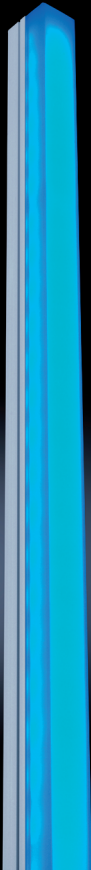


# Rittal – The System.

Faster – better – everywhere.



**LED light strip**

DK 7030.950

## Assembly and operating instructions

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



# Foreword

---

EN

## **Foreword**

Dear Customer,

Thank you for choosing our LED light strip (referred to hereafter as "LED strip")!

We wish you every success.

Yours,  
Rittal GmbH & Co. KG

Rittal GmbH & Co. KG  
Auf dem Stuetzelberg

35745 Herborn  
Germany

Tel.: +49(0)2772 505-0  
Fax: +49(0)2772 505-2319

E-mail: [info@rittal.de](mailto:info@rittal.de)  
[www.rittal.com](http://www.rittal.com)  
[www.rittal.de](http://www.rittal.de)

We are always happy to answer any technical questions regarding our entire range of products.

## Contents

1	Notes on documentation.....	4
1.1	CE labelling .....	4
1.2	Storing the documents .....	4
1.3	Symbols used in these operating instructions ...	4
1.4	Associated documents .....	4
2	Safety instructions.....	5
2.1	General safety instructions.....	5
2.2	Service and technical staff .....	5
3	Product description.....	6
3.1	Functional description and components .....	6
3.1.1	Function .....	6
3.1.2	Components .....	6
3.2	Proper use, foreseeable misuse.....	6
3.3	Scope of supply .....	6
4	Transport and handling.....	7
4.1	Transport.....	7
4.2	Unpacking.....	7
5	Installation.....	8
5.1	Safety instructions.....	8
5.2	Siting location requirements.....	8
5.3	Preparation for the installation.....	8
5.4	Connection of the LED strip.....	9
5.5	Assembly .....	9
5.6	Settings.....	10
6	Operation.....	11
6.1	Activating the LED strip .....	11
6.2	"I/O Unit" application .....	11
6.2.1	Defining the relay contacts .....	11
6.2.2	Defining tasks.....	11
6.3	"Alarm relay" application.....	13
6.4	"Continuous illumination" application .....	14
7	Storage and disposal .....	15
7.1	Storage .....	15
7.2	Disposal .....	15
8	Technical specifications.....	16
9	Customer service addresses .....	17

# 1 Notes on documentation

EN

## 1 Notes on documentation

### 1.1 CE labelling

Rittal GmbH & Co. KG hereby confirms that the CMC III CAN Access Control is compliant with the EC EMC Directive 2014/30/EC. An appropriate declaration of conformity has been prepared. It can be provided on request.



Note:  
Additional compatible base systems can be found on the internet at [www.rittal.com](http://www.rittal.com) for model no. DK 7030.950. The term "base systems" is used in these instructions as placeholder for the various systems.

### 1.2 Storing the documents

The assembly and operating instructions as well as all applicable documents are an integral part of the product. They must be passed to those persons who are engaged with the unit and must always be available and on hand for the operating and maintenance personnel.

### 1.3 Symbols used in these operating instructions

The following symbols are used in this documentation:



**Danger!**  
**Hazardous situation leading directly to death or serious injury if the instructions are not followed.**



**Warning!**  
**Hazardous situation which may lead directly to death or serious injury if the instructions are not followed.**



**Caution!**  
**Hazardous situation which may lead to (minor) injuries if the instructions are not followed.**



Note:  
Identification of situations that can lead to material damage.

- This symbol indicates an "action point" and shows that you should perform an operation or procedure.

### 1.4 Associated documents

- Installation and Short User Guide
- Installation and Short User Guide CMC III Power Supply (power pack)
- Assembly and operating instructions CMC III I/O-Unit
- Assembly and operating instructions for compatible base systems, e.g. CMC III Processing Unit

## 2 Safety instructions

### 2.1 General safety instructions

Please observe the subsequent general safety instructions for the installation and operation of the system:

- Use only original Rittal products or products recommended by Rittal in conjunction with the LED strip.
- Please do not make any changes to the LED strip that are not described in this manual or in the associated manuals.
- The operating reliability of the LED strip is only warranted in case of use as intended and according to the rules. The technical specifications and limit values stated must not be exceeded under any circumstances. In particular, this applies to the specified ambient temperature range and IP degree of protection.
- The LED strip must not be opened. The unit does not contain any parts that need servicing.
- Operating the system in direct contact with water, aggressive materials or inflammable gases and vapours is prohibited.
- Other than these general safety instructions, ensure you also observe the specific safety instructions when the tasks described in the following chapters are performed.

### 2.2 Service and technical staff

- The mounting, installation, commissioning, maintenance and repair of this unit may only be performed by qualified mechanical and electro-technical trained personnel.
- Only properly instructed personnel may work on a unit while in operation.

