LED-Warrior16-DR

DMX/RDM to IEC62386 Bridge

Code Mercenaries
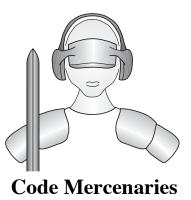
1. Features
- IEC62386 type II master
- DMX/RDM to IEC62386 bridge
- Can address broadcast, groups or devices
- Converts 1 to 64 DMX slots to IEC62386 DAPC
- Configuration via RDM-Personalities
- DC supply 7 V to 26 V, max. 30 mA
- Galvanically isolated IEC62386 bus
- Termination resistor for DMX via jumper
- Two unit DIN rail mountable device

1.1 Variants
LED-Warrior16-DR is available as a DIN rail mountable device.

1.2 Custom variants
Custom variants are possible, please contact sales.

2. Functional overview
LED-Warrior16-DR is a type II IEC62386 master. It can coexist with other masters on the same bus but is not addressable.

LED-Warrior16-DR uses 1 to 64 DMX slots and converts them into arc power commands for the IEC62386 bus. The addressing mode is configurable.

In factory mode a single DMX slot with start address 1 is used to send broadcast IEC62386 commands. So all connected IEC62386 lamps will be set to the same brightness level.

Configuration is done via RDM. The start slot and the mode are selectable via standard RMD functions. No specialized software is required, the setup can be done with any RDM tool that allows setting the start slot and personality of a RDM device.

In Group mode 1 to 16 DMX slots are translated into arc power commands addressed to the IEC62386 groups 0 to 15. The number of groups/slots is selectable. Likewise in the individual address mode 1 to 64 DMX slots are used to address the devices 0 to 63 on the IEC62386 bus. The number of devices/slots is selectable.

For simple setup LED-Warrior16-DR advertises 81 different personalities on RDM, each with a plain text label. This allows a RDM tool to show the settings as a pop-up menu with 81 entries like "3 Groups", "16 Devices", "Broadcast".

2.1 IEC62386 function
LED-Warrior16-DR does not supply bus power to the IEC62386. An external bus power supply like LED-Warrior11-DR is required to do this.

When using a LED-Wariror11-DR to supply power to the bus keep in mind that if both units are fed from a single 24 V DC power supply the DMX will not be galvanically isolated from the IEC62386 bus.

2.2 DMX/RDM function
LED-Warrior16-DR implements the standard RDM functions for device discovery and setting of start slot and personality. Any standard RDM configuration software should be able to configure LED-Warrior16-DR.

Depending on the configuration selected via RDM LED-Warrior16-DR uses 1 to 64 slots of the DMX data and converts these into IEC62386 commands. The brightness value is cut off at 254 since IEC62386 uses 255 for a different purpose. So brightness values 254 and 255 on DMX will both be mapped to 254 which is maximum brightness on IEC62386.

2.3 Data rates
IEC62386 is significantly slower than DMX/RDM. If a fast sequence of changing brightness values is transmitted via DMX/RDM only some of these values will actually be transmitted on the IEC62386 bus.

The last new value received will be translated to the IEC62386 bus.

3. Connections
All external connections are done via screw terminal blocks.

Two positions are for feeding the DC supply power. The connection is protected against reversal of the lines.

Four positions are used for DMX/RDM: GND, Sig-, Sig+, and Term. If the LED-Warrior16-DR is the last device in a DMX device chain, the termination resistor may be activated by putting a jumper between Sig+ and the Term position.

There are four positions for IEC62386 to allow easy feed through for the two lines (the two positions in either terminal block are the same).

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V+ / GND
Power supply for the LED-Warrior16-DR. Accepts up to 26 V DC. Minimum required voltage is 7 V.

DMX Gnd, DMX Sig-, DMX Sig+
Connection for the DMX/RDM signals. Connect direct to the bus.

Term
Optional termination resistor if the LED-Warrior16-DR is the last device on the bus. Insert a jumper between "Term" and "Sig+" to activate the termination resistor.

A / B
Connection for the IEC62386 bus. Connect one wire to the A and the other to the B terminal block. An external IEC62386 bus power supply is required for the operation of the IEC62386.

3.1 Mechanical dimensions

Dimensions in mm
36 x 90 x 58 mm (69 max.)

Conforms to standard size for a 2 unit DIN rail mount.

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4. Absolute maximum ratings

Supply voltage (Vcc relative to GND): .... -0.5 V to +30 V
DMX pin input voltage (relative to GND): -10 V to 15 V
IEC62386 input voltage (differential): .... max. 50 V
IEC62386 current draw:...max. 5 mA
Storage temperature: .... -55°C to +100°C
ESD: .... 2000 V human body model

Absolute maximum ratings must not be exceeded or permanent damage to the LED-Warrior16-DR may result.

4.1 Operating specifications

Supply voltage (V+ relative to GND): .... 7 V to 26 V
Operating temperature: .... 0°C to +70°C
Supply current: .... 30 mA max.
DMX input voltage:...-7 V to 12 V
DMX termination resistor:..typ. 120 Ω
IEC62386 input voltage (differential): .... max. 24 V
IEC62386 input current: .... max. 2 mA

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5. Ordering information

Partname	Order Code	Package	MOQ	Description
LED-Warrior16-DR	LW16-DR	DIN rail	1	DMX/RMD to IEC62386 bridge

The chips and modules listed here are standard products. Customized chips and modules are available on request.

5.1 Packaging info
The modules are packaged as single units in cardboard boxes.

5.2 Shipping version
LED-Warrior16-DR is currently shipping in version V1.0.0.0

5.2.1 Revision History
V1.0.0.0 - Initial shipping version.

5.3 FCC / CE
LED-Warrior16-DR does conform to CE.