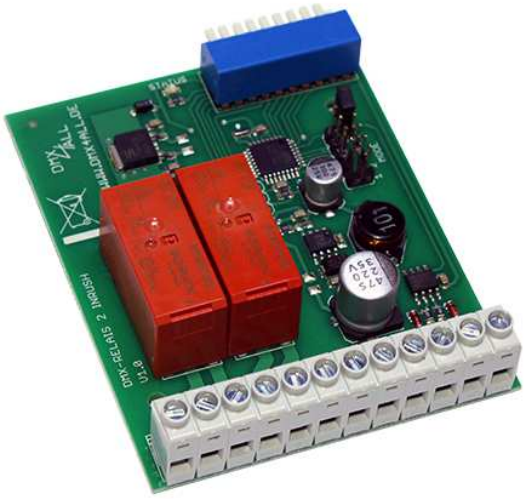
DMX-RELAIS 2

User manual



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

Contents

Description

The **DMX-RELAIS 2** is designed for several control tasks.

Two potential free switching outputs
2 potential free switching outputs (closer / NO) up to 8A switching capacity are available.

Switching contact for direct and alternating voltage
The version is suitable to switch resistive loads using direct voltage (DC) or alternating voltage (AC).

For voltages from 12V up to 24V
The DMX-Relais 2 works with supply voltages from 12V up to 24V DC.

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 2 allows the configuration via RDM or DMX.

Several operating modes
The DMX-Relais 2 offers several operating modes which can be set via jumper or RDM:

- Hysteresis 127/128
- Hysteresis 0/1
- Hysteresis 100/150
- Exclusive
- Monostable 1Second
- FogControl

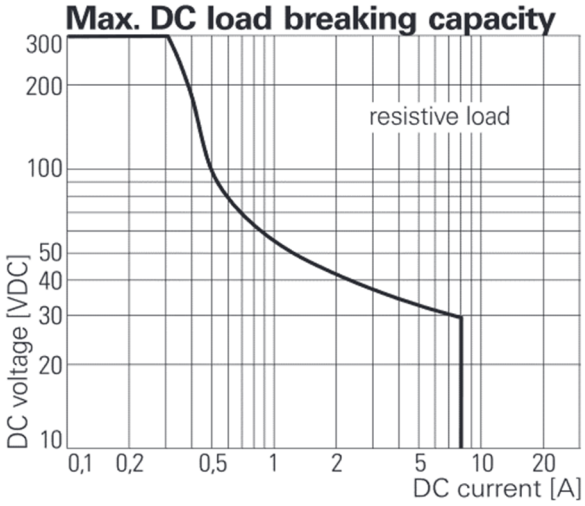
Top hat rail mounting available
Suitable for the DMX-Relais 2 the DIN rail housing 700 is available as accessory.

Data sheet

Power supply:	12-24V DC (150mA@12V / 100mA@24V)
Protocol:	DMX512 RDM
DMX-Channels:	1 or 2 channels (depend on operation mode)
DMX-FAIL:	HOLD / 0-100%
Operation modes:	Hysteresis 127/128 Hysteresis 0/1 Hysteresis 100/150 Exclusive Monostable 1Second FogControl
Output:	2 potential free switching contacts NO AC: each max. 8A / 250V~ DC: According to the max. DC load graph
Connection:	Screw terminals
Dimensions:	64,2mm x 82mm

