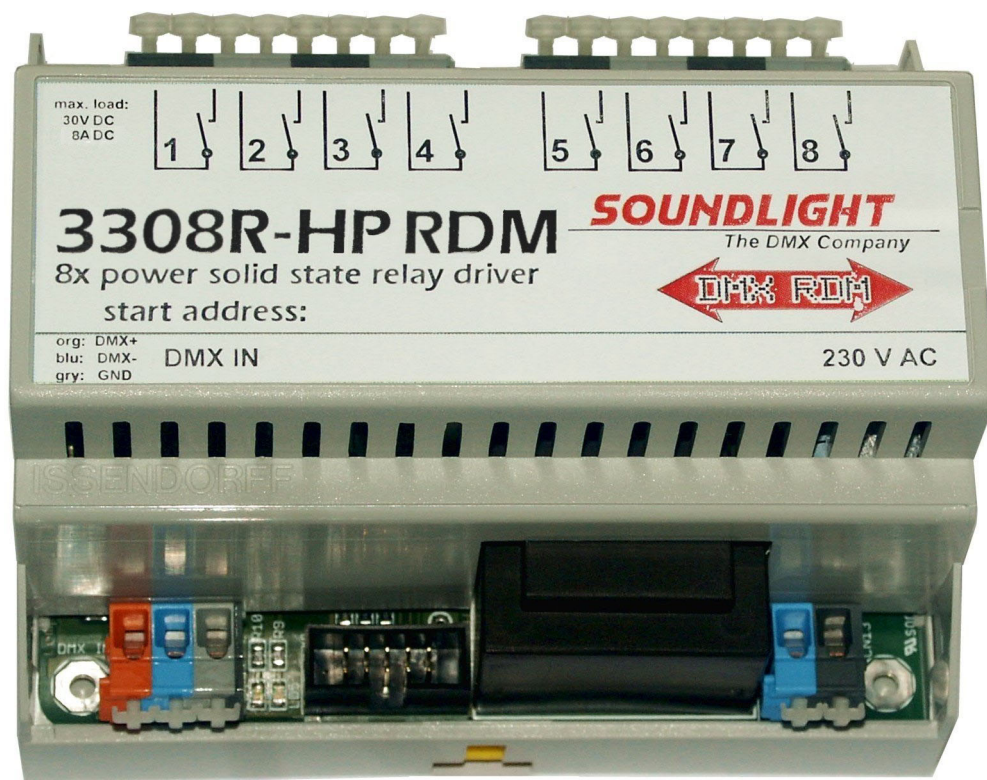


OPERATING MANUAL

DMX Relay 3308R-HP DC RDM Mk4



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Thank you for choosing a SOUNDLIGHT product.

The SOUNDLIGHT DMX Solid State Relay 3308R -HP is an intelligent DMX decoder, converting control signals conforming to USITT DMX-512/1990, DIN 56930-2, DMX512-A or DMX RDM to potential-free DC power output contacts. The decoder can be used with all standard lighting control systems. Its special advantages include:

- **universal protocol decoding**
Recognizes all variants of the protocol as defined by USITT / ESTA / ANSI/DIN
- **future-proof**
The unit is software controlled and can easily be adapted to any change in protocol definition.
- **universal switching**
The decoder features four DMX personalities and can easily be adapted to specific switching needs.
- **simple supply**
The power supply is achieved by its own PSU, power supply is 230V AC (115V AC on request)
- **signal loss**
In the case of a loss of the drive signal the last setting will remain intact (selectable).
- **cost-effective**
The SOUNDLIGHT 3308R-HP RDM is a cost-effective solution for many purposes.
- **compatibility**
The decoder is functionally compatible to models 3308R-H DC and 3008R-DC.

APPLICATIONS

The DMX SSR decoder 3308R-HP has been designed to switch high current DC loads. Maximum output switching voltage is 30V DC, maximum switching current is 8 amps. The control outputs are galvanically isolated from the control electronics, with all outputs referred to common GND. The switching outputs must be operated using DC voltage. All outputs are switching to common GND..