## 3 Product description

EN

### 3 Product description

#### 3.1 Functional description and components

##### 3.1.1 Function

The LED strip shows the colour status display within a rack. The LED strip displays pending error messages with different colours for the selected application. Each of the three connection cables of the LED strip controls the three primary colours: red, green and blue. If two or three colours are activated concurrently, the associated secondary colours can also be generated. The warnings and alarms of the sensors are linked via tasks in the CMC III system.



Note:

In the following text, the designation "CMC III Processing Unit" refers to the "CMC III Processing Unit" variants and also to the base systems. All text passages that apply only to a specific variant are identified accordingly.

In general, three connection options can be differentiated.

- **I/O unit:** The colour of the LED strip changes to indicate the status of the various connected sensors. For this purpose, in addition to the power pack and to the CMC III PU, an I/O unit as well as the appropriate sensors are required.
- **Alarm relay:** The colour of the LED strip changes to indicate the switching state of the CMC III PU alarm relay. For this purpose, a CMC III PU is required in addition to the power pack.
- **Continuous illumination:** Depending on the selected connected wires, the LED strip illuminates continuously in the desired colour, independent of the status of any connected components. Only one CMC III power pack is required for this purpose.

##### 3.1.2 Components

The LED strip consists of an extruded aluminium section and a plastic cover. Four magnets are mounted at the rear of the LED strip.

#### 3.2 Proper use, foreseeable misuse

The LED light strip for CMC III shows only the colour status display within a rack. It may only be used with the CMC III power pack (DK 7030.060) or the CMC III PU (DK 7030.000) or PU Compact (DK 7030.010) and possibly the I/O unit (DK 7030.040). Any other use is not permitted.

The unit is state of the art and built according to recognised safety regulations. Nevertheless, incorrect use may result in damage to or faults with the system and other material assets.

Consequently, the unit must only be used properly and in a technically sound condition! Any malfunctions which impair safety should be rectified immediately! Follow the operating instructions!

The intended use also includes the observance of the documentation provided and fulfilling the inspection and maintenance conditions.

Rittal GmbH & Co. KG is not liable for any damage which may result from failure to comply with the documentation provided. The same applies to the non-observance of the valid documentation for any deployed accessories and the base systems.

Inappropriate use may result in danger. Inappropriate use includes:

- Use of impermissible tools.
- Improper operation.
- Improper rectification of malfunctions.
- Use of accessories not approved by Rittal GmbH & Co. KG.

#### 3.3 Scope of supply

- LED light strip, including the magnetic attachment
- Connection cable 0.1 m
- Extension cable 2.4 m with four pre-assembled plugs for connection to the CMC III I/O unit
- Installation and Short User Guide

## 4 Transport and handling

### 4.1 Transport

The unit is delivered in a carton.

### 4.2 Unpacking

- Remove the unit's packaging materials.



Note:

After unpacking, the packaging materials must be disposed of in an environmentally friendly way.

- Check the unit for any damage that may have occurred during transport.



Note:

Damage and other faults, e.g. incomplete delivery, should be reported immediately, in writing, to the shipping company and to Rittal GmbH & Co. KG.

- Remove the unit from the shipping tube.

# 5 Installation

EN

## 5 Installation

### 5.1 Safety instructions

- Please observe the valid regulations for installation in the country in which the LED strip is installed and operated, and the national regulations for accident prevention. Please also observe any internal company regulations, such as work, operating and safety regulations.
- The technical specifications and limit values stated must not be exceeded under any circumstances. In particular, this applies to the specified ambient temperature range and IP degree of protection.
- If a higher IP protection class is required for a special application, the Access Control must be installed in an appropriate housing or in an appropriate enclosure with the required IP degree of protection.

### 5.2 Siting location requirements

To ensure the unit functions correctly, the conditions for the installation site of the unit specified in section 8 "Technical specifications" must be observed.

### Electromagnetic interference

- Interfering electrical installations (high frequency) should be avoided.

### 5.3 Preparation for the installation

As standard, in the delivered state, the LED strip is prepared for connection to an I/O unit (fig. 1). For the connection to the alarm relay of a CMC III PU or the direct connection to a CMC III power pack, the wiring must be changed.

- Depending on the application, wire the LED strip in accordance with the associated circuit diagram.

