edge web browser and update the browser to the latest version</td>
</tr>
<tr>
<td></td>
<td>ary is suppressing the correct link function.</td>
<td>➢ Copy the link from the e-mail and paste it into the address line of the web browser</td>
</tr>
<tr>
<td>The states of the inputs and outputs are not</td>
<td>The IoT Portal has not been updated</td>
<td>➢ Update IoT Portal (Overview menu, or press F5)</td>
</tr>
<tr>
<td>The device is not connected to the IoT Portal</td>
<td>Connection signal strength is poor</td>
<td>➢ Update IoT Portal (Overview menu, or press F5)</td>
</tr>
<tr>
<td>I’m not receiving e-mails</td>
<td>Configuration incorrect Firewall settings</td>
<td>➢ Check device configuration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Check firewall settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Check your spam folder</td>
</tr>
<tr>
<td>I’m not receiving any text messages</td>
<td>SMS account is empty</td>
<td>➢ Upgrade your service profile (see chapter 5.8.6.1) or</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Buy SMS packages and set up automatic purchase (see chapter 5.7.3.2)</td>
</tr>
<tr>
<td>I’m not receiving push messages on my smartphone</td>
<td>The operating system on the smartphone or the app is not up-to-date</td>
<td>➢ Update operating system (iOS min. version 6 / Android min. version 9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Update app (Apple Store / Google Play Store)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ In the smartphone under Settings/apps, allow the notifications of the ComatReleco IoT Portal app</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ In the smartphone under Settings/Battery management set the battery management to manual (only with Android)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Use the IoT Portal in the Internet browser (Google Chrome) instead of the app and create a shortcut</td>
</tr>
</tbody>
</table>

I’m not receiving push messages on my smartphone

The battery management on the smartphone is preventing push messages

➢ Update operating system (iOS min. version 6 / Android min. version 9)
➢ Update app (Apple Store / Google Play Store)
➢ In the smartphone under Settings/apps, allow the notifications of the ComatReleco IoT Portal app
➢ In the smartphone under Settings/Battery management set the battery management to manual (only with Android)
➢ Use the IoT Portal in the Internet browser (Google Chrome) instead of the app and create a shortcut
<table>
<thead>
<tr>
<th>Call-in does not work</th>
<th>Telephone control is not activated</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ The telephone number is not recorded under Users/Machines</td>
<td></td>
</tr>
<tr>
<td>✓ Activate the telephone control <strong>Call-in</strong> at the desired output (see chapter 5.8.5 (6))</td>
<td></td>
</tr>
<tr>
<td>✓ Check signal strength at the device (see Figure 2 (4)) or in the IoT Portal</td>
<td></td>
</tr>
</tbody>
</table>

Further information and assistance can be found in the IoT Portal under the menu item **Overview/Documents** (see Figure 36 (18)), or in the ComatReleco Internet portal under the FAQ (Frequently Asked Questions) ➔ [Link](#).
7.3 Device exchange

Repairs to the machine may only be carried out by ComatReleco. Send defective devices to ComatReleco or to your dealer. When returning goods to ComatReleco, please request a return material authorization number (RMA) in advance.

For a return shipment, please pack the device in a similar way as you received it with the original packaging so that it can be transported safely.

Please refer to the ComatReleco web portal for the delivery conditions and information about returning goods ➔ [Link](#).

**Manufacturer's address**

ComatReleco AG  
Bernstrasse 4  
CH-3076 Worb (Switzerland)  
Phone +41 31 838 55 77  
E-mail support@comatreleco.com  
Web www.comatreleco.com

**DANGER**

Risk of death due to electric shock!  
Only mount or dismantle the device when it is disconnected from the power supply.

**WARNING**

The work described in this chapter must only be carried out by qualified electricians (see also chapter 2.3)!

Replace the device if necessary.  
- Switch off the voltage  
- Remove all cables and connections  
- Disassemble the device (see chapter 4.2.2)  
- Replace the device with an identical device (same order number)

The CMS-10R devices have the same electrical pin assignment as the CMS-10 predecessor units.

