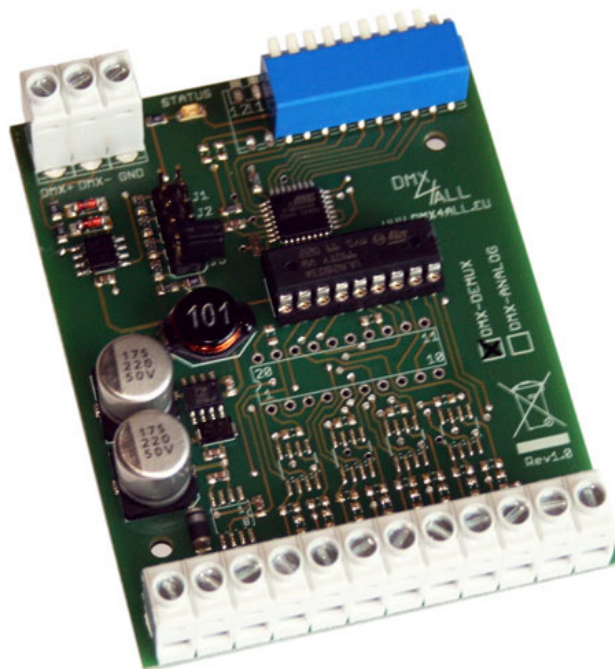# DMX-Universaldemux

8 outputs with different operation modes
Treshold / Binary / PWM / Strobe / Servo
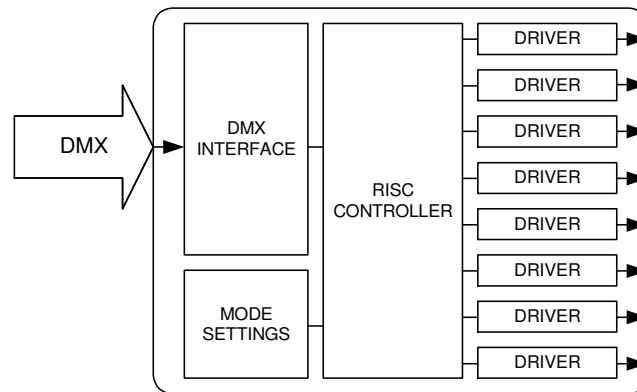
User Manual
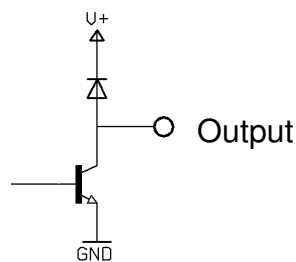
DMX4ALL ®

Description

The **Universal-Demux** ist equipped for an universal application with several operation modes. The 8 outputs release a signal depending on the DMX-input signal and according to the operation mode

Each output has a transistor step as driver with a protection diode. This is shown in the following drawing shows for one output:

Technical data

Voltage supply:
5-12V DC / 100mA (without connected units)
DMX:
1 or 8 DMX channels (depends on selected mode)
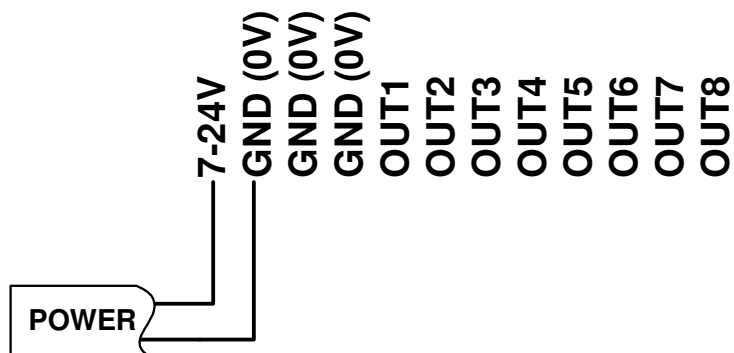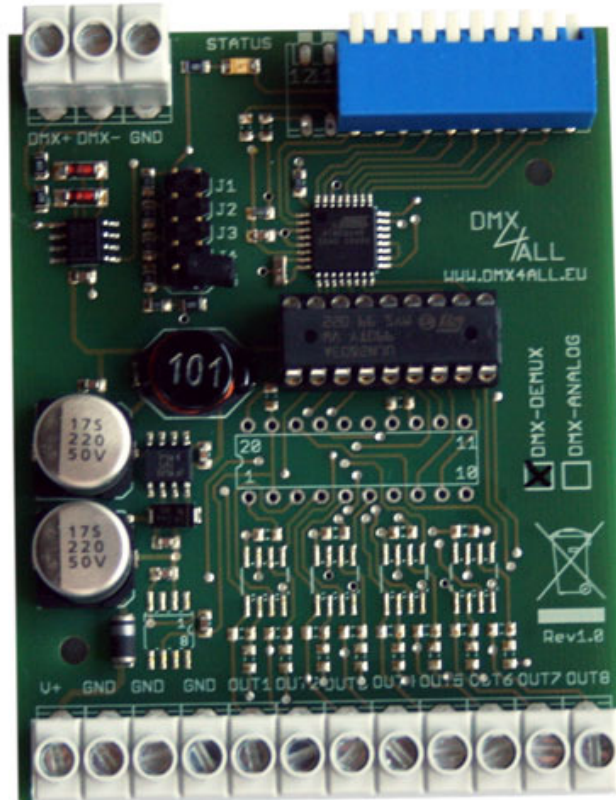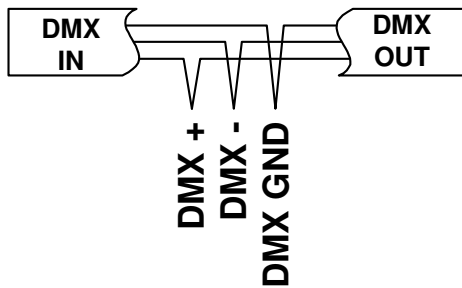on pin raw
Output:
8 outputs with driver and free-wheeling diode
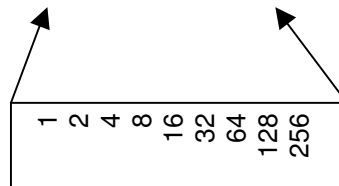max. 500mA / on pin raw
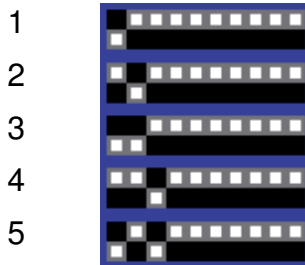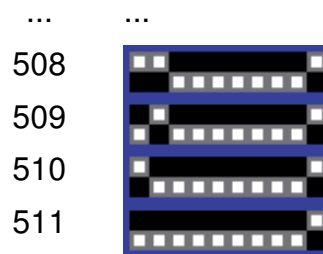**PCB-Dimensions:**
64mm x 82mm

Connection

Addressing

The starting address is adjustable via a DIP-Switch. Switch 1 has the valency 2^0 (=1), switch 2 has the valency 2^1 (=2) and so on… finally switch 9 has the valency 2^8 (=256). The sum of the switches showing ON, represents the starting address.

Address	Switch		Address	Switch
1			...	...
2			508	
3			509	
4			510	
5			511	

LED-Display

The LED is a multifunctional display. In the normal operation mode the LED lights non-stop. In this case the device is working. If the LED is permanently dark, there is no DMX512-input-signal.

Furthermore the LED signals the operation status. In this case, the LED lights up in short pitches and then turns into off modus. The number of flashing signals is equal to the number of the error status:

| Error Status	Error	Description
1	No DMX	There is no DMX-signal
2	Address error	Please check if a valid DMX-starting address is adjusted at the DIP-switch
3	DMX-signal error	An invalid DMX input signal is determined, invert the signal line by changing switch 2 and 3 or use a twisted pair wire.