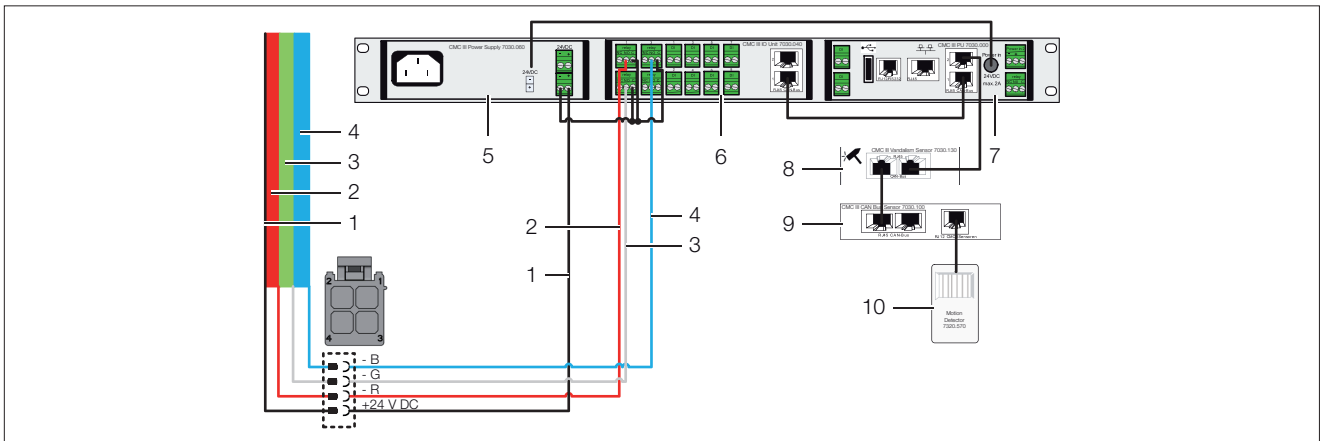


Fig. 1: Standard application with I/O unit circuit diagram

### Legend

- 1 LED light strip (+24 V DC) supply, black connection wire
- 2 Red LED, (Gnd) red connection wire
- 3 Green LED, (Gnd) grey connection wire
- 4 Blue LED, (Gnd) blue connection wire
- 5 CMC III power supply (DK 7030.060)
- 6 CMC III I/O unit (DK 7030.040)
- 7 CMC III Processing Unit (DK 7030.000, DK 7030.010)
- 8 CMC III Vandalism sensor (DK 7030.130), application example
- 9 CMC III CAN-Bus Sensor (DK 7030.100), application example
- 10 Motion sensor (DK 7320.570), application example



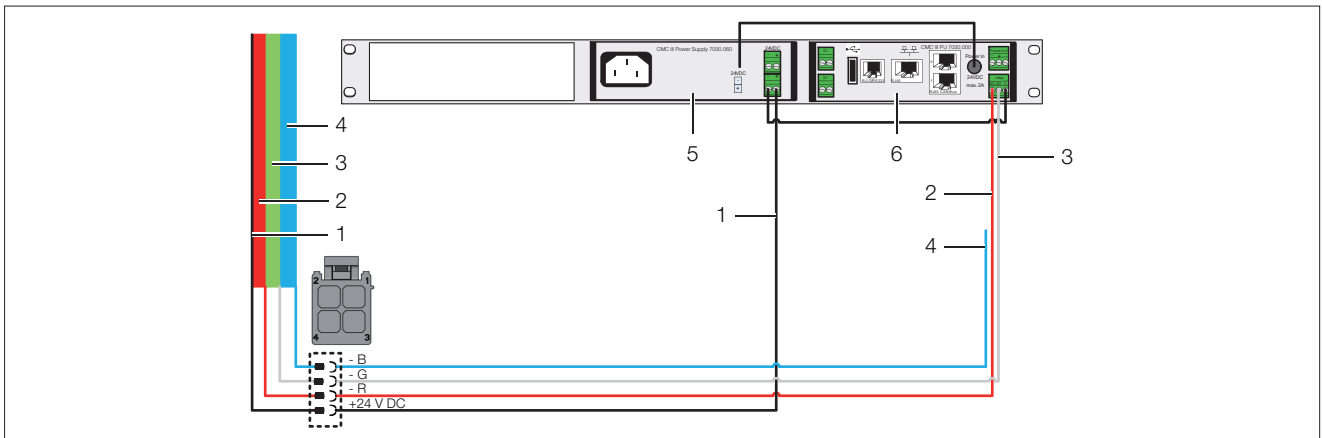


Fig. 2: Alarm relay application circuit diagram

### Legend

- 1 LED light strip (+24 V DC) supply, black connection wire
- 2 Red LED, (Gnd) red connection wire
- 3 Green LED, (Gnd) grey connection wire
- 4 Blue LED, (Gnd) blue connection wire, not connected in the application example
- 5 CMC III power pack 7030.060
- 6 CMC III Processing Unit (DK 7030.000, DK 7030.010)

