DMX-RELAIS 8 INRUSH+

User manual

For your own safety, please read this user manual and warnings carefully before installation.

Contents

Description

The **DMX-RELAIS 8 INRUSH+** is designed for several control tasks.

8 potential free switching outputs
The DMX-RELAIS 8 INRUSH+ has 8 potential free switching outputs (Closer / NO) up to 8A switching capacity.

Switching contact for direct and alternating voltage
The relay interface is suitable to direct current (DC) or alternating current (AC).

DMX FAIL-Function
An adjustable DMX FAIL function offers the option to hold the current state (HOLD) or to adopt a predefined value if the DMX signal fails.

RDM support
The DMX-RELAIS 8 INRUSH allows the configuration via RDM or DMX.

Touch-Control
The DMX-RELAIS 8 INRUSH+ is designed with 3 touch fields for operation and a 7-segment display.

RGB-Status display
Via a RGB status display the DMX reception is shown.

Switch off LED-Display
The LED-Display at the DMX-RELAIS 8 INRUSH+ can be switched off via RDM command or time-controlled, so that no disturbing light sources are present during operation.

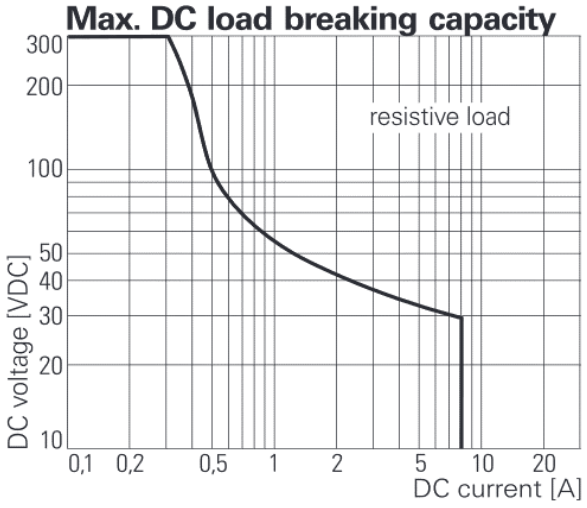
Several operation modes
The DMX-RELAIS 8 INRUSH+ offers various operation modes.

Technical Data

Power supply:	12-24V DC (300mA @ 12V / 200mA @ 24V)
Protocol:	DMX512 RDM
DMX-Channels:	up to 8 DMX channels
DMX-FAIL:	HOLD / 0-100%
Operation modes:	Hysteresis 127/128 Hysteresis 0/1 Hysteresis 100/150 Exclusive Monostable 1Second
Output:	8 potential-free switching output (closer / NO) 165A@20ms peak switch-on current AC: each max. 8A / 250V~ DC: According to the max. DC load graph
Display:	7 segment display RGB LED
TOUCH-Control:	3 touch buttons
Connections:	Screw terminals
Dimensions:	105mm x 90mm x 60mm

