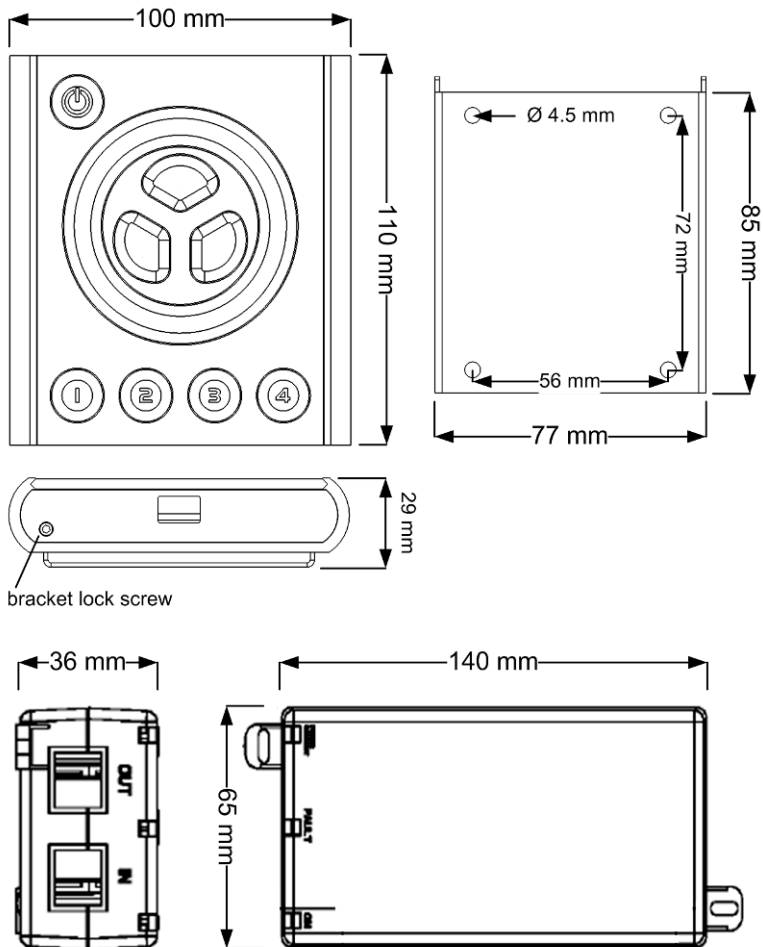


VX01

Installation guide



Dimensions



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Safety Information

Warning! This product is not for household use.

Read this manual before installing and operating the controller, follow the safety precautions listed below, and observe all warnings in this manual.

Preventing electric shocks



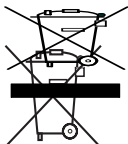
Always ground (earth) the power supply.

Use only a source of AC power that complies with local building and electrical codes, and that has both overload and ground-fault protection.

If the controller or power supply are in any way damaged, defective, wet, or show signs of overheating, disconnect the power supply from AC power and contact Viso Service for assistance.

Do not install or use the device outdoors. Do not spray with or immerse in water or any other liquid.

Do not remove any covers or attempt to repair the controller or power supply. Refer any service to Viso.



Disposing of this product

Viso products are supplied in compliance with Directive 2002/96/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), as amended by Directive 2003/108/EC, where applicable.

Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Viso products.

Introduction

About the VX01

The VX01 is a revolutionary new lighting controller for DMX controllable color changing lights. Programmed with each fixture's unique color curve, it provides the simplest, yet most powerful interface ever developed to control and match colors from multiple sources.

Package contents

The VX01 package contains the following items.

- VX01 Controller
- 48 V Power over Ethernet (POE) power supply
- CD-ROM with documentation and *Vdesigner* software
- 5 m UTP patch cable
- 1.5 m USB cable

About this document

This guide describes how to install and set up the VX01 controller.

For a description of how to operate the controller, please refer to the *VX01 Quick Guide*.

For help with *Vdesigner*, refer to the program's online help.

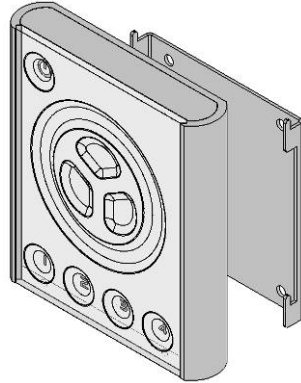
For installation and setup of lighting devices, please refer to their user manuals.

Installation

Controller and bracket

The VX01 is designed to be wall-mounted using the included bracket. To mount:

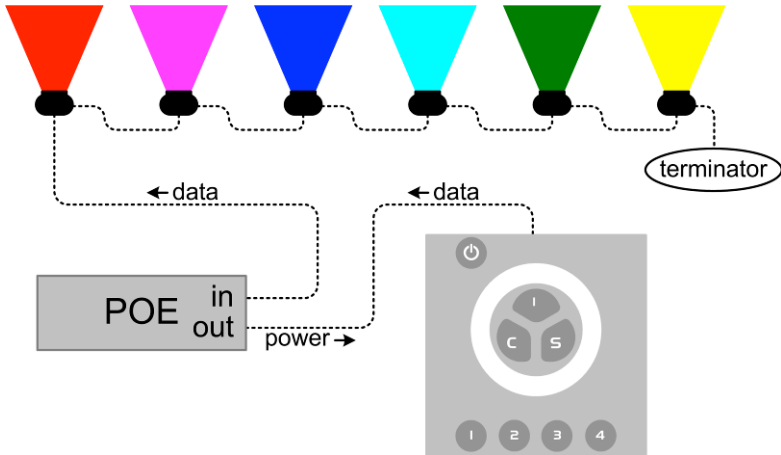
1. Loosen the set screw on the bottom of the VX01 with a 2 mm hex wrench and remove the wall bracket.
2. Center the bracket on the desired mounting position with the hooks pointing up.
3. Fasten the bracket to the wall with four suitable screws (not included).
4. Plug the included 5 m UTP patch cable into the RJ-45 socket on the back of the controller.
5. Place the controller on the bracket and slide it down over the hooks.
6. Tighten the set screw a few turns to hold the controller in place. **Do not over tighten: stop as soon as you feel light resistance!**



Power supply

Install the power supply in a dry location within a 40 meter cable run of the controller.

Connections



Warning ! Device is to be connected only to PoE networks without routing to the outside plant.

Controller to power supply

Connect a UTP patch cable (provided) between the RJ-45 socket on the back of the controller and the **OUT** socket on power supply **before** connecting the power supply to AC.

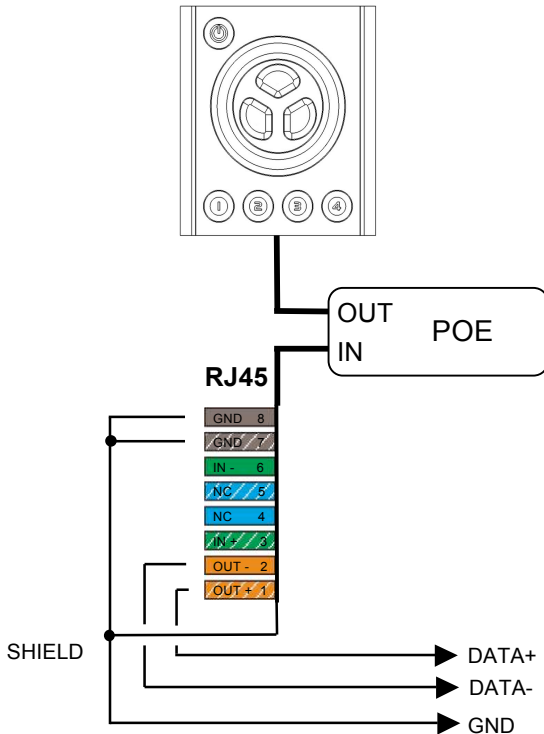
When power is applied to the power supply, all 3 LEDs will light for 2 seconds and then the "ON" LED will illuminate green. The "CONNECT" LED illuminates green when the controller is connected and receiving power.

Power supply to lights

Connect another UTP patch cable (not included) between the power supply's **IN** socket and the DMX input on one of the lights. If the light does not have an RJ-45 socket, you will need a 3-pin or 5-pin XLR-to-RJ45 adaptor that connects the pins as shown below.

XLR pin	RJ45 pin	Function
1	7, 8	signal common
2	2	data -
3	1	data +
4, 5	no contact	not used

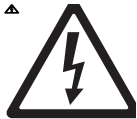
Connect the lights together in a serial chain, output to input. Connect no more than 32 lights and keep the total cable run to 300 m (1000 ft.) or less. If the application exceeds these limits, DMX splitter/amplifiers may be used after the power supply to increase the cable run and/or number of lights.



Line terminator

Terminate the end of the data line to prevent reflections that can distort the signal. This is usually accomplished by inserting a suitable 120 ohm termination plug into the DMX output of the last fixture in the line.

AC power supply cable plug



Warning: Risk of electric shock! Plug installation shall be performed by a qualified electrician.

A grounding-type (earthed) power plug that fits the local power outlet must be installed on the AC cable for the power supply. Alternatively, you can acquire an IEC power cable with a suitable grounding-type plug from most consumer electronics stores.

When installing the plug connect pins as follows:

yellow and green wire to ground (earth)

blue wire to neutral

brown wire to live

Using with computer

Introduction

The included *Vdesigner* software allows you to configure the VX01 for use with specific lighting fixtures, create and load lighting designs, and update fixture profiles and controller firmware.

This section describes how to configure the controller. The other features are described in the *Vdesigner* help file.

Software installation

Vdesigner requires Windows XP. Install the software as follows:

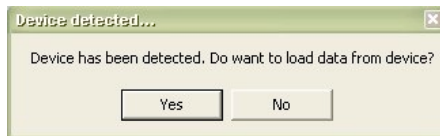
1. Place the CD-ROM in the drive. If autoplay is enabled, an installation dialog opens automatically after loading the CD-ROM.
2. If the installation dialog does not open, you must run the **boot.bat** file on the CD-ROM. Select **Run** from the **Start** menu, enter [CD-ROM drive letter]:boot.bat, and click **OK**.
3. From the installation menu, select whether you want to download and install the latest version of the software from the Internet (recommended), or the version on the CD-ROM.
4. Review and acknowledge the user agreement. Click **Next**.
5. The installation wizard opens. Follow the instructions on screen to complete the process.