The decoder can be mounted on a standard DIN rail.

UNPACKING

Please unpack carefully and check that all items are intact. When leaving our factory, the card has been in good condition. In case of damage during transport please notify the carrier immediately.

When unpacking, you should identify these items:

- * the interface 3308R-HP DC RDM
- * this manual

The optional programming adaptor 3000P or 3003P (not included with DIN rail devices) must be ordered separately.

SAFETY ISSUES

This device uses Mains Voltage (230V AC). Mains voltage can be dangerous to health. Refer to a qualified technician when cabling and powering up the interface for the first time.

CONNECTORS

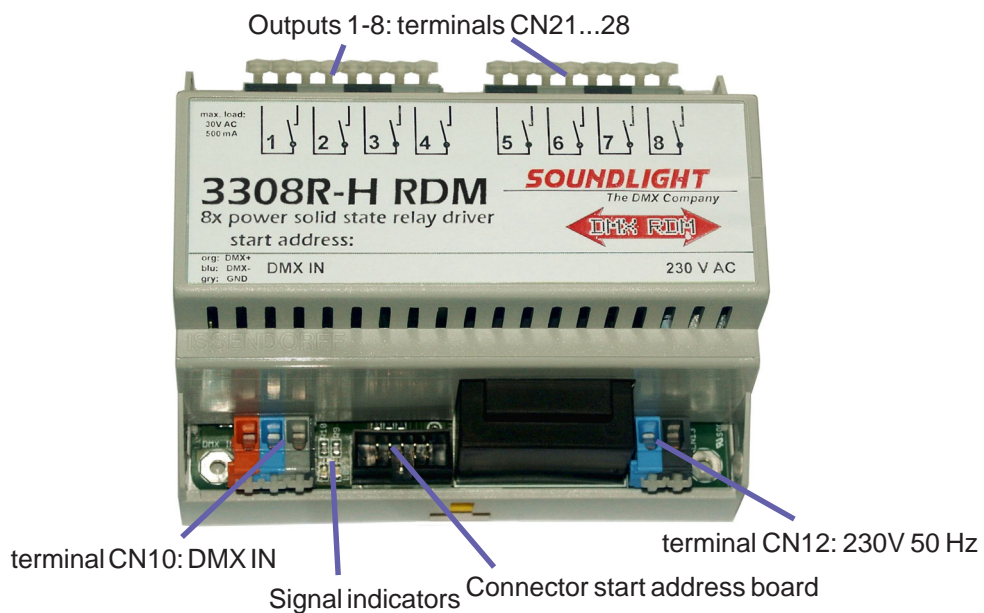
The SSR decoder 3308R-HP DC RDM consists of these connectors:

CN13	POWER SUPPLY 230 V AC (Cage Clamp 2-pole)
1	[BLUE] Neutral
2	[BLACK] Live 230V

Model 3308R-HP DC: 8 Outputs

CN21...28	Power output, isolated CH1...CH8 (Cage Clamp 2-pole)
1	white: OUTPUT #1
2	blue: GND, 0V (OUTPUT COMMON)

CN10	DMX Input (cage clamp, 3-pole)
1	grey: Signal Common (GND)
2	blue: -DMX
3	orange: +DMX



LED BLINKCODES

Green LED
 on
 off
 4x blink red/green

Red LED
 off
 blinking

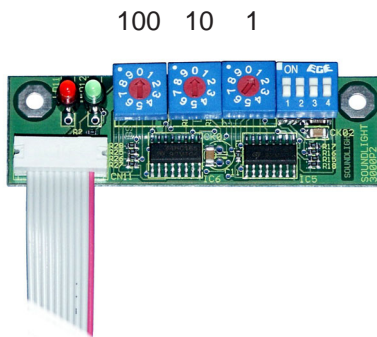
Status
 OK DMX signal received
 Error: no data signal present or out of range
 saving settings to EEPROM