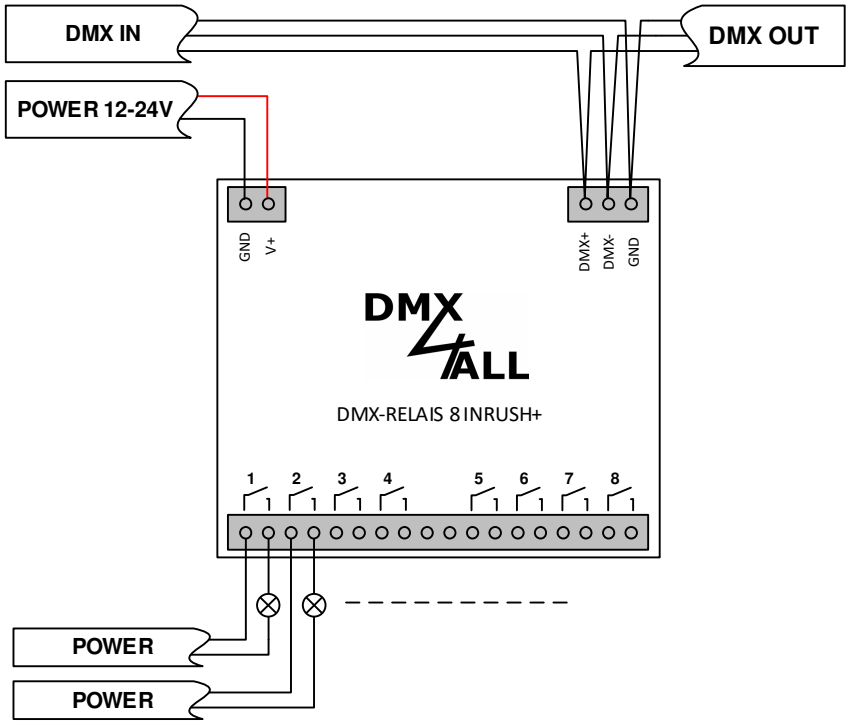
Max. DC load

The maximum current the switch contacts of the **DMX RELAIS 8 INRUSH** can switch, is shown in the following graph depending on the switching voltage:



(Source: Data sheet RTS3T012)

Connection

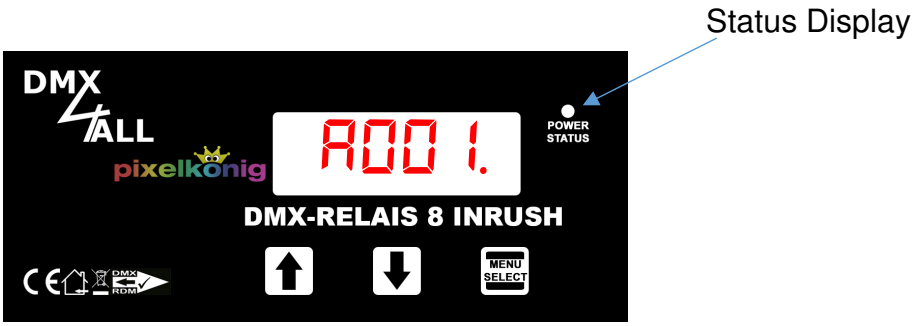


Switch contact
AC: each max. 8A / 250V~
DC: According to the max. DC load graph

(165A@20ms peak switch-on current)

Status Display

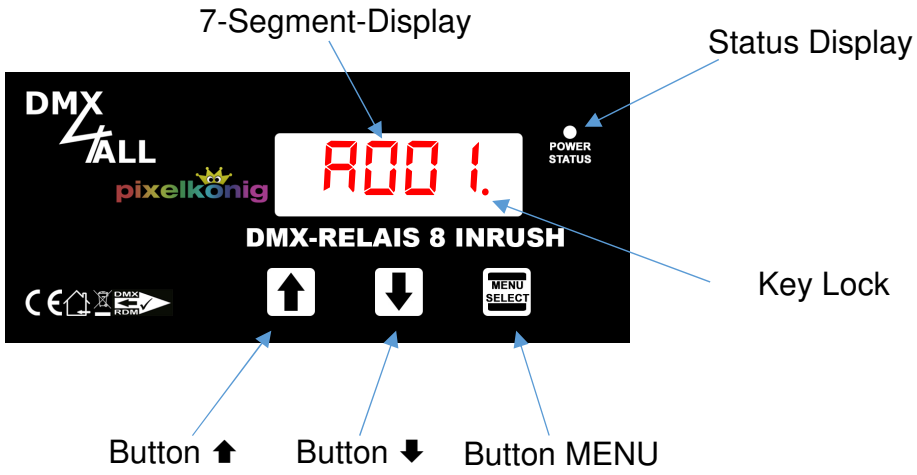
The integrated RGB status display is a multifunction display.



Off	Power supply not connected / Display is switched off
RED flashes	No DMX signal detected
GREEN	Device ready for use
GREEN flashes	Device shows RDM identify

Settings

Either the settings can be made via RDM or directly at the DMX-RELAIS 8 INRUSH+ via the 3 buttons at the 7 segment display.