Changing preset

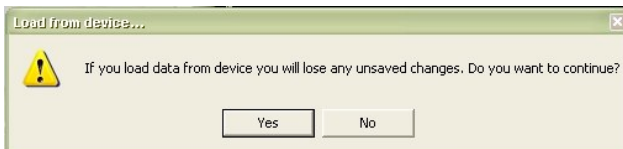
Though sometimes called “intelligent” lights, lighting fixtures can not identify themselves to the controller. **Before first use, and whenever changes are made to the lighting installation, the controller must be configured with the number and types of connected lights.**

Configure the controller as follows.

1. If you have not already done so, install the *Vdesigner* software.
2. Start *Vdesigner*.
3. Connect the VX01 to any USB port on the computer using the included USB cable. **Do not connect the controller to the PC before the software is installed.**
4. Within a few seconds, the computer detects the controller and asks whether you want to load data from the device. Click **Yes**.

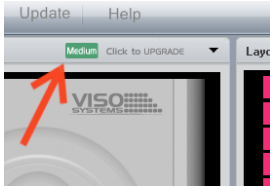


5. The next prompt alerts you that loading data will cause any unsaved changes to be lost. Click **Yes** to continue.



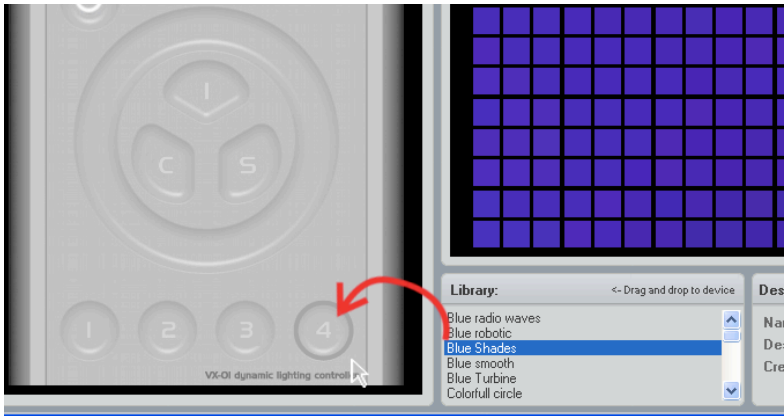
6.

6. Before changing preset you need to check software license of the VX01, you can see this by checking the icon on the top of the controller.



Click on “Click to UPGRADE” to get more information.

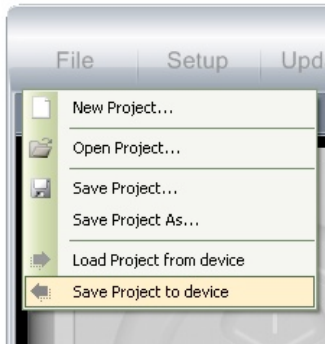
7. You can now change the preset on the device by dragging and dropping new show from the library.



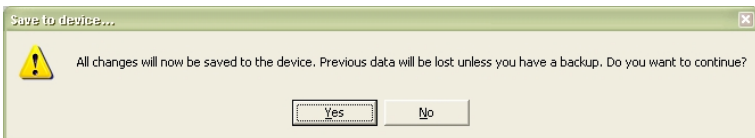
If you want to create your own shows please refer to the user manual by clicking Help->User manual.

8. When you finished making you changes you must save them to the device.

- Click either **File** in the main window.



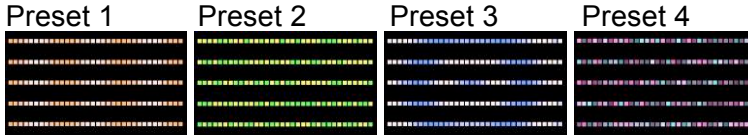
- Click **Save to device**.
- Click **Yes** at the confirmation prompt.



9. The VX01 is now configured and ready for use.
Before operation, the lights must be set to the right DMX addresses.

Factory default

Factory default presets



Factory default fixture addressing

Fixture name		Color profile	DMX
Default Fixture	1	RGB	1
Default Fixture	2	RGB	4
Default Fixture	3	RGB	7
Default Fixture	4	RGB	10
Default Fixture	5	RGB	13
Default Fixture	6	RGB	16
Default Fixture	7	RGB	19
Default Fixture	8	RGB	22
Default Fixture	9	RGB	25
Default Fixture	10	RGB	28
Default Fixture	11	RGB	31
Default Fixture	12	RGB	34
Default Fixture	13	RGB	37
Default Fixture	14	RGB	40
Default Fixture	15	RGB	43
Default Fixture	16	RGB	46
Default Fixture	17	RGB	49
Default Fixture	18	RGB	52
Default Fixture	19	RGB	55