DMX START ADDRESS

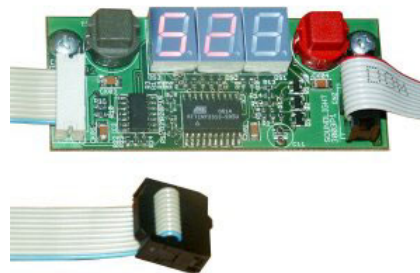
It is a commonly used scheme for building automation devices to avoid configuration switches. All settings are stored permanently in non-volatile memory. When installing the decoder for the first time, the output settings (DMX PERSONALITY) and the DMX start address (number of the first DMX data slot, value 001 ... 506) must be programmed.

A start address switch board 3000P or 3003P is required to set start address and mode of operation. With DMX RDM, no start address board is required. Start address settings and DMX personality selection can be performed via DMX RDM.

start address board w/ switches
model 3000P



start address board w/ display
model 3003P



IMPORTANT NOTE: If a start address or personality setting, or a change of DMX HOLD properties has been initiated using DMX RDM commands, the external start address board will be disabled to not interfere with software driven settings. To re-enable the external start address board and take control, simply set any address from 900 to 999 (or: temporarily set the "hundreds" position to "9"). The RDM-LED will extinguish, a programming cycle will be displayed (four times red-green) and the address and DIP switches will take control again.

DEFAULT SLOT ALLOCATION

The DMX Relay Decoder 3308R-HP uses 8 DMX data slots. These data slots are assigned to outputs 1...8. To increase switching accuracy, a switching hysteresis has been added. Refer to the DIP switch settings or refer to the DMX RDM PERSONALITY function to change hysteresis or output allocation.

DATA SLOT ALLOCATION

Use the DIP-switches of the start address board 3000P (or Soft-functions F1..F4 of the start address board 3003P) to change settings and DMX Personality.

MODE	DMX data slots	comments
Single channel mode w/ hysteresis	8	<25% = off, >75% = on (default)
Single channel mode w/o hysteresis	8	trip point 50%
Bit-Mode	1	Bit0 = Output 1, Bit1 = Output 2, Bit2 = Output 3 etc.
VU-Meter-Mode (LADDER MODE)	1	000-032 = all outputs off 033-064 = Output 1 065-096 = Output 1 + Output 2 097-128 = Output1 + Output 2 + Output 3 etc until 255 = all Outputs on

DIP-SWITCHES

DMX Personality and DMX HOLD Options are set using the DIP switches onboard the 3000P start address board. Both, start address and HOLD-Options as well as personality selected will be stored in nonvolatile memory and will be recalled even with the start address board not present.

NOTE: All settings can be overridden using DMX RDM commands (see RDM manual).

Standard setting is "all switches off". That means:

<u>DIP SWITCH 1,2DMX HOLD MODE</u>	<u>S1</u>	<u>S2</u>
Mode 0: no HOLD, all Outputs OFF	OFF	OFF
Mode 1: no HOLD, all Outputs ON	OFF	ON
Mode 2: DMX HOLD (last look)	ON	OFF

DIP SWITCH 1 **HOLD:** **default: off = no**
When HOLD has been set, the last look will be retained.

DIP SWITCH 2 **Offwert:** **default: off =all OFF**
When HOLD has not been set, this switch selects to go to OFF or to ON.