Key Lock

After turning on the DMX-RELAIS 8 INRUSH+ or if no button is pressed for ca. 15 seconds the key lock starts automatically and the set DMX start address is showed.

The activated key lock is displayed via a lighting dot right below in the display.

To release the key lock, any key must be pressed for ca. 3 seconds.
During this time, the key lock indicator flashes until it finally goes out.

Menu Guide

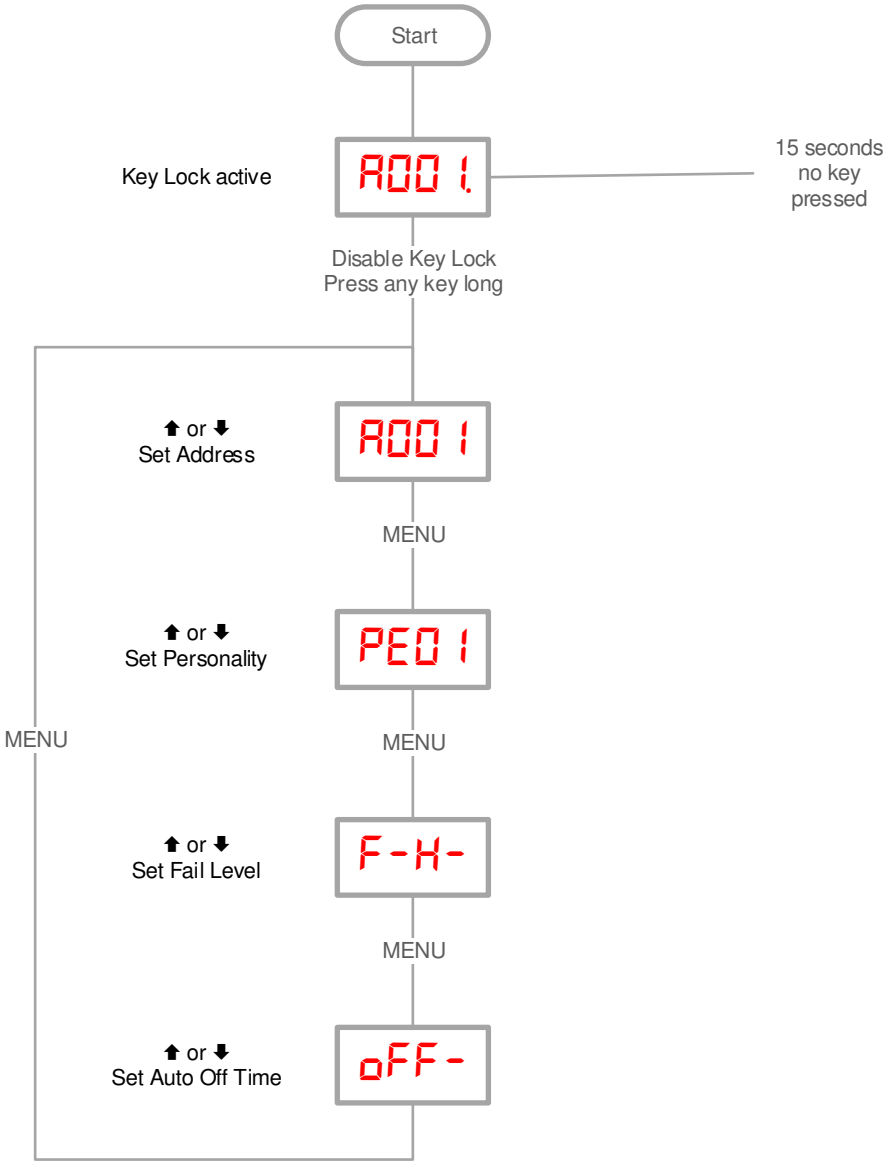
Various menu items are shown via the display, which can then be set using the buttons ⬆ or ⬇.

The menu item is displayed with a letter abbreviation followed by the set value.