Default Fixture	20	RGB	58
Default Fixture	21	RGB	61
Default Fixture	22	RGB	64
Default Fixture	23	RGB	67
Default Fixture	24	RGB	70
Default Fixture	25	RGB	73
Default Fixture	26	RGB	76
Default Fixture	27	RGB	79
Default Fixture	28	RGB	82
Default Fixture	29	RGB	85
Default Fixture	30	RGB	88
Default Fixture	31	RGB	91
Default Fixture	32	RGB	94
Default Fixture	33	RGB	97
Default Fixture	34	RGB	100
Default Fixture	35	RGB	103
Default Fixture	36	RGB	106
Default Fixture	37	RGB	109
Default Fixture	38	RGB	112
Default Fixture	39	RGB	115
Default Fixture	40	RGB	118
Default Fixture	41	RGB	121
Default Fixture	42	RGB	124
Default Fixture	43	RGB	127
Default Fixture	44	RGB	130
Default Fixture	45	RGB	133
Default Fixture	46	RGB	136
Default Fixture	47	RGB	139
Default Fixture	48	RGB	142
Default Fixture	49	RGB	145
Default Fixture	50	RGB	148

Default Fixture	51	RGB	151
Default Fixture	52	RGB	154
Default Fixture	53	RGB	157
Default Fixture	54	RGB	160
Default Fixture	55	RGB	163
Default Fixture	56	RGB	166
Default Fixture	57	RGB	169
Default Fixture	58	RGB	172
Default Fixture	59	RGB	175
Default Fixture	60	RGB	178
Default Fixture	61	RGB	181
Default Fixture	62	RGB	184
Default Fixture	63	RGB	187
Default Fixture	64	RGB	190
Default Fixture	65	RGB	193
Default Fixture	66	RGB	196
Default Fixture	67	RGB	199
Default Fixture	68	RGB	202
Default Fixture	69	RGB	205
Default Fixture	70	RGB	208
Default Fixture	71	RGB	211
Default Fixture	72	RGB	214
Default Fixture	73	RGB	217
Default Fixture	74	RGB	220
Default Fixture	75	RGB	223
Default Fixture	76	RGB	226
Default Fixture	77	RGB	229
Default Fixture	78	RGB	232
Default Fixture	79	RGB	235
Default Fixture	80	RGB	238
Default Fixture	81	RGB	241



Default Fixture	82	RGB	244
Default Fixture	83	RGB	247
Default Fixture	84	RGB	250
Default Fixture	85	RGB	253
Default Fixture	86	RGB	256
Default Fixture	87	RGB	259
Default Fixture	88	RGB	262
Default Fixture	89	RGB	265
Default Fixture	90	RGB	268
Default Fixture	91	RGB	271
Default Fixture	92	RGB	274
Default Fixture	93	RGB	277
Default Fixture	94	RGB	280
Default Fixture	95	RGB	283
Default Fixture	96	RGB	286
Default Fixture	97	RGB	289
Default Fixture	98	RGB	292
Default Fixture	99	RGB	295
Default Fixture	100	RGB	298
Default Fixture	101	RGB	301
Default Fixture	102	RGB	304
Default Fixture	103	RGB	307
Default Fixture	104	RGB	310
Default Fixture	105	RGB	313
Default Fixture	106	RGB	316
Default Fixture	107	RGB	319
Default Fixture	108	RGB	322
Default Fixture	109	RGB	325
Default Fixture	110	RGB	328
Default Fixture	111	RGB	331
Default Fixture	112	RGB	334


Default Fixture	113	RGB	337
Default Fixture	114	RGB	340
Default Fixture	115	RGB	343
Default Fixture	116	RGB	346
Default Fixture	117	RGB	349
Default Fixture	118	RGB	352
Default Fixture	119	RGB	355
Default Fixture	120	RGB	358
Default Fixture	121	RGB	361
Default Fixture	122	RGB	364
Default Fixture	123	RGB	367
Default Fixture	124	RGB	370
Default Fixture	125	RGB	373
Default Fixture	126	RGB	376
Default Fixture	127	RGB	379
Default Fixture	128	RGB	382
Default Fixture	129	RGB	385
Default Fixture	130	RGB	388
Default Fixture	131	RGB	391
Default Fixture	132	RGB	394
Default Fixture	133	RGB	397
Default Fixture	134	RGB	400
Default Fixture	135	RGB	403
Default Fixture	136	RGB	406
Default Fixture	137	RGB	409
Default Fixture	138	RGB	412
Default Fixture	139	RGB	415
Default Fixture	140	RGB	418
Default Fixture	141	RGB	421
Default Fixture	142	RGB	424
Default Fixture	143	RGB	427

Default Fixture	144	RGB	430
Default Fixture	145	RGB	433
Default Fixture	146	RGB	436
Default Fixture	147	RGB	439
Default Fixture	148	RGB	442
Default Fixture	149	RGB	445
Default Fixture	150	RGB	448
Default Fixture	151	RGB	451
Default Fixture	152	RGB	454
Default Fixture	153	RGB	457
Default Fixture	154	RGB	460
Default Fixture	155	RGB	463
Default Fixture	156	RGB	466
Default Fixture	157	RGB	469
Default Fixture	158	RGB	472
Default Fixture	159	RGB	475
Default Fixture	160	RGB	478
Default Fixture	161	RGB	481
Default Fixture	162	RGB	484
Default Fixture	163	RGB	487
Default Fixture	164	RGB	490
Default Fixture	165	RGB	493
Default Fixture	166	RGB	496
Default Fixture	167	RGB	499
Default Fixture	168	RGB	502
Default Fixture	169	RGB	505
Default Fixture	170	RGB	508

Restoring factory default

Restoring to factory can only be done during the first minute after a reset or power is applied to the device to ensure that the user does not restore the device by mistake.

