ProPlex®

DATA DISTRIBUTION

CRMX

WIRELESS DIN RAIL

QUICK START GUIDE

Description

Wireless DMX based on LumenRadio TimoTwo module

- ProPlex DIN enclosure
- RP-SMA antenna connector - can connect antenna directly or use cable to move antenna outside of the box this unit is installed in
- Bluetooth Connectivity
- PTB connectors for DMX and Power
- 5-48V DC external power supply, power draw max 5W
- Single DMX port that acts as input or output depending on selected mode
- DMX port with protection and isolation
- CRMX user interface with one button and multiple status LEDs

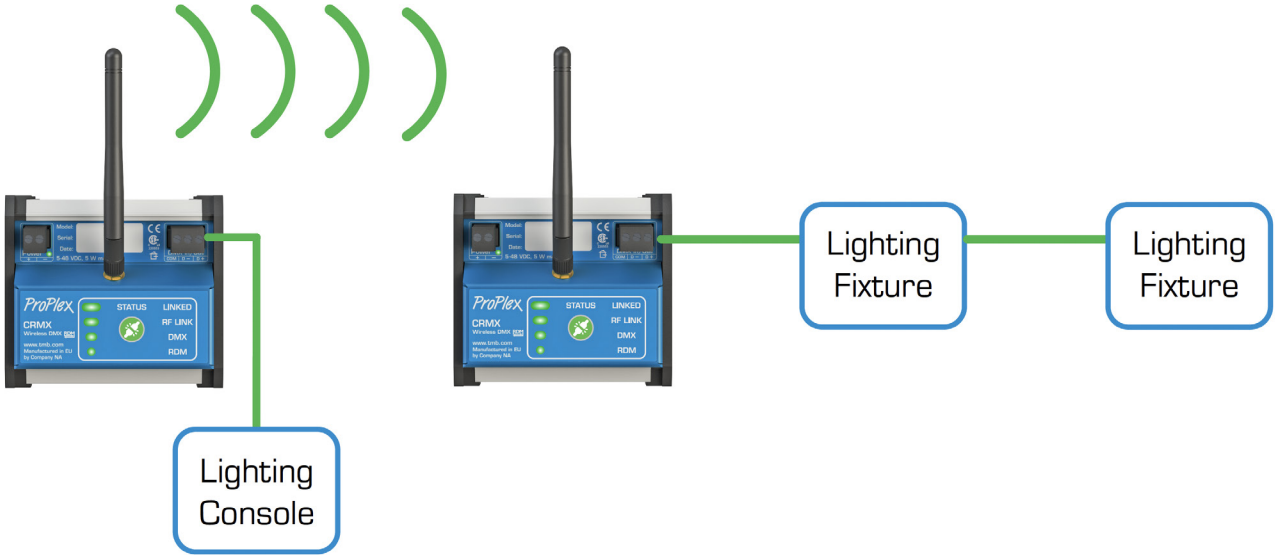
Features

- Receives CRMX2, CRMX Classic, W-DMX G3, G4, G4S and G5
- Transmit CRMX Classic, W-DMX G3 or G4S
- Supports ANSI E1.11 - DMX512-A and ANSI E1.20 - RDM
- Connectivity based on Bluetooth Smart, allowing for easy connection from any phone or tablet
- Cognitive coexistence - dynamically avoids occupied frequencies
- DMX fidelity and frame integrity
- DMX frame rate and frame size auto sensing
- Fixed 5 ms end-to-end latency in CRMX Classic or CRMX2 modes
- All configuration data is stored in non-volatile memory, 20 years data retention
- TimoTwo contains upgradeable firmware for future proofing
- Over-the-air firmware upgrades

Wireless DMX

Wireless DMX can be used in various different setups, sending DMX signal over a fixed 5 ms latency, where convencional cabels are not possible.

Example:

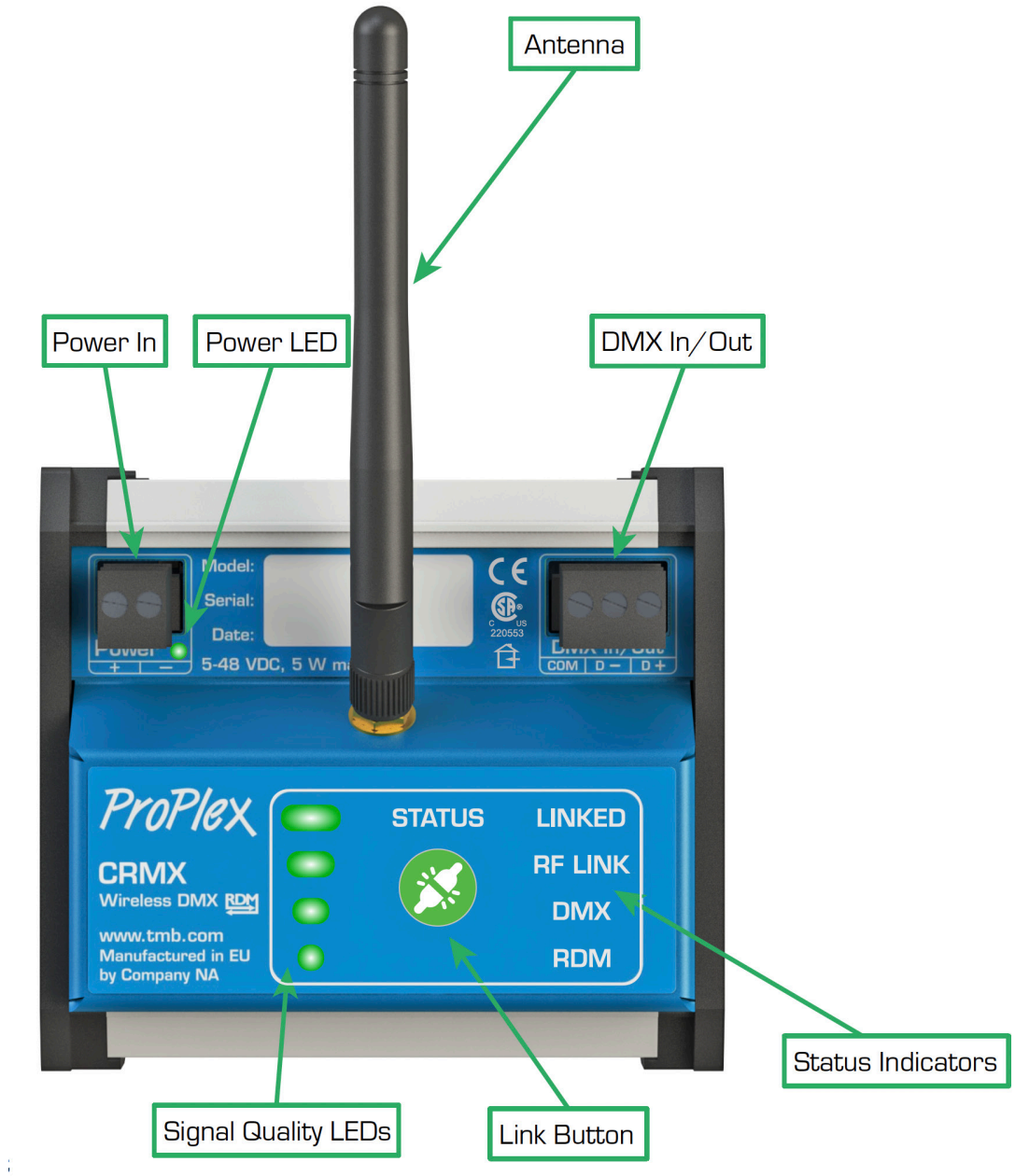


RDM RX

TimoTwo supports RDM in receiver mode in all cases. It can be used via the DMX interface.

RDM TX

TimoTwo can support RDM transmissions to be used directly in controllers, or stand-alone as RDM transmitter unit.



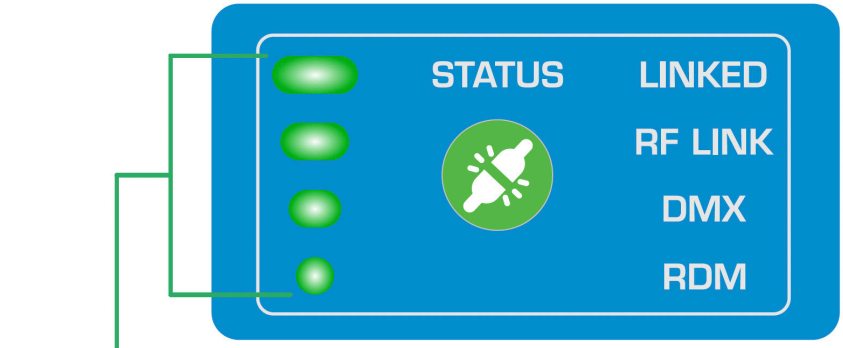
Power Pinout

1 DC +
2 DC --

DMX IN / OUT Pinout

1 COM
2 Data --
3 Data +

Signal quality indicators



Transmitter:
Not used/All off.

Receiver:
Top Green = 80 - 100% signal quality
Mid Green = 60 - 80% signal quality
Bottom Green = 40 - 60% signal quality
Amber = 20 - 40% signal quality
Red = Less than 20% signal quality

When operating as RX, the signal quality indicator shown how good the signal reception is.
When operating asTX, these LEDs are always off.

