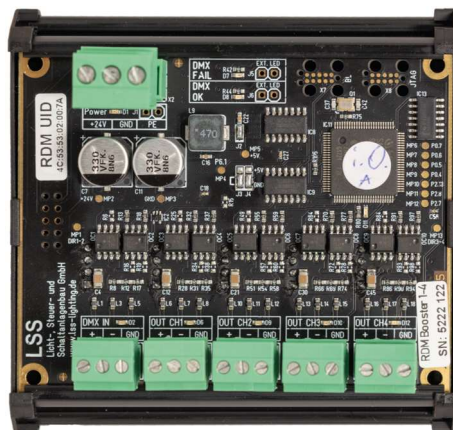# LSS

DMX-RDM Booster 1 in 4

The LSS DMX Booster 1 in 4 is a booster and distributor of DMX signals on four outputs. All data connectors of the device are electrically isolated by using optocouplers for protection against electrical interference and have an EMC protection circuit.

The LSS DMX Booster 1 in 4 supports RDM (according to ANSI E1.20 2010 + E1.37). In the RDM network, the booster is an in-line device with a user interface device. It always routes RDM requests from the DMX input to all DMX outputs and handles responses according to the RDM request.

The LSS DMX Booster 1 in 4 can be combined in a modular design with other boards to a booster unit. The DMX signal is then looped through to the DMX-Ins of the boards. The booster requires a 24 V DC power supply, which can be fed in via the LSS power supply board 24 V/15 W (article number 5145) or via a 3-pole terminal.

Example of a double booster with two LSS DMX Boosters 1 in 4

Technical specifications

DMX-In	1x PCB header Phoenix MCV 1,5/3-G-3,81, optically electrically isolated
DMX-Out	4x PCB header Phoenix MCV 1,5/3-G-3,81, optically electrically isolated
DMX termination	Manually via a termination switch on the board
Power supply	24 V DC, max. 1A, PCB header Phoenix MSTBVA 2,5/3-G-5,08
Operating temperature	0 °C to 40 °C / not condensing
Device messages	Via LED on PCB / RDM
RoHS	Compliant
Included in delivery	PCB & Surface Mount UM108 (for 35 mm DIN rail DIN EN 60715)
Dimensions (W x D x H)	1 in 4: 93 x 90 x 60 mm incl. surface mount Double: 183 x 90 x 60 mm incl. surface mount
Weight	1 in 4: 115 g incl. surface mount Double: 220 g incl. surface mount
Article number	**5222**

Responses on RDM Requests

Request	Device response
UNIQUE_BRANCH-Requests	Are added up by all devices connected to the DMX-Out and the RDM booster and forwarded to the DMX-In. Attention, it can Discovery collisions arise!
Requests to RDM-Booster	Will only be answered by Booster and forwarded to the DMX-In.
Requests to certain devices	Only forwarded to the DMX-In from the DMX-Out to which the answering device is connected.
"False Responses," e.g. Broadcast Requests	Are already suppressed in the booster.

Connectors and LED
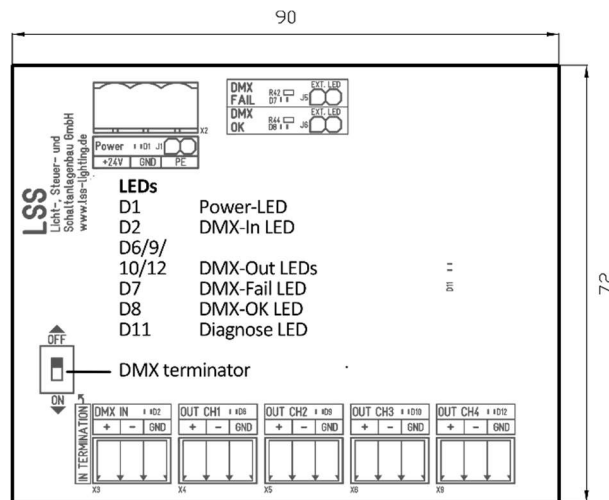
LED messages

LED	Conn.	Color	Meaning	
Power	D1	Green	On:	24 VDC power supply available
			Off:	No power supply available
DMX-In	D2	Yellow	On:	RDM-Data traffic
DMX-Out	D6/9/ 10/12	Yellow	One:	RDM traffic to a device at this OUT
			All:	RDM-Discovery runs
			During a software update via RDM, the yellow LEDs indicate progress in 25 - 50 - 75 - 100%.	
Fail	D8	Red	Off:	No error
			On:	Signal at input faulty (for example, unknown start code)
			Flash 1s:	Software update via RDM
DMX-OK	D8	Green	Off:	No signal at DMX-In
			On:	Light data active and error-free (start code 0)
			Flash:	Incoming data are no light data (e.g., RDM or startup code ≠ 0).
Diagnosis	D11	Yellow	Flashes in 1s intervals when the device is working.	

Start-up procedure

When you turn on the RDM Booster, the yellow LEDs indicate the following patterns:

0,5 s LED test	o	o	o	o	(all on)
Memory initialization	o	o	o	-
1 s firmware version, e.g.	-	-	-	o
	-	o	o	-

DMX signal termination

If the RDM Booster is the last device in a DMX data bus, the DMX signal must be terminated by switching it on. Boosted DMX signals are sent on a new data bus.

Display current firmware

The firmware is displayed one after the other in binary, first main version, then subversion. The order is 8, 4, 2, 1.

Example Firmware 1.6

Binary value	8	4	2	1	
Display A	-	-	-	o	means 0+0+0+1=1
Display B	-	o	o	-	means 0+4+2+0=6