The letter abbreviations are assigned as follows:

A	DMX-Start address
PE	Personality
F	Fail-Mode
oFF	AutoOff Time

The menu navigation is shown as follows:



DMX-Address

Via the RDM parameter DMX_START_ADDRESS or directly at the device under menu A the start address can be set.

By pressing the buttons ⬆ or ⬇ the start address can be set in a arrange of 1 and 512.

If ⬆ or ⬇ is pressed held, the start address increases or decreases until the button is pressed.

Display Switch Off

To avoid disturbing lighting points during the operation, the DMX-RELAIS 8 INRUSH+ display can be switched off.

The shutdown can occur manually or automatically.

Manually it takes place via the RDM parameter DISPLAY_LEVEL.

To activate the automatic shutdown the RDM parameter DISPLAY_AUTO_OFF Is to select or the menu oFF directly at the device.

The time, after which the shutdown should take place is to select between 1 and 9 minutes or off (-) by pressing the buttons ⬆ or ⬇.

⚠ The display shutdown is only in the normal operation (permanent applied DMX-Signal) possible after the set time runs out. If the DMX-Signal gets lost or a button is pressed at the device the display is switched on and the passed time is reset.

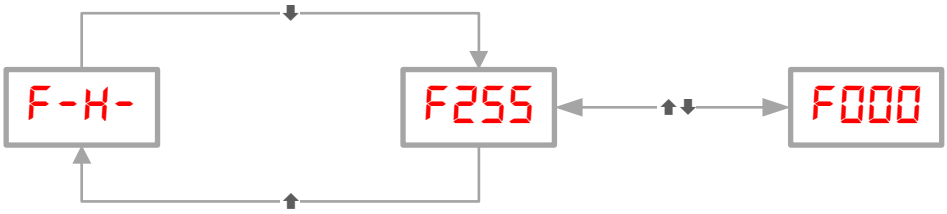
DMX-Fail Behavior

The **DMX-RELAIS 8 INRUSH+** has a DMX-FAIL function keeping the last switching state (HOLD) or set the predefined switching state to the set value.

In case of DMX fail the behavior can be set via the RDM parameter DMX_FAIL_MODE or directly at the device in the menu F .

Using the buttons ⬆ or ⬇ the value is set in a range of 0 and 255. If ⬆ or ⬇ is pressed held, the value increases or decreases automatically until the button is pressed.

If the maximum value of 255 is reached, the hold function is activated by pressing ⬆ again. Pressing ⬇ again the hold function is deactivated again.



F000 up to F255 Use set value (0-255)

F-H- Hold last switch condition (HOLD)

⚠ In case of a power fail the hold switching states are not restored with the hold function. In this case the switching states are set OFF.

Operation Modes

The **DMX-RELAIS 8 INRUSH+** has several operation modes (Personality).

- Personality 1: Hysteresis 127/128
- Personality 2: Hysteresis 0/1
- Personality 3: Hysteresis 100/150
- Personality 4: Exclusive (Jalousie-Control)
- Personality 5: Monostable 1Second (Impulse)

The number of the needed DMX channels and their assignment as well as the way of controlling the outputs depends on the Personality.

The Personality is to choose via the RDM parameter DMX_PERSONALITY or at the device in the menu PE.

By pressing the buttons ⬆ or ⬇ the Personality is set between 1 and 19.

The DMX address assignment is described on the following pages.

Personality 1: Hysteresis 127/128

In this operation mode, the relays switch of each other independently, each via one DMX channel.

The switching threshold (Hysteresis) is 127/128. That means that the relay is switched off when the DMX value is 127 or less and that the relay is switched on when the DMX value is 128 or greater.

DMX Channel	DMX Value	Function
1	0-127	Output 1 OFF
	128-255	Output 1 ON
2	0-127	Output 2 OFF
	128-255	Output 2 ON
3	0-127	Output 3 OFF
	128-255	Output 3 ON
4	0-127	Output 4 OFF
	128-255	Output 4 ON
5	0-127	Output 5 OFF
	128-255	Output 5 ON
6	0-127	Output 6 OFF
	128-255	Output 6 ON
7	0-127	Output 7 OFF
	128-255	Output 7 ON
8	0-127	Output 8 OFF
	128-255	Output 8 ON

For this operation mode choose via RDM the Personality 1.