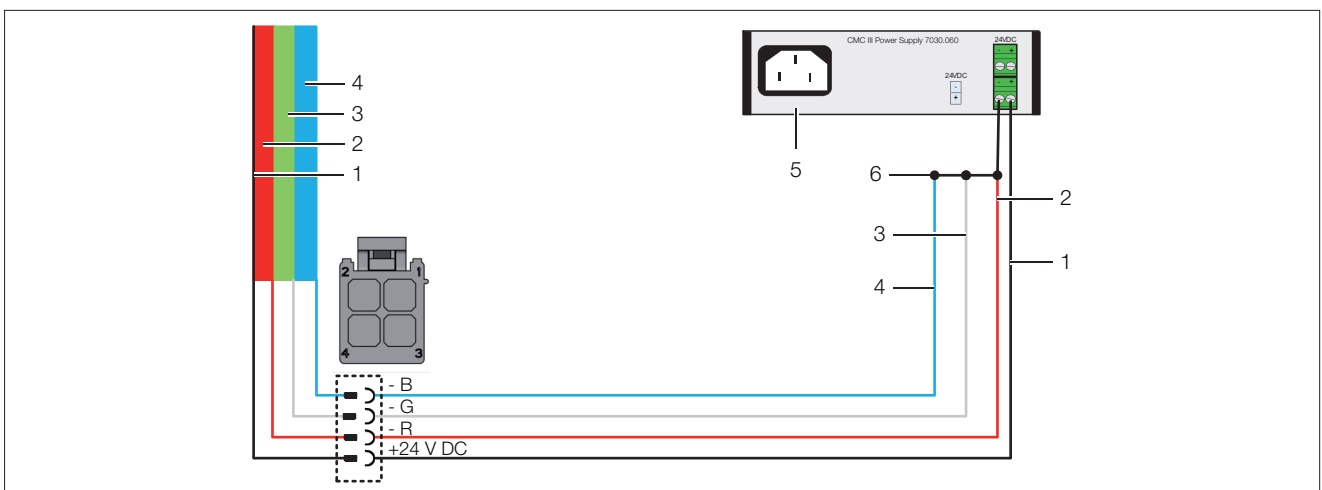


Fig. 3: White continuous illumination application

### Legend

- 1 LED light strip (+24 V DC) supply, black connection wire
- 2 Red LED, (Gnd) red connection wire
- 3 Green LED, (Gnd) grey connection wire
- 4 Blue LED, (Gnd) blue connection wire
- 5 CMC III power pack(DK 7030.060)
- 6 Intermediate clamp

## 5.4 Connection of the LED strip

- Connect the individual plugs depending on the application in accordance with the associated circuit diagram to the appropriate components (power pack, CMC III PU, I/O unit).

## 5.5 Assembly

Four magnets are mounted on the rear of the LED strip. The mounting is performed by simply placing the LED strip at the desired position inside the rack.



### Note:

The magnetic fastening is not suitable for transportation when in the rack. Always use the original packaging for transportation. The LED strip may only be transported with this packaging in the rack.

A drill hole with M4 thread for the potential equalisation is located at the lower end of the LED strip.

# 5 Installation

---

EN

## 5.6 Settings

Depending on the application, more advanced settings must be made to the individual components (see section 6 "Operation"). This is not necessary only for the "continuous illumination" application. The LED strip illuminates in the desired colour directly after connection to the power pack.

## 6 Operation

### 6.1 Activating the LED strip

The LED strip starts automatically after connecting it to the higher-level component of the associated application (power pack, CMC III PU, I/O Unit) (see section 5.4 "Connection of the LED strip"). Separate activation is not required.

### 6.2 "I/O Unit" application

The web user interface is displayed after logging on to the CMC III Processing Unit. Various settings for the alarm relay and the relay contacts of the I/O Unit are made here as well as creating the associated tasks for linking with the connected sensors.

#### 6.2.1 Defining the relay contacts

In the next step, three potential-free relay contacts of the I/O Unit are defined in accordance with the wiring diagram.

- First select the "CMCIII-IO3" node at "Real Devices" in the navigation area.
- In the configuration area, select the **Monitoring** tab.
- Expand the "CMCIII-IO3" entry by clicking the "plus" character in front of this entry.
- Place the mouse cursor at the end of the row of the first potential-free relay contact Output 1.  
An "edit" symbol appears and the mouse cursor changes to a "hand" symbol.
- Click the "edit" symbol.  
The "Device Settings" dialogue appears.

Fig. 4: "Device Settings" dialogue

- Ensure that the following settings are activated for the individual parameters.

Parameter	Setting
Output1.DescName	Output_1 RED
Output1.Relay	Off
Output1.Grouping[0...99]	0
Output1.Logic	0:Off / 1:On

Tab. 1: Settings for Output 1 in the "Device Settings" dialogue



Note:

For the description of the relay contact, it is desirable to use the colour of the LED connected to this contact (here "RED"). This simplifies an assignment to the tasks later (see section 6.2.2 "Defining tasks").

- Press the "Write" button to confirm your settings.
- Adapt the settings for the potential-free relay contacts Output 2 and Output 3 with the following deviations.

