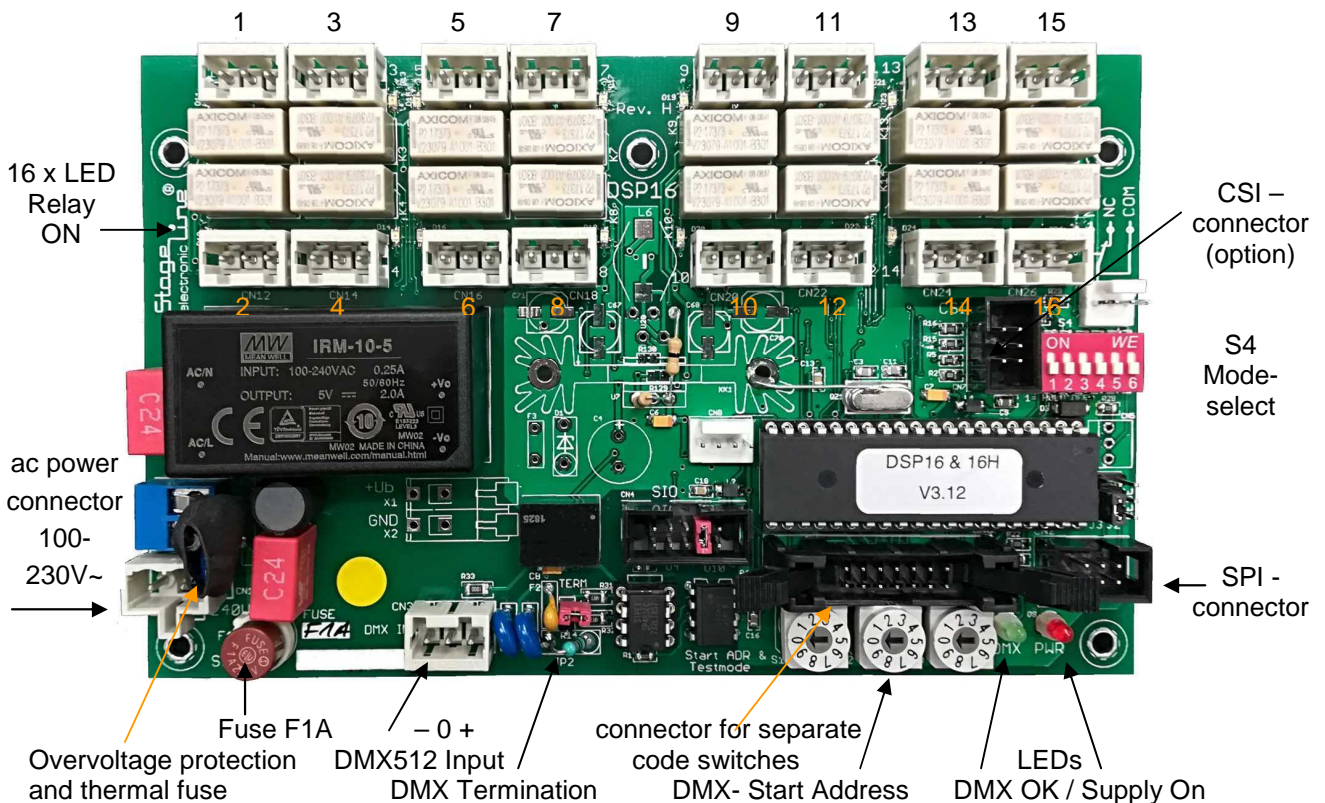


16 channel relay board with DMX512 interface
 → SPDT contact → connectors → ac switching supply



The DSP16 is a DMX512 controlled 16 channel relay switchboard. Each relay contact is able to switch 42V~/, 2A continues- or inrush current.

The DMX512 input and the Power supply as well as the relay outputs uses screw less plug connectors (cage-clamp). The ac power connectors is also available as 90° angled.

The DMX start address [001-512] and the test mode [901-919] is set with the onboard rotary code switches. As an option available external rotary or dual pushbutton code switches.

The Power supply is available as follows:

- onboard transformer for 230V ~
- onboard switching supply in a range from 85 to 264V~, 47 – 63Hz
- for external dc supply in a range from 10 to 30V, (e.g. from external Load supply)
- for external dc supply at 12V (ca. 110mA)

The DSP16 prevents unintentional switching while Power will be switched On.

Switch S4 selects the different modes.