Personality 2: Hysteresis 0/1

In this operation mode, the relays switch of each other independently, each via one DMX channel.

The switching threshold (Hysteresis) is 0/1. That means that the relay is switched off when the DMX value is 0 and that the relay is switched on when the DMX value is 1 or greater.

DMX Channel	DMX Value	Function
1	0	Output 1 OFF
	1-255	Output 1 ON
2	0	Output 2 OFF
	1-255	Output 2 ON
3	0	Output 3 OFF
	1-255	Output 3 ON
4	0	Output 4 OFF
	1-255	Output 4 ON
5	0	Output 5 OFF
	1-255	Output 5 ON
6	0	Output 6 OFF
	1-255	Output 6 ON
7	0	Output 7 OFF
	1-255	Output 7 ON
8	0	Output 8 OFF
	1-255	Output 8 ON

For this operation mode choose via RDM the Personality 2.

Personality 3: Hysteresis 100/150

In this operation mode, the relays switch of each other independently, each via one DMX channel.

The switching threshold (Hysteresis) is 100/150. That means that the relay is switched off when the DMX value is 100 or less and that the relay is switched on when the DMX value is 150 or greater.

DMX Channel	DMX Value	Function
1	0-100	Output 1 OFF
	101-149	Output 1 NO ACTION
	150-255	Output 1 ON
2	0-100	Output 2 OFF
	101-149	Output 2 NO ACTION
	150-255	Output 2 ON
3	0-100	Output 3 OFF
	101-149	Output 3 NO ACTION
	150-255	Output 3 ON
4	0-100	Output 4 OFF
	101-149	Output 4 NO ACTION
	150-255	Output 4 ON
5	0-100	Output 5 OFF
	101-149	Output 5 NO ACTION
	150-255	Output 5 ON
6	0-100	Output 6 OFF
	101-149	Output 6 NO ACTION
	150-255	Output 6 ON
7	0-100	Output 7 OFF
	101-149	Output 7 NO ACTION
	150-255	Output 7 ON
8	0-100	Output 8 OFF
	101-149	Output 8 NO ACTION
	150-255	Output 8 ON

For this operation mode choose via RDM the Personality 3.

Personality 4: Exclusive (Jalousie-Control)

In this operation mode, 2 relays are linked to one another, so only one relay can switch at a time.

The switching threshold (hysteresis) is 127/128, which means that the relay is switched off when the DMX value is 127 or less. The relay is switched on when the DMX value is 128 or greater.

However, two linked relays (1 + 2/3 + 4/5 + 6/7 + 8) cannot be switched on at the same time.

DMX Channel	DMX Value	Function
1	0-127	Output 1 OFF
	128-255	Output 1 ON, if output 2 OFF
2	0-127	Output 2 OFF
	128-255	Output 2 ON, if output 1 OFF
3	0-127	Output 3 OFF
	128-255	Output 3 ON, if output 2 OFF
4	0-127	Output 4 OFF
	128-255	Output 4 ON, if output 3 OFF
5	0-127	Output 5 OFF
	128-255	Output 5 ON, if output 4 OFF
6	0-127	Output 6 OFF
	128-255	Output 6 ON, if output 5 OFF
7	0-127	Output 7 OFF
	128-255	Output 7 ON, if output 6 OFF
8	0-127	Output 8 OFF
	128-255	Output 8 ON, if output 7 OFF

For this operation mode choose via RDM the Personality 4.

Personality 5: Monostable 1Second (Impulse)

In this operation mode, the relays switch of each other independently, each via one DMX channel.

As soon as the DMX value is 128 or greater, the relay switches for 1 second. After that, the DMX value must first drop below 128 in order to trigger another switching pulse.