Parameter	Setting
Output2.DescName	Output_2 GREEN
Output3.DescName	Output_3 BLUE

Tab. 2: Deviating settings for Output 2 and Output 3 in the "Device Settings" dialogue

#### 6.2.2 Defining tasks

In the next step, three tasks are now defined in the CMC III PU. In the following example (similar to the circuit diagram in Fig. 1), a vandalism sensor and a motion sensor are also installed on the CMC III PU. The LED strip should be activated depending on the status of these two sensors as follows:

- Vandalism sensor status "Alarm": Colour "red"
- Motion sensor status "Alarm": Colour "green"
- Neither the vandalism sensor nor the motion sensor has the status "Alarm": Colour "blue"

#### Task 1: Vandalism sensor

- Switch to the **Tasks** tab.
- Place the mouse cursor at the end of the first unoccupied task (e.g. Task 1).  
An "edit" symbol appears and the mouse cursor changes to a "hand" symbol.
- Click the "edit" symbol.  
The "Task Configuration" dialogue appears.

Fig. 5: "Task Configuration" dialogue

- Link in the "Trigger Expression" group box the status of the vandalism sensor with the value "Alarm" via the operator "=".

# 6 Operation

EN

- Ensure that the following settings are activated for the individual parameters in the "Details" group box.

Parameter	Setting
Enable	Active
Name	Task 1
Description	RED Vandalism
Delay	0
Delay Mode	Switch on Delay
Action	Set Variable Value

Tab. 3: Settings in the "Task Configuration – Details" dialogue

- Click the **Setup** button  
The "Configure Set Variable Value" dialogue appears.

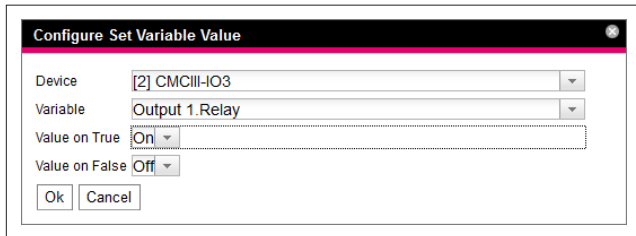


Fig. 6: "Configure Set Variable Value" dialogue

- Ensure that the following settings are activated for the individual parameters.

Parameter	Setting
Device	CMCIII-IO3
Variable	Output 1.Relay
Value on True	On
Value on False	Off

Tab. 4: Settings in the "Configure Set Variable Value" dialogue

- Click the **OK** button to confirm the selection.  
The "Task Configuration" dialogue appears.
- Click the **Save** button to confirm the selection.  
The **Tasks** tab appears.

This completes setting up the task. The LED strip illuminates "red" when the vandalism sensor has the status "Alarm".

### Task 2: Motion sensor

- Switch to the **Tasks** tab.
- Place the mouse cursor at the end of the first unoccupied task (e.g. Task 2).  
An "edit" symbol appears and the mouse cursor changes to a "hand" symbol.
- Click the "edit" symbol.  
The "Task Configuration" dialogue appears.

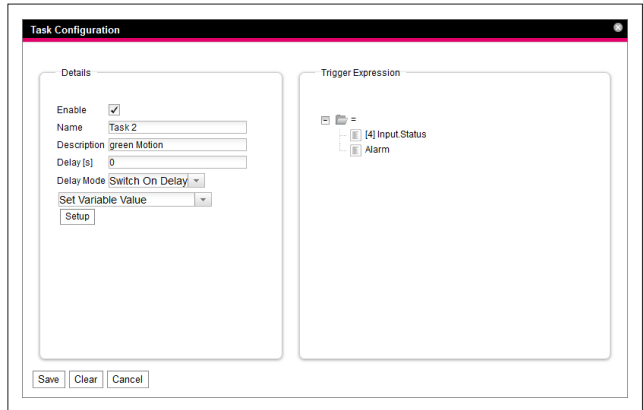


Fig. 7: "Task Configuration" dialogue

- Link in the "Trigger Expression" group box the status of the motion sensor with the value "Alarm" via the "=" operator.
- Ensure that the following settings are activated for the individual parameters in the "Details" group box.

Parameter	Setting
Enable	Active
Name	Task 2
Description	GREEN Motion
Delay	0
Delay Mode	Switch on Delay
Action	Set Variable Value

Tab. 5: Settings in the "Task Configuration – Details" dialogue

- Click the **Setup** button  
The "Configure Set Variable Value" dialogue appears.

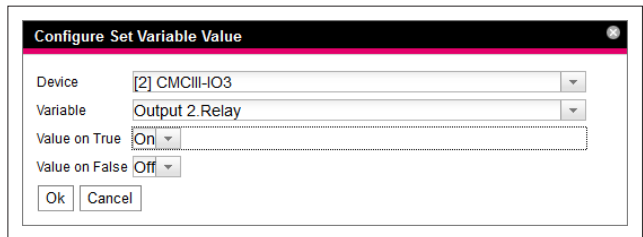


Fig. 8: "Configure Set Variable Value" dialogue

- Ensure that the following settings are activated for the individual parameters.