<table>
<thead>
<tr>
<th>Current device version</th>
<th>Previous version</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS-10R-D/AC110-240V</td>
<td>CMS-10F/AC110-240V</td>
</tr>
<tr>
<td>CMS-10R-DA/DC12-48V</td>
<td>CMS-10F/DC12-48V or CMS-10ADF/DC12-48V</td>
</tr>
<tr>
<td>CMS-10R-DAC/DC12-48V</td>
<td>CMS-10ACDF/DC12-48V</td>
</tr>
</tbody>
</table>

The configuration of the previous CMS-10 device can be imported into the new device. See chapter 5.8.2.3.
Disposal information for users of electrical and electronic equipment waste according to the WEEE directive (Waste of Electrical and Electronic Equipment):

For private households
The above pictogram means that electrical and electronic equipment must not be mixed with general household appliances. For proper treatment, recovery and recycling, take this product to designated collection points where it will be accepted free of charge. Correct disposal of this product will help to conserve valuable resources and prevent potential negative impacts on human health and the environment which could otherwise be caused by inappropriate waste handling. Contact your local authority for details of the nearest designated collection point. Penalties may be imposed for the improper disposal of this waste, depending on national legislation.

For professional users in the European Union
If you wish to dispose of electrical and electronic equipment, please contact your dealer or supplier for further information. Please also observe the country-specific regulations.

For disposal in countries outside the European Union
The above symbol is only valid in the European Union (EU). If you wish to dispose of this product, contact your local authorities or your dealer and ask for the correct method of disposal.

Packaging material
Dispose of packaging material in accordance with the applicable national regulations.
9 Technical data

9.1 Dimensions

The technical data for all types of equipment can be found on the ComatReleco web portal in the CMS-10R data sheets section.

9.2 Technical data

The technical data for all types of equipment can be found on the ComatReleco web portal in the CMS-10R data sheets section.
10 Order details and accessories

The devices may only be operated with accessories from the ComatReleco range. You can find information on this in the table below or on the ComatReleco/Products/Remote Monitoring & Control web portal ➔ Link. Operation with other accessories may result in damage and/or non-conformities.

<table>
<thead>
<tr>
<th>Order number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Individual devices Z1</td>
<td>CMS-10R-D/AC110-240V-Z1</td>
</tr>
<tr>
<td></td>
<td>CMS-10R-DA/DC12-48V-Z1</td>
</tr>
<tr>
<td></td>
<td>CMS-10R-DAC/DC12-48V-Z1</td>
</tr>
<tr>
<td>Individual devices Z2</td>
<td>CMS-10R-D/AC110-240V-Z2</td>
</tr>
<tr>
<td></td>
<td>CMS-10R-DA/DC12-48V-Z2</td>
</tr>
<tr>
<td></td>
<td>CMS-10R-DAC/DC12-48V-Z2</td>
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<tr>
<td>Device kits Z1</td>
<td>CMS-10R-DA/DC12-48V-Z1-KIT1</td>
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<td>CMS-10R-DA/DC12-48V-Z1-KIT2</td>
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<tr>
<td></td>
<td>CMS-10R-DAC/DC12-48V-Z1-KIT1</td>
</tr>
<tr>
<td></td>
<td>CMS-10R-DAC/DC12-48V-Z1-KIT2</td>
</tr>
<tr>
<td>Device kits Z2</td>
<td>CMS-10R-DA/DC12-48V-Z2-KIT1</td>
</tr>
<tr>
<td></td>
<td>CMS-10R-DA/DC12-48V-Z2-KIT2</td>
</tr>
<tr>
<td></td>
<td>CMS-10R-DAC/DC12-48V-Z2-KIT1</td>
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<tr>
<td></td>
<td>CMS-10R-DAC/DC12-48V-Z2-KIT2</td>
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<tr>
<td>Power supplies</td>
<td>HDR-15-24</td>
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<td>HDR-30-24</td>
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<tr>
<td>Antennas (*)</td>
<td>CMS-ANT2</td>
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<td>CMS-ANT-MAG2/2.5M</td>
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<tr>
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<td>CMS-ANT-SPEZ2/5M</td>
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<tr>
<td>Antenna extensions (*)</td>
<td>CMS-ANT-KAB/5M</td>
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<td>CMS-ANT-KAB/10M</td>
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<td>CMS-ANT-KAB/20M</td>
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<tr>
<td>Sensors</td>
<td>MV LKM 274</td>
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<td>RF05</td>
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<td>RF01-U2-D</td>
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<td></td>
<td>RTBSB-001-010</td>
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<tr>
<td>Model</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>WF50-EXT-U4</td>
<td>Outdoor temperature sensor with output 0 - 10 V, -50 - 50 °C</td>
</tr>
<tr>
<td>KS-110</td>
<td>Temperature and humidity sensor with outputs 0 - 10 V, -40 - 80 °C, 0 - 100 % rH, cable length 2 m</td>
</tr>
<tr>
<td>PS1</td>
<td>Level probe with output 0 - 10 V, 0 - 0.5 bar</td>
</tr>
</tbody>
</table>

(*) The devices are tested and approved with the antennas and extensions. ComatReleco declines all responsibility for the use of other products. It may also lead to loss of product conformity.