DMX Channel	DMX Value	Function
1	0-127	Output 1 OFF
	128-255	Output 1 1x 1-second ON
2	0-127	Output 2 OFF
	128-255	Output 2 1x 1- second ON
3	0-127	Output 3 OFF
	128-255	Output 3 1x 1- second ON
4	0-127	Output 4 OFF
	128-255	Output 4 1x 1- second ON
5	0-127	Output 5 OFF
	128-255	Output 5 1x 1- second ON
6	0-127	Output 6 OFF
	128-255	Output 6 1x 1- second ON
7	0-127	Output 7 OFF
	128-255	Output 7 1x 1- second ON
8	0-127	Output 8 OFF
	128-255	Output 8 1x 1- second ON

For this operation mode choose via RDM the Personality 5.

RDM

RDM is the short form for **R**emote **D**evice **M**anagement.

As soon as the device is within the system, device-dependent settings can occur remotely via RDM command due to the uniquely assigned UID. A direct access to the device is not necessary.

This device supports the following RDM commands:

Parameter ID	**Discovery Command**	**SET Command**	**GET Command**	**ANSI/ PID**
DISC_UNIQUE_BRANCH	✓			E1.20
DISC_MUTE	✓			E1.20
DISC_UN_MUTE	✓			E1.20
DEVICE_INFO			✓	E1.20
SUPPORTED_PARAMETERS			✓	E1.20
PARAMETER_DESCRIPTION			✓	E1.20
SOFTWARE_VERSION_LABEL			✓	E1.20
DMX_START_ADDRESS		✓	✓	E1.20
DEVICE_LABEL		✓	✓	E1.20
MANUFACTURER_LABEL			✓	E1.20
DEVICE_MODEL_DESCRIPTION			✓	E1.20
IDENTIFY_DEVICE		✓	✓	E1.20
FACTORY_DEFAULTS		✓	✓	E1.20
DMX_PERSONALITY		✓	✓	E1.20
DMX_PERSONALITY_DESCRIPTION			✓	E1.20
DMX_FAIL_MODE		✓	✓	E1.37

Parameter ID	Discovery Command	SET Command	GET Command	ANSI/ PID
SERIAL_NUMBER[1)]			✓	PID: 0xD400
IDENTIFY_MODE[1)]		✓	✓	PID: 0xD402

1) Manufacturer depending RDM control commands (MSC - Manufacturer Specific Type)

Manufacturer depending RDM control commands:

SERIAL_NUMBER
PID: 0xD400

Outputs a text description (ASCII-Text) of the device serial number.

GET Send: PDL=0
Receive: PDL=21 (21 Byte ASCII-Text)

DISPLAY_AUTO_OFF
PID: 0xD401

Sets the time after which the display is switched off (DISPLAY_LEVEL = 0).
Valid values are: 0 - NO AUTO OFF
600 - 1 minute
1200 - 2 minutes
1800 - 3 minutes
2400 - 4 minutes
3000 - 5 minutes
3600 - 6 minutes
4200 - 7 minutes
4800 - 8 minutes
5400 - 9 minutes

GET Send: PDL=0
Receive: PDL=2 (1 Word)

SET Send: PDL=2 (1 Word)
Receive: PDL=0

IDENTIFY_MODE
PID: 0xD402

Sets the mode that is executed with IDENTIFY_DEVICE.

GET Send: PDL=0
Receive: PDL=1 (1 Byte IDENTIFY_MODE_ID)

SET Send: PDL=1 (1 Byte IDENTIFY_MODE_ID)
Receive: PDL=0

IDENTIFY_MODE_ID	Function
0	FULL Identify All relays switch simultaneously ON/OFF and the status LED flashes
1	LOUD Identify All relays switch in order ON/OFF and the status LED flashes
2	QUIET Identify The relays don't switch, only the status LED flashes

Factory Reset

Before running the Factory Reset, read all steps carefully.