DIP SWITCH 3,4 **DMX PERSONALITY**

OFF/OFF = single channel mode - 8 DMX data slots (default)
OFF/ON = trip point 50%, no hysteresis
ON /OFF = Bit-Mode - 1 DMX data slot
ON /ON = VU-Meter Mode - 1 DMX data slot

DMX RDM PROPERTIES

The Solid State Relay 3308R-HP RDM conforms to ANSI E1-20 DMX RDM standard 1.0. The unit will be recognized as a POWER CONTROLLER and can be configured as:

- a 8-ch device featuring 8 individually controllable outputs (two options using different hysteresis levels available)
- as a 1-ch device featuring 8 individually controllable outputs (two options using different output assignments available)

is compatible with ANSI E1-20 DMX RDM Version 1.0. Please note some special properties of devices complying with DMX RDM:

NOTE:
Once settings have been changed using DMX RDM, the address switches become inactive (blocked). To re-enable start address switches, temporarily set any address from 900...999 (simply set the "hundreds" digit to "9"). This will re-enable switches.

For a more detailed description of RDM properties, pls refer to the separate RDM manual available from our website (www.rdm.soundlight.de). All commands are described in more detail. Additionally, refer to the command manual coming with your RDM controller or RDM controller software. RDM commands are described in full detail in the ANSI E1-20 standards document, available from the standards store at www.ansi.org or www.plasa.org/tsp.

Select the appropriate DMX PERSONALITY to configure the DMX decoder.

Special functions available with the Solid State Relay 3308R-HP RDM interface include:

RESET DEVICE

Used to reset the unit. A "cold" reset or a "warm" reset are available. The "cold" reset will increase the DEVICE POWER CYCLES counter.

Function: SET
 Parameters: 01 (\$01) generates a warm reset
 255 (\$FF) generates a cold reset

DEVICE POWER CYCLES

reads the number of device power-ups. Cannot be reset.

Function: GET
 Parameters: none
 Return data: 1 word (0-65535, \$0000-\$FFFF)

DMX HOLD MODE

sets the behaviour at loss of data signal and reflects the state of DIP switches 1 and 2 (or settings F1, F2, respectively - see above).

Function: GET / SET
 Parameters: 1 Byte (0-2)
 0=non-hold, all outputs OFF
 1=non-hold, all outputs ON
 2=DMX HOLD (last valid value retained, "last look")

PLEASE NOTE:

DMX HOLD properties are not supported by RDM standard ANSI E1-20. A factory specific command (DMX HOLD) has been added to compensate these restraints. Use parameters 0...2 to set the desired HOLD mode:

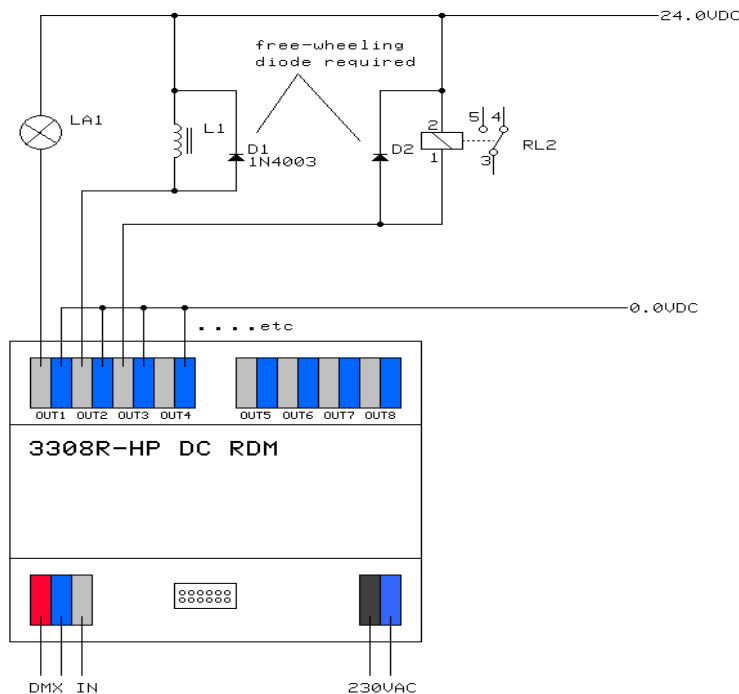
- 0: no HOLD, all outputs OFF upon loss of signal
- 1: no HOLD, all Outputs ON upon loss of signal
- 2: DMX HOLD (last look remains active)

- Setting the DMX personality reflects setting of DIP switches 3 and 4 (and vice versa).