Parameter	Setting
Device	CMCIII-IO3
Variable	Output 2.Relay
Value on True	On
Value on False	Off

Tab. 6: Settings in the "Configure Set Variable Value" dialogue

- Click the **OK** button to confirm the selection.  
The "Task Configuration" dialogue appears.
- Click the **Save** button to confirm the selection.

The **Tasks** tab appears.

This completes setting up the task. The LED strip illuminates "green" when the motion sensor has the status "Alarm".

### Task 3: Status "OK"

The LED strip should illuminate "blue" when neither the vandalism sensor nor the motion sensor has the status "Alarm".

- Switch to the **Tasks** tab.
- Place the mouse cursor at the end of the first unoccupied task (e.g. Task 3).  
An "edit" symbol appears and the mouse cursor changes to a "hand" symbol.
- Click the "edit" symbol.  
The "Task Configuration" dialogue appears.

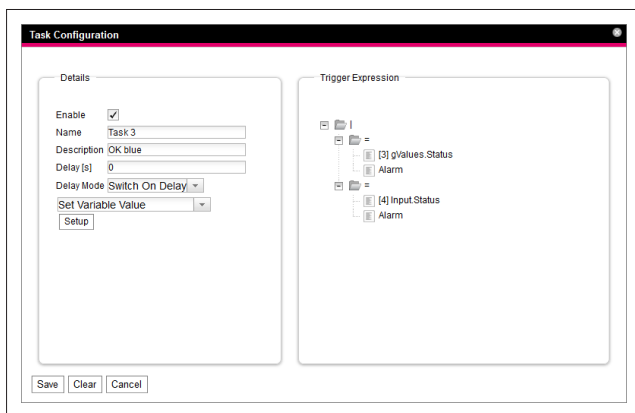


Fig. 9: "Task Configuration" dialogue

- Link in the "Trigger Expression" group box the status "Alarm" of the vandalism sensor as well as the motion sensor with each other via the "|" ("Or") operator.
- Ensure that the following settings are activated for the individual parameters in the "Details" group box.

Parameter	Setting
Enable	Active
Name	Task 3
Description	BLUE OK
Delay	0
Delay Mode	Switch on Delay
Action	Set Variable Value

Tab. 7: Settings in the "Task Configuration – Details" dialogue

- Click the **Setup** button  
The "Configure Set Variable Value" dialogue appears.

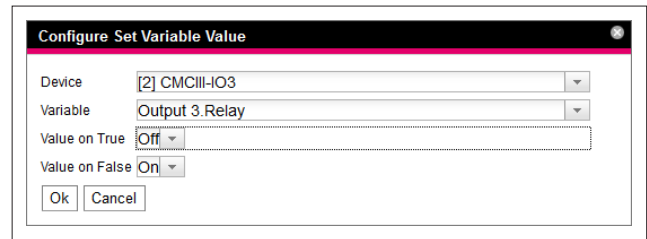


Fig. 10: "Configure Set Variable Value" dialogue

- Ensure that the following settings are activated for the individual parameters.

Parameter	Setting
Device	CMCIII-IO3
Variable	Output 3.Relay
Value on True	Off
Value on False	On

Tab. 8: Settings in the "Configure Set Variable Value" dialogue

- Click the **OK** button to confirm the selection.  
The "Task Configuration" dialogue appears.
- Click the **Save** button to confirm the selection.  
The **Tasks** tab appears.

This completes setting up the task. The LED strip illuminates "blue" when neither the vandalism sensor nor the motion sensor has the status "Alarm".

### 6.3 "Alarm relay" application

In this application, the colour of the LED strip changes to indicate the switching state of the CMC III PU alarm relay. To do this, perform the settings for the alarm relay on the Configuration tab as described below.

- First select the "Processing Unit" node in the navigation area.
- In the configuration area, select the **Configuration** tab.
- Click the General button in the "System" group box.  
The "General Configuration" dialogue appears.

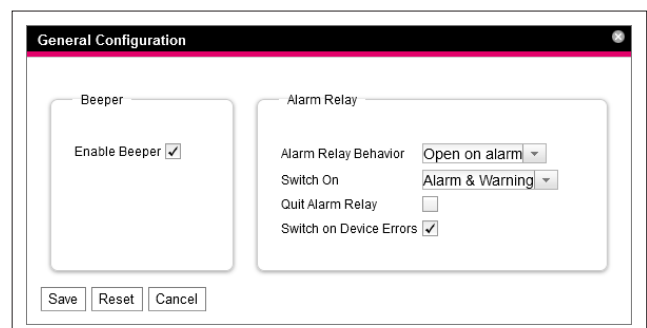


Fig. 11: "General Configuration" dialogue

- Ensure that the following settings are activated for the individual parameters.

Parameter	Setting
Alarm Relay Behavior	Open on Alarm

## 6 Operation

---

EN

Parameter	Setting
Switch on	Alarm and Warning

Tab. 9: Settings in the "General Configuration" dialogue

- Click the **Save** button to confirm the selection.

### 6.4 "Continuous illumination" application

In this application, only one CMC III power pack is required to operate the LED strip. Consequently, no further settings are required.