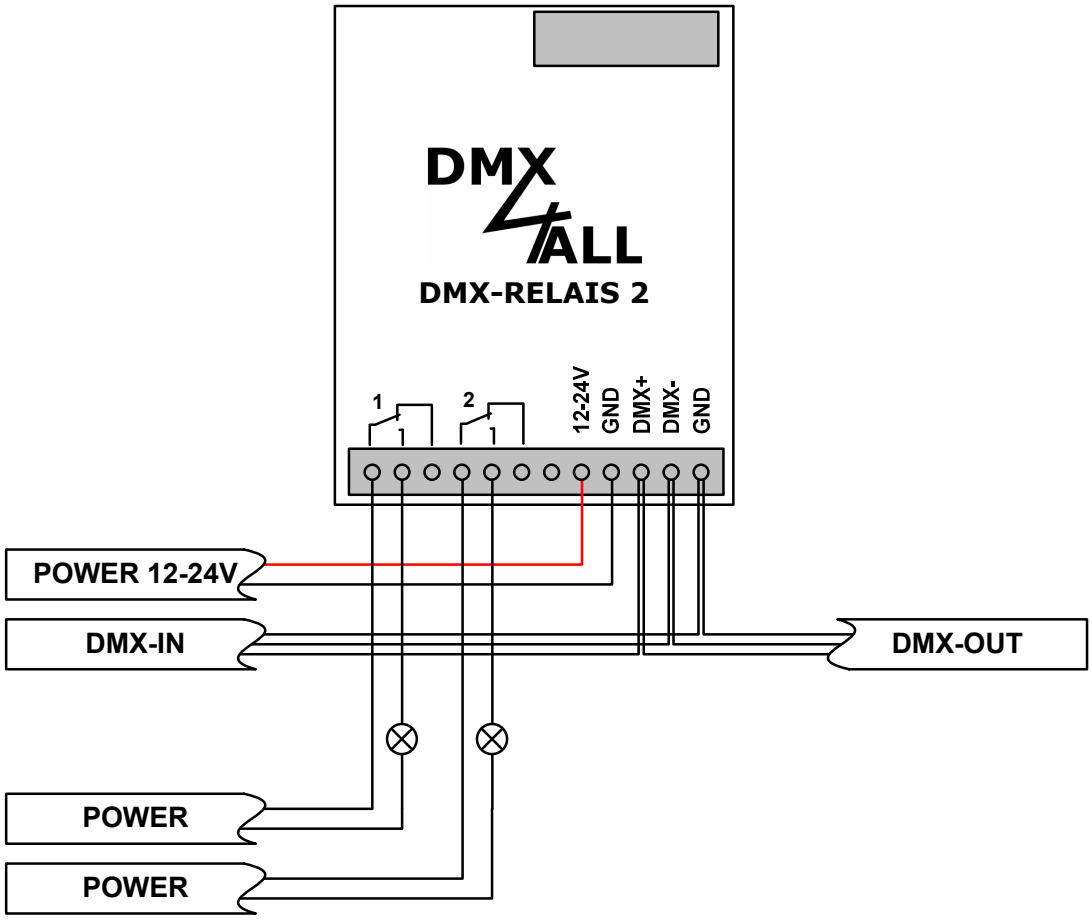
Max. DC load

The maximum current the switch contacts of the **DMX RELAIS 2** 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

LED-Display-Codes

The integrated LED is a multi-functional display.

During the normal operation the LED lights continuously. In this case the device is working.

Furthermore, the LED shows the current status. In this case the LED lights up in short pitches and then is missing for longer time.

The number of the flashing lights is equal to the status number:

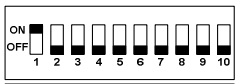
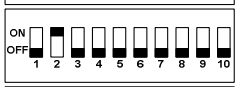
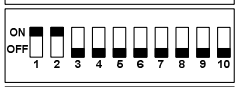
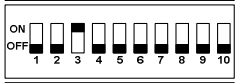
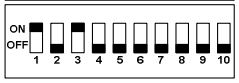
Event-number	Error	Description
1	No DMX	There is no DMX-input signal
2	Addressingerror	Please check the adjusted DMX-Address
3	DMX-Signal error	An invalid DMX-input-signal is detected

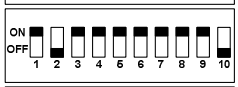
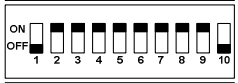
Addressing

The starting address is adjustable via the DIP switches.

Thereby switch 1 has the valency 2^0 (=1), switch 2 valency 2^1 (=2) and so on, until switch 9 has the valency 2^8 (=256).

The sum of the values of the switches set to ON corresponds to the start address.

Adresse	Schalter
1	
2	
3	
4	
5	

Adresse	Schalter
...	...
508	
509	
510	
511	

DMX-FAIL Function

The **DMX-RELAIS 2** has a DMX-FAIL Function which stores the last value in the case of a DMX signal loss (HOLD) or left the relays unchanged with a predefined value in its conditions.

The DMX-HOLD function can be activated via RDM or by switch 10.

Switch 10 ON	➔ DMX-HOLD active
Switch10 OFF	➔ DMX-HOLD not active

If HOLD is switched on (switch 10 = ON), the last received DMX values are remained in case of a DMX signal failure.

If HOLD is switched off (switch 10 = OFF), the DMX values are replaced with a value set by RDM in case of a DMX signal failure. In the delivery state this value is 0, so that the relays switch off.

In case of a power failure the DMX values held with HOLD are discarded!

A value set by RDM is deleted when HOLD is selected. After switching off the HOLD function, the default value 0 is used.