Status LED

Receiver

Not linked to any transmitter

Linked to a transmitter, but no active radio link

Active radio link, no DMX present

Active radio link, DMX data present

Transmitter

Active radio link, no DMX present

Active radio link, DMX data present

Linking receivers

Unlinking receivers

Linked

Receiver

The Linked LED indicates whether the TimoTwo is linked to a transmitter or if it's available to belinked. High level flashing indicates a linked state; low level indicates that the TimoTwo module is

Transmitter

High level flashing indicates an ongoing linking activity; low level indicates that the TimoTwomodule is "currently not performing a linking activity.

RF Link

Receiver

A high level flashing indicates that the receiver is within range from the transmitter it is linked to and that an active radio lin from the transmitter is present

Transmitter

A high level flashing indicates that there is an active radio link.

DMX LED

The DMX LED indicates if a valid DMX stream is received. A high level flashing indicates that DMX is present, a low level flashing indicates that no valid DMX is present

RDM LED

A high level flashing on the indicates that the TimoTwo is performing RDM activity.

Link Button

The switch input has several functions, among others to controlling the radio link or to force driver update mode. Please see the table below for details about the functions of the switch input:

FUNCTION	CONDITION
Link	Pull signal low (button pressed) for 0.1-1 second. (Only in TX mode.)
Unlink	Hold signal low (button pressed) for >3 seconds.
Force firmware update mode	Hold signal low (button pressed) during power on.
Toggle Bluetooth on/off	Short push (0.1-1s) followed by long push (>3s).
Change TX protocol	3x short push (0.1-1s) followed by long push (>3s).
Change RX/TX mode	5x short push (0.1-1s) followed by long push (>3s).
Reset PIN code	7x short push (0.1-1s) followed by long push (>3s).
Enable/disable proxy	9x short push (0.1-1s) followed by long push (>3s). (Only in TX mode, with license.)

The functions of the link switch button are available through the CRMX Toolbox app, and is recommended over using the link switch button for a more user friendly integration.But for minimal integrations, the functions can be used via the switch.

Linking Key

Linking recivers

Linking key can be used as a simple way to link receivers to a transmitter without the need to initiate the linking process on the transmitter. This allows the user to just enter the code into the receiver and it will be linked to the transmitter with the same code.

Note: The transmitter must have a linking key set to allow for this.

Note: Receivers can still be linked the traditional way when linking key is used by the traasmitter.

Cloning transmitters

Linking key is also a handy way to clone transmitters for transmitters that support this. By entering an 8 digit linking key code in two, or more, transmitters they will act as if they were the same transmitter. This allows to have transmitters in separate physical locations and move linked receivers between the locations without the need to re-link the receivers.

Note: Cloned transmitters must not be present in the same physical coverage area as the receivers will not know which one to connect to.

Note: Due to the nature of Linking Key that controls the identity of a radio link, the user should be adviced to use “good” key. A “good” key is one that is not easilly guessed, or one that is not likelly to be used by someone else. Examples of key that are not considered to be good is for intance (but not limited to): 11111111, 22222222, 11223344, 12345678, 10000000, 11000000, etc.

Output Power

Receiver

The radio output power of the TimoTwo module in receiver mode cannot be directly controlled.Instead the radio output power is automatically adjusted to match the output power from the transmitter.

Transmitter

Output power can be adjusted using the CRMX Toolbox app.
https://lumenradio.com/products/crmx-toolbox/

Firmware Update

Bluetooth

The easiest way to update the firmware in TimoTwo is by using the CRMX Toolbox app. It will automatically download the latest version from LumenRadio servers and upload to the TimoTwo module.
App: https://lumenradio.com/products/crmx-toolbox/

DMX interface

It is also possible to update firmware in TimoTwo via the DMX interface and the CRXM Upgrade cable. This requires the DMX interface to be accessible from outside the fixture.

See the link button section for information on how to set TimoTwo into firmware update mode.
Use the CRMX Update utility to update the firmware.
https://lumenradio.com/support/?post_id=1937&category=crmx-oem-modules&protocol=wireless-dmx

TECHNICAL SPECIFICATIONS	
Power Consumption	5 W max.
Operating Voltage	5 - 48 VDC
Operation Mode	Transmitter (TX), Receiver (RX)
Power Input	Pluggable Terminal Block 2
DMX Input/ Output	Pluggable Terminal Block 3
Control	DMX512-A (ANSI E1.11)
DMX universes	1
Antenna	RP-SMA
RDM	Yes
Bluetooth	Yes
Operating temperature	- 4° F to 122° F [- 20°C to + 50°C]

RF CHARACTERISTICS	
Frequency range	2402 - 2480 MHz
Radio module	TimoTwo
Latency	5ms
Encryption	128-bit
Forward Error Correction	Yes
MaximumRFpower(CRMX)	100mW (280mW in North America only)

Dimensions