POWER SWITCHES

The decoder 3008R-HP DC RDM is fitted with high power semiconductor switches. Please make sure that the maximum rated values (maximum voltage: 30V DC, maximum current: 8 Amps DC) are never exceeded. The maximum switching power should be limited to **200W per output**.

When switching inductive loads special precautions must be taken to avoid induced voltages. Inductive loads, such as solenoids, valves or relays must be fitted with free-wheeling diodes or voltage suppressors to avoid high voltage spikes. **Damaging the output circuitry through excessive inductive voltage spikes or overcurrent will NOT be covered by warranty!** Make sure to add protective circuitry as needed.



Typical wiring of outputs
 inductive loads must carry protective circuitry

TECHNICAL DATA

Dimensions:	115 mm (W) x 67 mm (H) x 113 mm (D)
Power supply:	230V AC 3W
DMX IN:	1 Unit Load
Relay Out:	typ. 24V DC, typ. 4A max. 30V DC, max. 8A
Switching time (rise time, on):	<10us
Switching time (fall time, off):	<15us
Output voltage drop:	<20mV bei 0,4A, <50mV bei 4A
Order Code.:	3308R-HP DC (8-ch)

CE Conformity



This DMX decoder is microprocessor controlled and uses high frequency (8 MHz quartz). The interface has been tested in our EMC lab to comply with EN5022B and IEC65/144. To ensure the best performance regarding radiated and conducted emissions we suggest to install the interface card in a closed, conductive (e.g. metal) housing, which must be connected to GND.

Please make sure that shielded data cable is used and the shield is connected properly to the GND pin. Shield must never make contact to other signal lines.

FCC Statement

This product has been tested and complies with the specifications for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used according to the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which is found by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment or devices
- Connect the equipment to an outlet other than the receiver's
- Consult a dealer or an experienced radio/TV technician for assistance

FCC Caution: Any change or modification to the product not expressly approved by SLH could void the user's authority to operate the device.

Disturbances

If a trouble-free operation cannot be guaranteed, disconnect the decoder interface and secure it against unwanted operation. This is especially necessary, when

- the unit shows visible damages;
- the unit does not operate;
- internal parts are loose;
- interconnection cables show visible damages.

Limited Warranty

This instrument is warranted against defects in materials and workmanship for a period of 24 months, beginning with the date of purchase. The warranty is limited to repair or exchange of the hardware product; no further liability is assumed. SOUNDLIGHT is not responsible for damages or for loss of data, sales or profit which arise from usage or breakdown of the hardware product. In Germany, SOUNDLIGHT will repair or replace established defects in

hardware, provided that the defective part is sent in, freight paid, through the responsible dealer along with warranty card and/or sales receipt prior to expiration of warranty.

Warranty is void:

- when modifying or trying to repair the unit without authorisation;
- modification of the circuitry;
- damages by interference of other persons;
- operation which is not in accordance with the manual;
- connection to wrong voltage or current;
- misuse.

End-of-Lifetime Procedures



Electronic devices are not domestic waste and must be disposed of properly. If the end of lifetime of this device has been reached, it must be recycled by your local WEEE recycling system or collection point.

SOUNDLIGHT is a WEEE registered company (registration code DE-58883929)

Service

There are no parts within the DMX Decoder 3308R-HP DC RDM which require the user's attention. Should your unit require servicing, please send it to the factory, freight paid.

Internet-Hotline

Please use our internet domain <http://www.rdm.soundlight.de> for new versions, updates etc. If you have any comments which may be worth considering, please send a message to info@soundlight.de. We will check your message and reply accordingly.