If you are not able to disconnect and connect power to the VX01 can the device also be reset by holding down the power button  for 4 seconds when in the turned off state, after reset will power button  light red for the first 5 seconds before the controller is ready.

The device can now be restored to factory default by holding down the I button for 2 seconds and afterwards holding down the power button  for 4 seconds when flashing green.

Restoring to factory default deletes all settings of the device including password settings and loads default presets and fixture settings as shown above.

Troubleshooting

Problem	Probable Cause	Solution
No response from controller when on/off button is pressed	Cables reversed at power supply	Verify that patch cable from controller is connected to power supply's OUT socket
Buttons are over sensitive and self trigger	Driver noise from lighting devices are feedback to controller	Make sure all lighting devices are grounded
Dynamic designs do not execute when a preset button is pressed	Other lighting settings have been saved in the preset memory	Press and hold the preset button for about 4 seconds until the controller sounds twice
One or more lights has the wrong color, flashes, or blinks randomly	Interference in DMX data line	Verify that the end of the data line is terminated
	Data line length or fixture limit exceeded	Add a DMX splitter/amplifier to the data line
Lights do not respond to controller	Incorrect fixture setup	Configure controller
	Fixtures addressed incorrectly	Verify that fixtures are addressed as per the Fixture setup dialog

Connectivity (Advanced)

Introduction

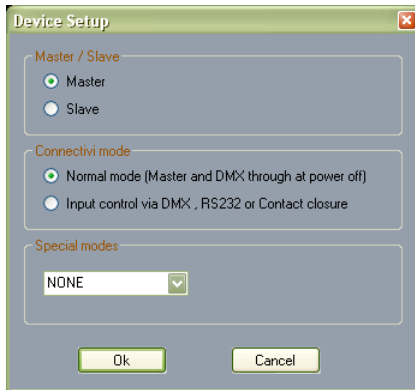
It can in some installations be necessary to be able to have the VX01 triggered or controlled from external sources. Such as movement sensors for power saving or from having a central systems setting specific preset/color for one or more controllers, or having two VX01's connected as master and slave. All these functionalities are called connectivity functions and are described how to be used in this chapter.

Selecting connectivity modes

The VX01 need to be setup to respond to the desired connectivity mode such as input trigger or master slave.



The connectivity mode can be selected either on the device itself or via the pc software.

To select the connectivity mode from the pc software, connect the VX01 to the pc and select Setup > Device > Connectivity and the connectivity mode can be selecting in the window show below.



The connectivity modes can also be selecting without using the pc software directly on the device.

Connectivity modes can only be set during the first minute after a reset or power is applied to the device to ensure that the user does not change mode by mistake.

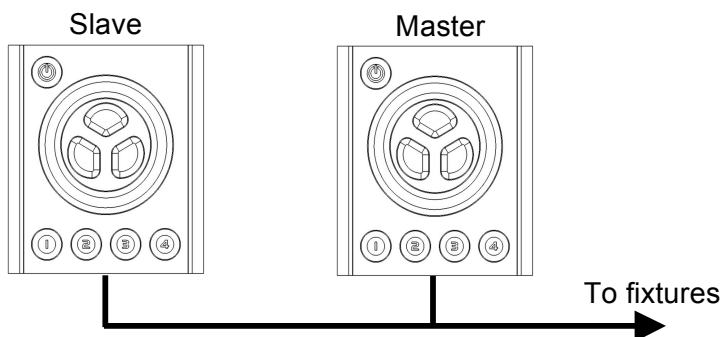
If you are not able to disconnect and connect power to the VX01 can the device also be reset by holding down the power button  for 4 seconds when in the turned off state, after reset will power button  light red for the first 5 seconds before the controller is ready.

The modes can now be selected by holding down the C or S buttons for 2 seconds when the controller is in the off state.

S = Enable or Disable (Slave mode)

C = Enable or Disable (Input control mode)