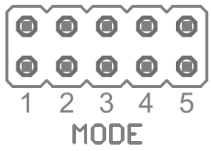
Select operating mode

Hysteresis 127/128

In this operating mode, both relays switch independently of each other each via one DMX channel. The switching threshold (Hysteresis) is 127/128 which 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

For this operation mode choose via RDM the Personality 1 or open all MODE jumper 1-5:

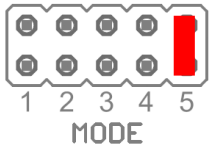


Hysteresis 0/1

In this operating mode, both relays switch independently of each other each via one DMX channel. The switching threshold (Hysteresis) is 0/1 which 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

For this operation mode choose via RDM the Personality 2 or close only MODE jumper 5:



Hysteresis 100/150

In this operating mode, both relays switch independently of each other each via one DMX channel. The Hysteresis is 100/150 which 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 doesn'tchange
	150-255	Output 1 ON
2	0-100	Output 2 OFF
	101-149	Output 2 doesn'tchange
	150-255	Output 2 ON

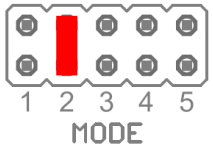
For this operation mode choose via RDM Personality 3.

Exclusive (Jalousie-Control)

In this operation mode both relays are turned on with one DMX channel as soon as the DMX value is 128 or higher.
However, not both relays can be switched on at the same time.

DMX Channel	DMX Value	Function
1	0-127	Output 1 OFF
	128-255	Output 1 ON, ifoutput 2 OFF
2	0-127	Output 2 OFF
	128-255	Output 2 ON, ifoutput 1 OFF

For this operation mode choose via RDM the Personality 4 or close only MODE jumper 2:

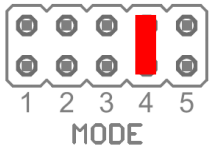


Monostable 1Second (Impulse)

In this operating mode, both relays switch independently of each other each via one DMX channel.As soon as the DMX value is 128 or higher the relay switches for 1 second. Then the DMX value must fall below 128 to trigger again a switching impulse.

DMX Channel	DMX Value	Funktion
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

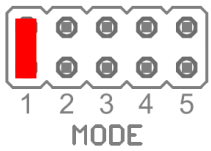
For this operation mode choose via RDM the Personality 5 or close only MODE jumper 4:



FogControl

In this operation mode both relays are controlled via one DMX channel. Therefore, output 1 is for the heating element and output 2 for the pump. An internal timer allows an automatically fog output.

For this operation mode choose via RDM the Personality 6 or close only MODE jumper 1:



DMX Channel	DMX Value	Function
1	0-7	Device off aus
	8-20	Device on, no fog emission
	21-40	Timer 10s on / 300s off *
	41-60	Timer 20s on / 350s off *
	61-80	Timer 30s on / 200s off *
	81-100	Timer 40s on / 150s off *
	101-120	Timer 50s on / 100s off *
	121-140	Timer 60s on / 75s off *
	141-160	Timer 70s on / 50s off *
	161-180	Timer 80s on / 40s off *
	181-200	Timer 90s on / 30s off *
	201-220	Timer 100s on / 20s off *
	221-240	Timer 110s on / 10s off *
	141-255	Permanent fogemission

RDM

(from hardware V1.1)

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.

If the DMX start address is set via RDM, all address switches at the DMX-Relais 2 must be set to OFF ! A DMX start address set by the address switches is always prior !

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
DISPLAY_LEVEL		✓	✓	E1.20
DMX_FAIL_MODE		✓	✓	E1.37

Parameter ID	Discovery Command	SET Command	GET Command	ANSI/ PID
SERIAL_NUMBER[1)]			✓	PID: 0xD400
IDENTIFY_MODE1)		✓	✓	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)

IDENTIFY_MODE
PID: 0xD402

Stellt den Mode ein der mit IDENTIFY_DEVICE ausgeführt wird.

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	Funktion
0	FULL Identify All relays switch ON / OFF simultaneously and the status LED flashes
1	LOUD Identify The relays switch ON / OFF one after the other and the status LED flashes
2	QUIET Identify The relays do not switch, only the status LED flashes

Factory Reset

Before running the Factory Reset, read all steps carefully.