S1.1 fixes the behaviour at DMX interface failure, open = hold last DMX values, closed = Relays Off

Furthermore modes like momentary switches, mutual locking, controlling motorized curtains and old colour changers are described below.

The DSP16 includes a protection component against momentary over voltages. But continuous overvoltage, which is an indicator for a faulty mains supply, causes overheating of this component. To prevent damage to the DSP16 by overheating and then by over voltage, there is a thermal fuse witch cuts off the power supply. If this happens, the thermal fuse must be replaced, either by us or by an electrician.

This piece of equipment needs 230 V ac for power supply. It is provided to the installation into a control cubicle, an comparable piece of equipment or other closed system-unit cover. It only may be installed and taken in operation by technically trained persons.

! Important Note: the connectors used on this board described as “connectors without breaking capacity” should not be connected or disconnected under load or live (>42V)!

Following Modes are available by setting the switch S4.2 to S4.4

2 - 3 - 4 0 = open, 1 = closed

- 0 0 0 Base mode:** 16 On-/Off-switches, each relay occupies one DMX channel. It switches on if the DMX value is > 60% and off – if the value is < 40%.
- 0 1 1** as base mode but with different ON/Off hysteresis, 3% (7 digit) On and 2% (3digit) Off
- 1 0 0** as base mode but always two relays 1-2, 3-4, 5-6, 7-8 with a mutual locking. (Blinds - open/close or up/ down). The outputs 9 to 16 remain in base mode (ON/OFF).
- 0 1 0 Momentary switches (simulation):** 8 momentary switches with 1s hold, each relay occupies one DMX channel. It switches on for only 1 second if the DMX value is > 60% and is once more switch able if the value was lower than 40%.
The outputs 9 to 16 remain in base mode (ON/OFF).
- 1 1 0** as Momentary switches but always two relays 1-2, 3-4, etc. with a mutual locking (Blinds Open/Close). The outputs 9 to 16 remain in base mode (ON/OFF).
- 0 0 1 Colour changer control:** one DMX-channel controls 4 Relays. These Relays has the following switching values: Relay 1 is ON >20%, >40% Relay 1 goes OFF and Relay 2 is ON, >60% Relay 2 goes OFF and Relay 3 is ON, >80% Relay 3 goes OFF and Relay 4 is ON. At a value under 20%, all Relay are OFF. (4 x 4 relays)
- 1 1 1 Motorized curtains control:** close,(Stop),open - 3 Relays by one DMX- channel. "One-Fader controlled". Only relays 1-2-3 and 4-5-6.

The outputs 1-2-3 and 4-5-6 are controlled by one DMX- channel each. e.g. 1= **Close**, 2= **Stop**, 3= **Open**. The outputs 7 to 16 remain in base mode (ON/OFF). On the right one can see an analogous Fader for a better representation of the function areas.

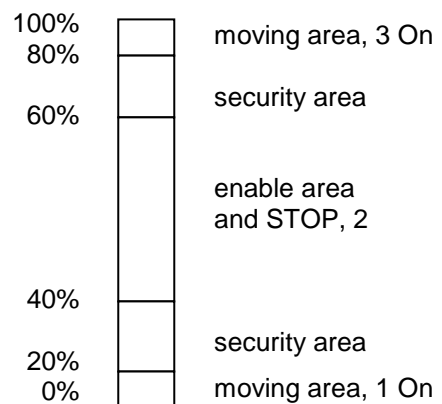
→ switching power on while DMX IN is active and the value is in the enable area, the STOP relay is triggered once. Switching power on while DMX IN is not present or the value is outside the enable area – nothing happens.

→ triggering a function (open or close) is only possible if the DMX- value was in the enable area before.

→ if the value changes directly from one moving area into the other (only possible by programmed devices or flash keys) the **stop** relay would be triggered first and then the **open** or **close** relay.

→ if the value changes from a moving area into the enable area, **open** or **close** becomes disabled and then the **stop** relay was triggered once.

→ The **stop**- relay is no longer switched on as one second.



- 1 0 1** as motorized curtains control but open/close with momentary function

An external circuit board with switches for manual On/Off and control lamps can be attached at the CSI connector. The SPI connector is for internal use and special expansions.

Technical Data:	Supply voltage	100-250V~, 5W
	Interface:	DMX512, 1990, fully opto isolated
	Dimensions:	160x100x55
	Weight:	232g (incl. Plug connectors)