Master / Slave mode

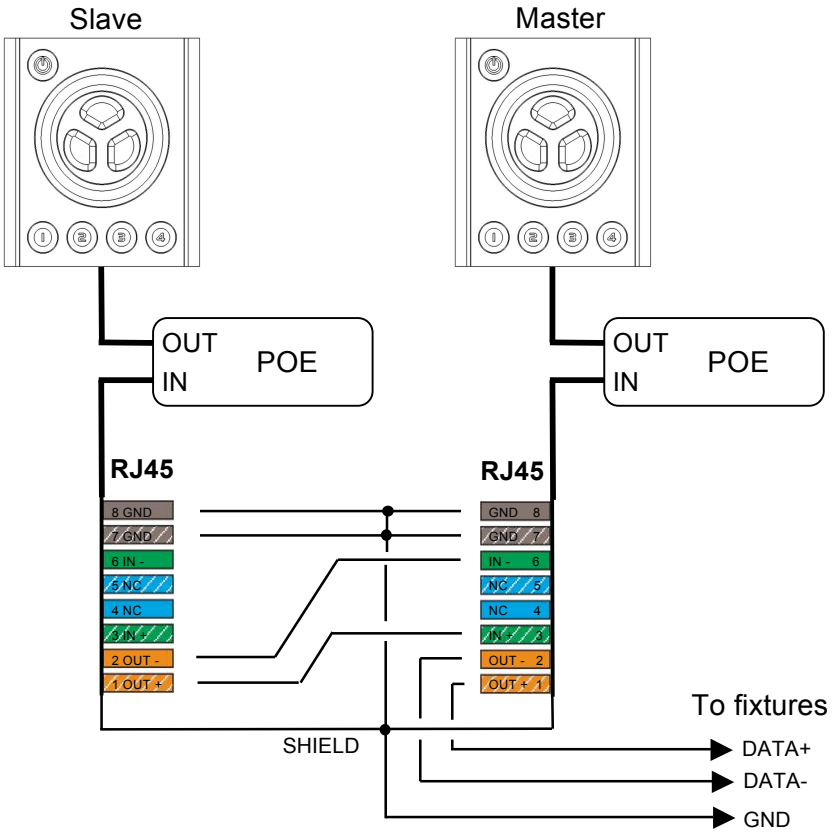


The master/slave mode enables a slave controller to be connected to master controller making it possible to have two controllers behaving identically thus making it possible to have two location where the light can be controlled.

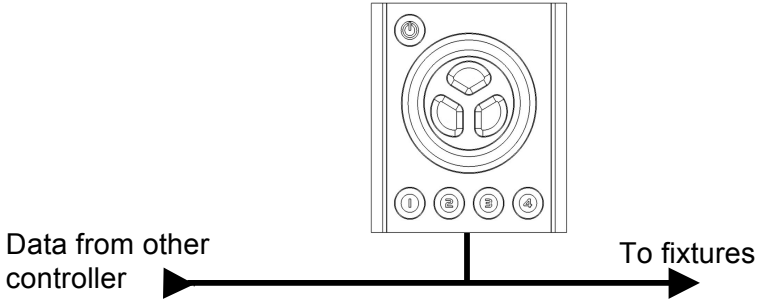
To enable this mode must the “slave mode” be enabled on the slave controller and the “input control mode” must be disabled on the master controller.

Note: Please refer to the chapter “Selecting connectivity modes” to get information on how to select/deselect modes.

Pin connection master/slave mode



DMX through mode



The “DMX through mode” makes it possible to have DMX data from another controller to be send to the VX01 where the data is passed through to the fixtures when the VX01 is turn off.

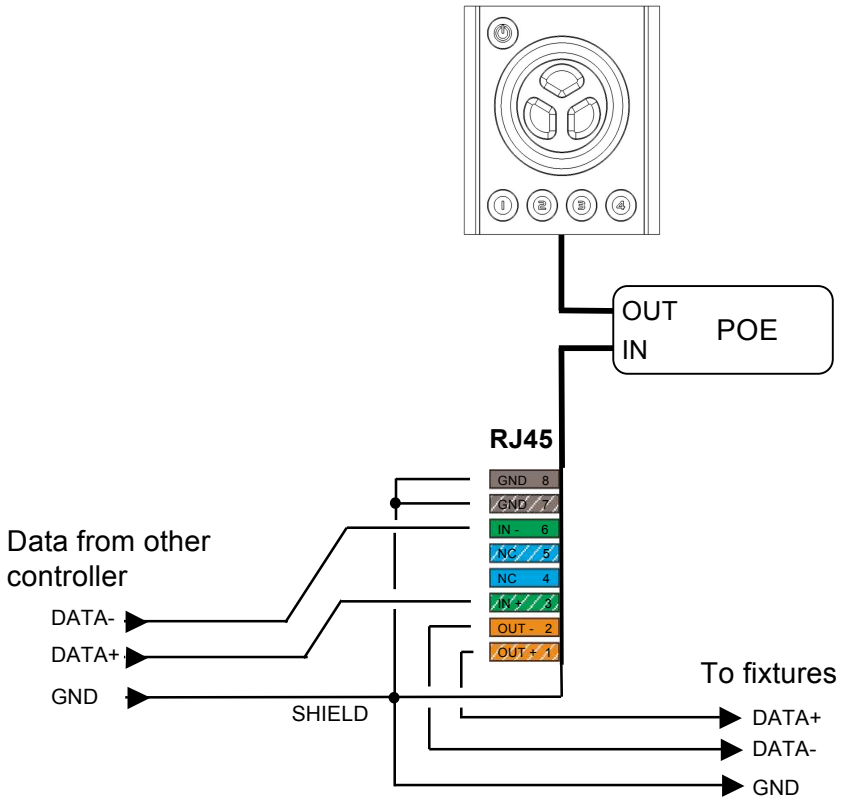
This mode allows the VX01 to act as a sub controller in a larger system. Giving the possibility for the user to insert a VX01 in a sub area where local control necessary.

When the VX01 is turned off will data from the other controller be passed through to the fixtures and when the VX01 is turned on will it take over control of the fixtures.

The “DMX though mode” is enabled by default when “Input control” and “Slave mode is disabled.

Note: Please refer to the chapter “Selecting connectivity modes” to get information on how to select/deselect modes.

Pin connection DMX through mode



Input control mode

The VX01 can also be controlled via 3 different types of external sources

Contact closure

RS232

DMX

The “Input control mode” enables you to control the VX01 via different input trigger such as contact closure for power on/off. RS232 and DMX can be used to trigger different preset and functions and lock the controller to specific preset.