### **7 Storage and disposal**

#### **7.1 Storage**

If the device is not used for a long period, Rittal recommends that it be disconnected from the mains power supply and protected from damp and dust.

#### **7.2 Disposal**

Since the LED strip consists mainly of the "housing" and "circuit board" parts, the device must be passed on to the electronic waste recycling system for disposal.

## 8 Technical specifications

EN

### 8 Technical specifications

Technical specifications		LED light strip for CMC III
Model no.		DK 7030.950
W x H x D (mm)		18 x 1830 x 24.2
Operating temperature range		-20 °C...+60 °C
Storage temperature		-45 °C...+85 °C
Operating humidity range		5 %...95 % relative humidity, non-condensing
Protection category		IP 20 to IEC 60 529
Rated voltage		24 V (DC)
Rated current		1.1 A
Luminous flux	red	290 lm
	green	770 lm
	blue	145 lm
Wavelength	red	620...630 nm
	green	520...535 nm
	blue	450...470 nm
Min. cable bending radius		50 mm

Tab. 10: Technical specifications



### **9 Customer service addresses**

For technical queries, please contact:

Tel.: +49(0)2772 505-9052

E-mail: [info@rittal.de](mailto:info@rittal.de)

Homepage: [www.rittal.com](http://www.rittal.com)

For complaints or service requests, please contact:

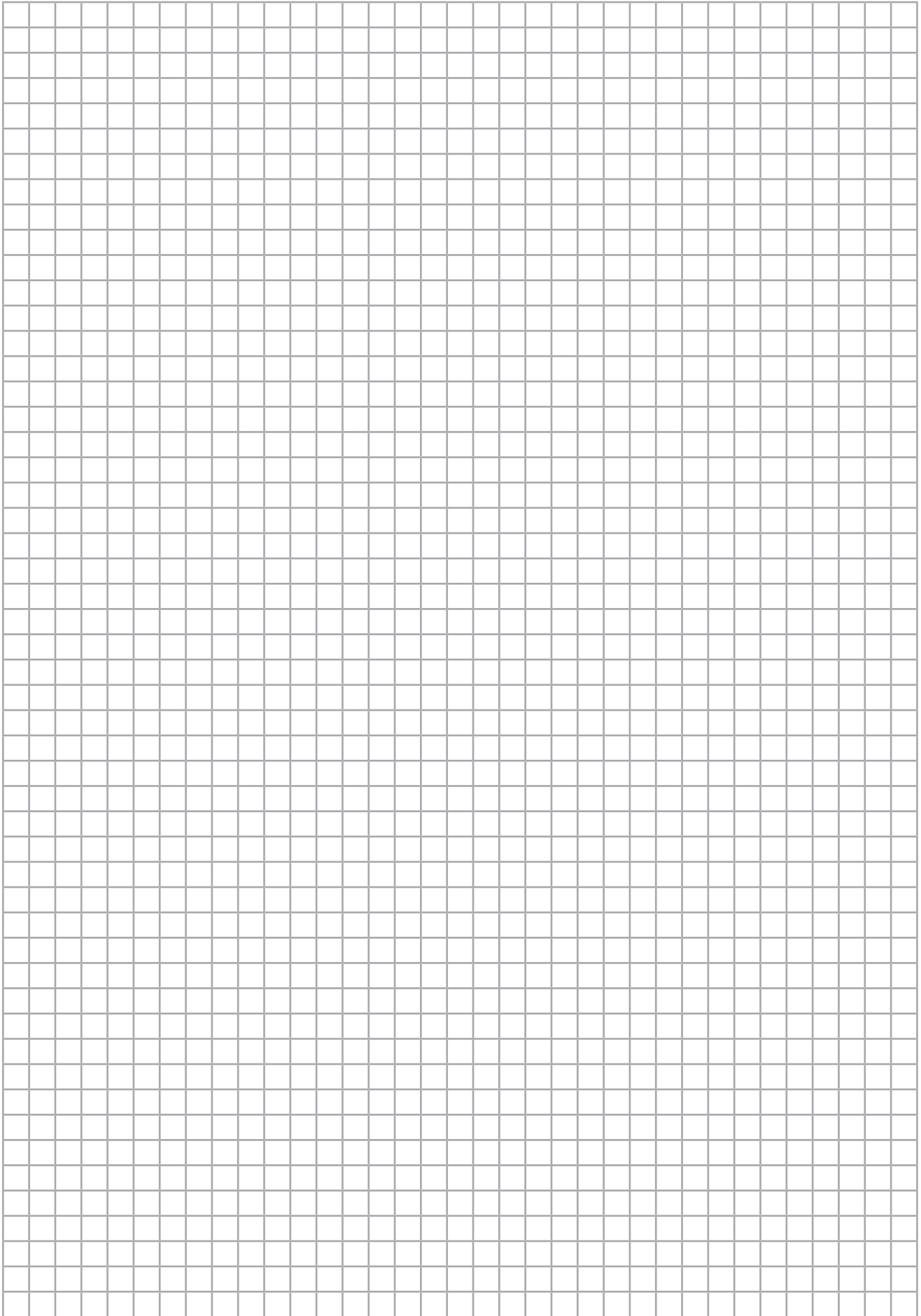
Tel.: +49(0)2772 505-1855

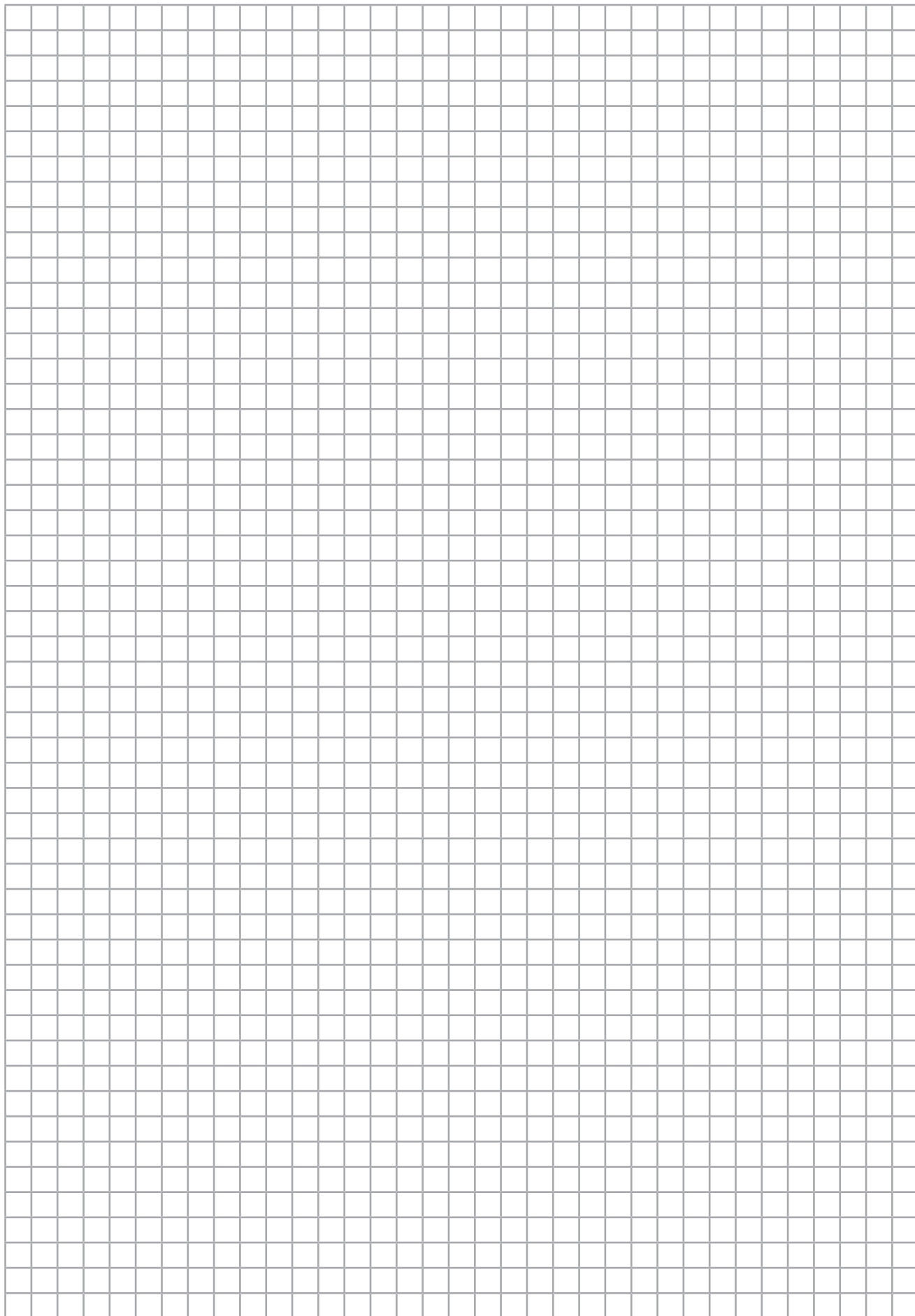
E-mail: [service@rittal.de](mailto:service@rittal.de)

# Notes

---

EN





# Rittal – The System.

Faster – better – everywhere.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

You can find the contact details of all Rittal companies throughout the world here.



[www.rittal.com/contact](http://www.rittal.com/contact)

RITTAL GmbH & Co. KG  
Auf dem Stuetzelberg · 35745 Herborn · Germany  
Phone +49 2772 505-0  
E-mail: [info@rittal.de](mailto:info@rittal.de) · [www.rittal.com](http://www.rittal.com)

05.2020/D-0000-00002399-00-EN

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES



FRIEDHELM LOH GROUP