Operation mode

The operation mode is selectable via a jumper. It is important to place the jumper in accordance to the following drawings to ensure a faultless function.

It is not possible to combine the modes.

Treshold value-output (no jumper placed)

In the mode "Treshold value" there will be received 8
successive DMX-channels. The belonging output
will be set on OFF if the received value is between 0
and 127 and set on ON if the received value is
between 128 and 255. Thereby output 1 is according
to the first and output 8 is according to the last channel.
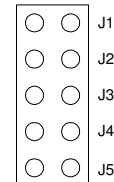
Example: DMX-value 1: 77_D = 0...127   DMX-value 1: 219_D = 128...255
          Output 1: OFF   Output 1: ON
          DMX-value 2: 219_D = 128...255   DMX-value 2: 77_D = 0...127
          Output 2: ON   Output 2: OFF
          ...   ...

⚠ To invert the output-signal please use switch 10.

Binary-output (only jumper J1 is placed)

In the „binary-mode" is only one DMX-channel
needed. The received value will be binary outputted
at the output. Thereby output 1 is according to the
first and output 8 is according to the last bit.
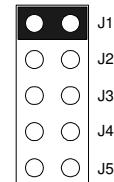
Example: DMX-value: 77_D = 01001101_B DMX-value: 219_D = 11011011_B
          Output1: ON 01001101_B Output 1: ON 11011011_B
          Output 2: OFF 01001101_B Output 2: ON 11011011_B
          Output 3: ON 01001101_B Output 3: OFF 11011011_B
          Output 4: ON 01001101_B Output 4: ON 11011011_B
          Output 5: OFF 01001101_B Output 5: ON 11011011_B
          Output 6: OFF 01001101_B Output 6: OFF 11011011_B
          Output 7: ON 01001101_B Output 7: ON 11011011_B
          Output 8: OFF 01001101_B Output 8: ON 11011011_B

⚠ To invert the output-signal please use switch 10.

Strobe-Control (only jumper J2 is placed)

The **Universal-Demux** gives out 8 controlling
signals for stroboscope in the strobe-control-mode.
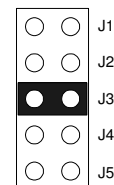Thereby each output will be triggered with one DMX-
channel.
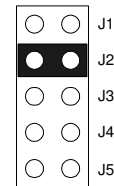
The DMX-value assignment is as follows:

| DMX channel	DMX value	Function
1...8	0-10	Stroboscope off
	11-249	Flashing speed slow → fast
	250-255	Synchron flash Only one time the output will be triggered. Switch back and forth between the DMX-value 0 and 255 to get a synchronized flashing.

PWM-output (only jumper J3 is placed)

In the PWM-mode will be outputted 8 successive
DMX-channels as PWM-signal. Depending on the
DMX-value the PWM-signal will be generated in a
range of 0-100%.

⚠️ To invert the output-signal please use switch 10.

Servo-Control (only jumper J4 is placed)

The **Universal Demux** receives 8 successive DMX-
channels and gives out a signal for triggering
customary Servos. Thereby each output will be used
to trigger one Servo.
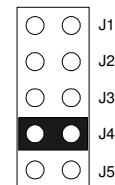
⚠️ For operating with Servos is a 5V power supply necessary, in the rule.
Please note, for the most Servos an additional resistor is needed which must
be connected between the data line and +5V.

Equipment

DIN-rail housing 700

Power supply 12V / 20W

CE-conformity

This assembly (board) is controlled by a microprocessor and uses high frequency (8MHz). To get the characteristics of the assembly in relation to the CE-conformity, an installation in a compact metal casing is necessary.

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.

DMX

®

4ALL

WWW.DMX4ALL.DE

DMX4ALL GmbH
Reiterweg 2A
D-44869 Bochum
Germany