To reset the **DMX-RELAIS 2** to delivery state, proceed as follows:

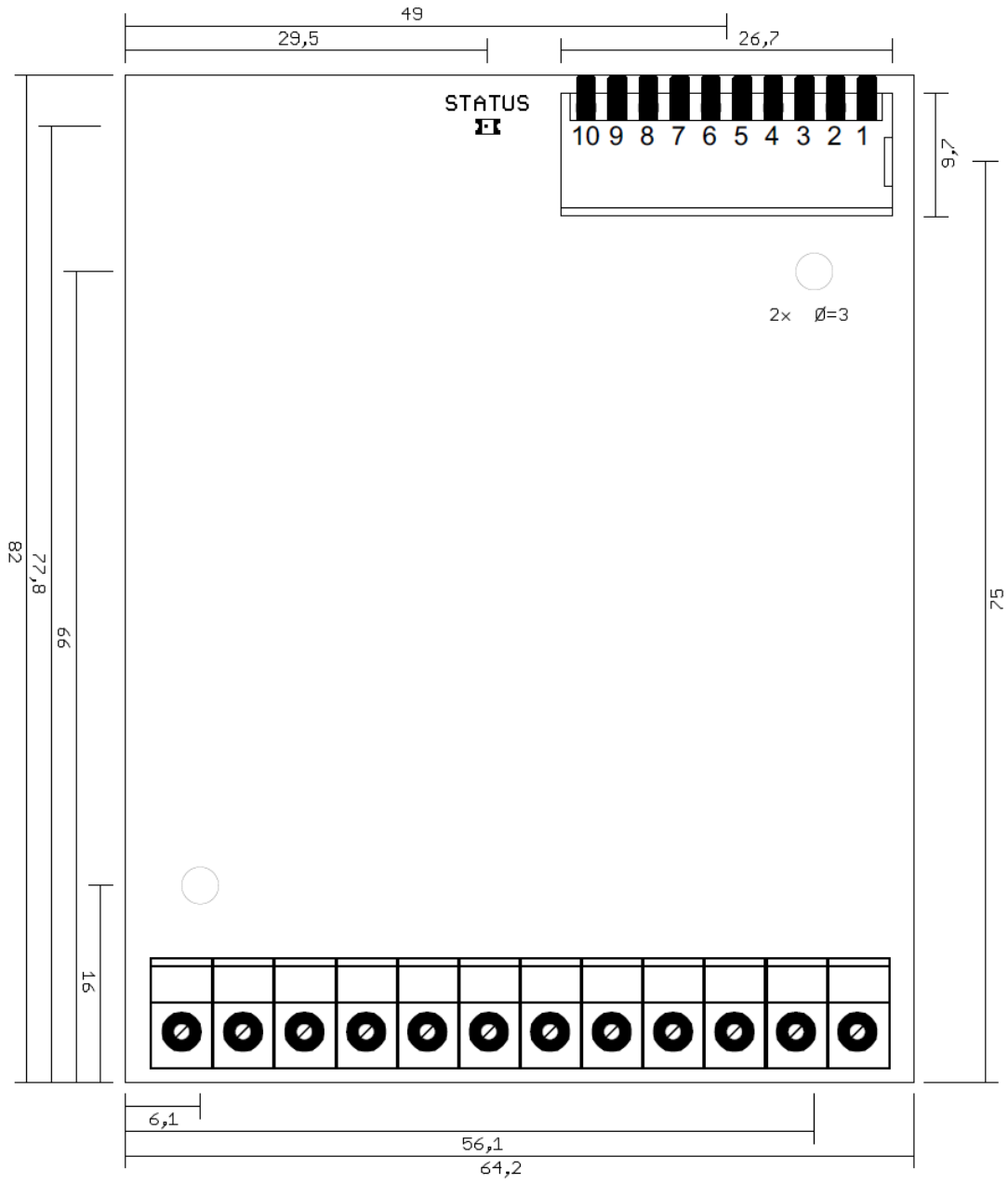
- Turn off device (turn off power supply !)
- Set DIP switch 1 up to 10 to ON
- Turn on the device (turn on power supply)
- The LED lights up 20x during ca. 3 seconds

  ➔ While the LED lights up set DIP switch 10 to OFF
- Now, the Factory Reset is executed

  ➔ The LED lights up with 4 short light pulses
- Turn off the device (turn off power supply !)
- Now, the device can be used

If a Factory Reset is needed again, this procedure can be repeated at any time.

Dimensions



All details in mm

Accessory

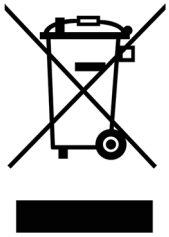
Top-hat railhousing700

Power supply 12V

CE-Conformity

This assembly (board) 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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