To reset the **DMX-RELAIS 8 INRUSH+** into the delivery conditions use the RDM parameter FACTORY_DEFAULTS or proceed as follows directly at the device:

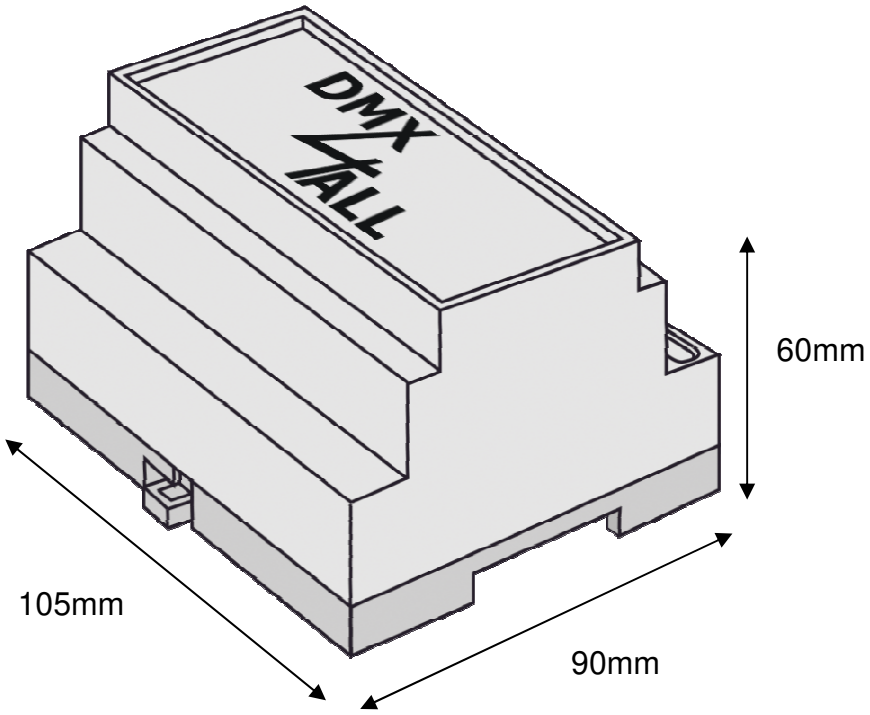
- Turn off the device (Disconnect power supply !)
- Open housing, by carefully opening the side tab with a screw driver
- Turn the address switches 1 up to 10 on ON
- Turn on the device (Turn on power supply)
- Now, the LED next to the address switch flashes within ca. 3 seconds for 20x

  ➔ During the LED flashes set switch 10 on OFF
- The Factory Reset is going to proceed

  ➔ Now, the LED next to the address switch flashes with 4 short light impulses
- Turn off the device (Disconnect power supply!)
- Set all switches on OFF
- Close housing
- Now, the device is ready for use

If a further Factory Reset is necessary, this process can be repeated

Dimensions



All details in mm

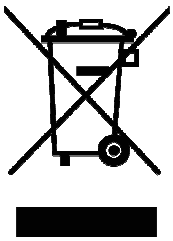
Accessoires

Power supply 12V

CE-Conformity

This device is controlled by a microprocessor and uses high frequency. In order to maintain the properties of the module with regard to CE conformity, installation into a closed metal housing in accordance with the EMC directive 2014/30/EU is necessary.

Disposal



Electronical and electronic products must not be disposed in domestic waste. Dispose the product at the end of its service life in accordance with applicable legal regulations. Information on this can be obtained from your local waste disposal company.

Warning

This device is no toy. Keep out of the reach of children. Parents are liable for consequential damages caused by nonobservance for their children.

Risk-Notes

You purchased a technical product. Conformable to the best available technology the following risks should not excluded:

Failure risk:
The device can drop out partially or completely at any time without warning. To reduce the probability of a failure a redundant system structure is necessary.

Initiation risk:
For the installation of the board, the board must be connected and adjusted to foreign components according to the device paperwork. This work can only be done by qualified personnel, which read the full device paperwork and understand it.

Operating risk:
The Change or the operation under special conditions of the installed systems/components could as well as hidden defects cause to breakdown within the running time.

Misusage risk:
Any nonstandard use could cause incalculable risks and is not allowed.

Warning: It is not allowed to use the device in an operation, where the safety of persons depend on this device.

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