Before you can use the contact closure, RS232 and DMX input control modes they first need to be enabled.

Note: Please refer to the chapter “Selecting connectivity modes” to get information on how to select/deselect modes.

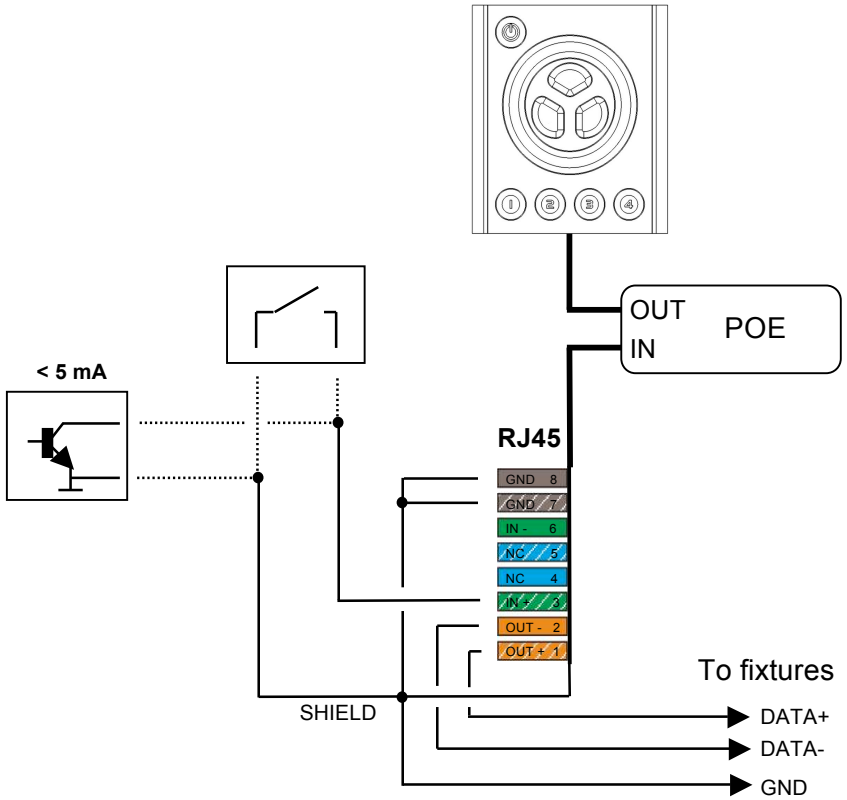
Contact closure mode

The contact closure mode is used to turn on and off the VX01 via an external switch such as a contact, relay, movement sensor etc.

When the switch is closed will trigger a power on event and when the switch is opened will trigger a power off event. The power button on the VX01 can also still be used to turn on and off the device as normally.

Note: If you wish the VX01 to start at a particular colour or preset when powered on, just select a colour or preset and hold down the power button for 2 seconds to save the power on state.

Pin connection contact closure mode



DMX and RS232 mode

The DMX and RS232 (*9600pbs*) uses the same commands for controlling the VX01, the command structure can be seen below.

The two first channels/value select the control mode, and following values are the controls for the selected mode.

1	2	3	4	5	n
Mode	Sub Mode	Command 1	Command 2	Command 3	Command n

The following modes are shown below, N/A are reserved for future control.

Channel/Byte	1	2
DMX% (byte)	<u>Mode</u>	<u>Sub Mode</u>
0% (000)	No Control	No Control
1-10% (013)	Mode 1 (Simple control)	Simple 1
11-20% (038)	N/A	N/A
21-30% (064)	N/A	N/A
31-40% (089)	N/A	N/A
41-50% (115)	N/A	N/A
51-60% (140)	N/A	N/A
61-70% (166)	N/A	N/A
71-80% (191)	N/A	N/A
81-90% (217)	N/A	N/A
91-100% (255)	N/A	N/A

Mode 1 - Simple 1

The command for Mode 1 – Simple 1 are shown below.

Channel/Byte	3	4
DMX% (byte)	<u>Power On/Off</u>	<u>Preset Select</u>
0% (000)	<i>No Action</i>	<i>No Action</i>
1-10% (013)	Power triggered Off	Trigger no Preset
11-20% (038)	___ "" ___	Preset 1 triggered
21-30% (064)	Power triggered On	Preset 2 triggered
31-40% (089)	___ "" ___	Preset 3 triggered
41-50% (115)	___ "" ___	Preset 4 triggered
51-60% (140)	Power forced Off	Force no Preset
61-70% (166)	___ "" ___	Preset 1 forced
71-80% (191)	___ "" ___	Preset 2 forced
81-90% (217)	Power forced On	Preset 3 forced
91-100% (255)	___ "" ___	Preset 4 forced

When power or preset is forced can the user not subsequently change these on the device, and will get an error sound.

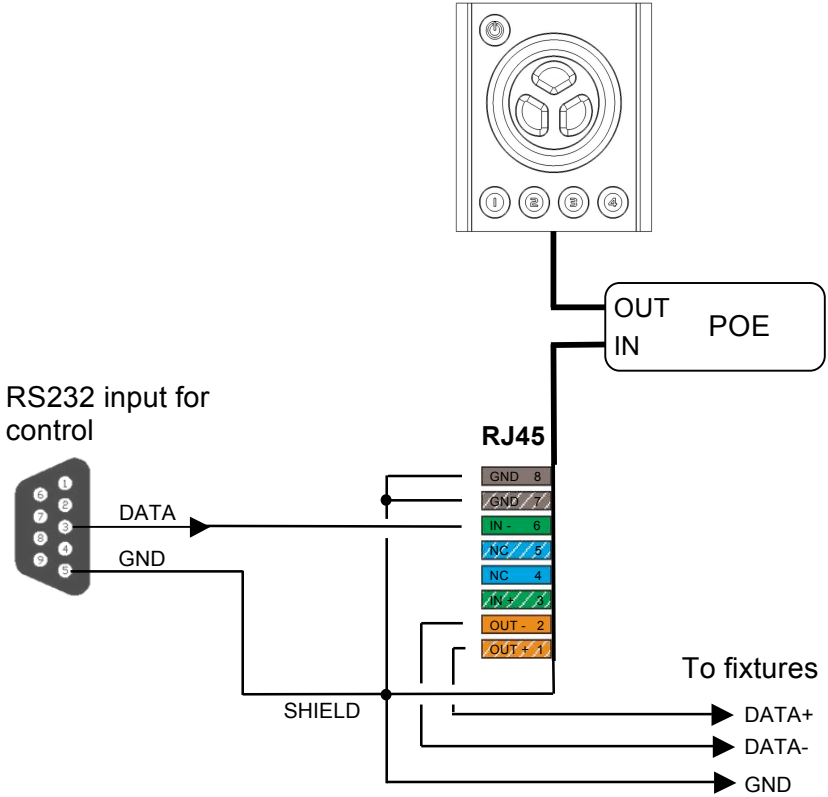
Example:

Below is an example of a RS232 stream that turns on the VX01 and trigger preset 1.

Stream	1	2	3	4
Command	Mode	Sub Mode	Command 1	Command 2
Byte	13	13	64	38

Note: When using DMX should all other channels not used be set 0% to ensure compatibility with future modes.

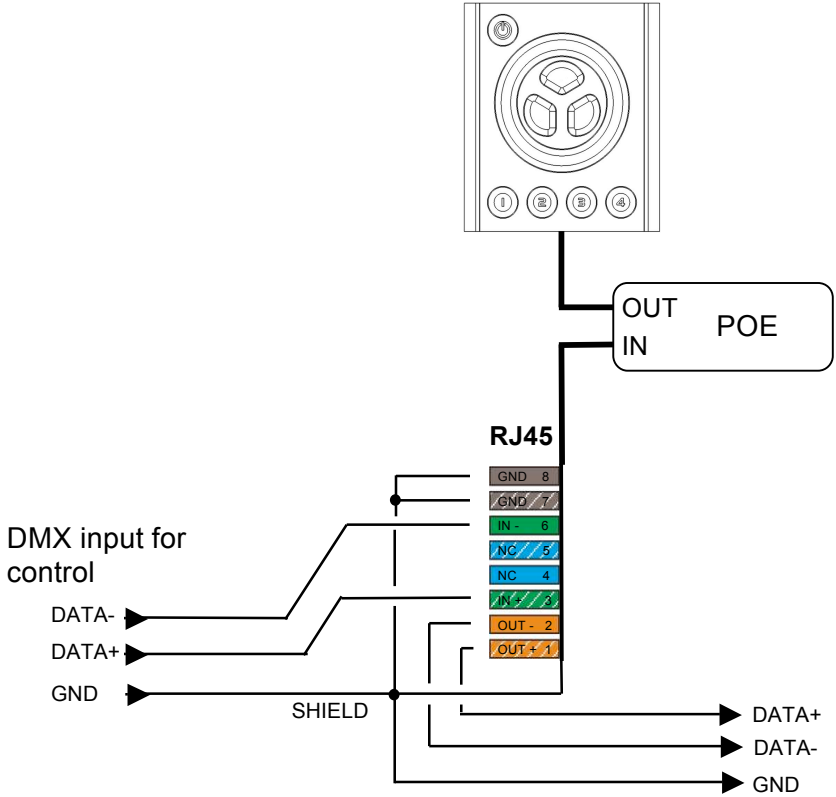
Pin connection RS232 in mode



Data format standard: 9600 bps

9600 Bit per second
8 Data bits
Parity: none
Stop bits: 1
Flow control: none

Pin connection DMX in mode



Specifications

Physical

Dimensions (L x W x H)	110 x 100 x 29 mm
Weight	240 g

Electrical

Power supply input	100 to 240 VAC, 50/60 Hz
Controller input	48 VDC
Power consumption	2 W

Control and programming

Control interface	DMX 512
Control channels	512
Maximum number of fixture types	10
Maximum number of fixtures	170
Recallable memories (presets)	4

Connections

AC power (power supply)	IEC 3-pin
PC	USB mini-B
DC power in/DMX data out	RJ-45

Approvals

Power supply	cUL/UL, CE, CCC, TUV, FCC
Controller	CE

Ordering information

VX01 Controller	P/N
-----------------------	-----