OBSIDIAN™
CONTROL SYSTEMS

NETRON
EN12
Installation Guide

OBSIDIAN CONTROL SYSTEMS B.V.

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FCC STATEMENT
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC RADIO FREQUENCY INTERFERENCE WARNINGS & INSTRUCTIONS
This product has been tested and found to comply with the limits as per Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device uses and can radiate radio frequency energy and, if not installed and used in accordance with the included instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be deter- mined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

- Reorient or relocate the device.
- Increase the separation between the device and the receiver.
- Connect the device to an electrical outlet on a circuit different from which the radio receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Energy Saving Matters (EuP 2009/125/EC)
Saving electric energy is a key to help protecting the environment. Please turn off all electrical products when they are not in use. To avoid power consumption in idle mode, disconnect all electrical equipment from power when not in use. Thank you!

Document Version: An updated version of this document may be available online. Please check www.obsidiancontrol.com for the latest revision/update of this document before beginning installation and use.

Date	Document Version	Note
10/29/19	1	Initial release.

C O N T E N T S

GENERAL INFORMATION

INTRODUCTION

Please read and understand the instructions in this manual carefully and thoroughly before attempting to operate this device. These instructions contain important safety and use information.

UNPACKING

Every device has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the shipping carton for damage that may have occurred during shipping. If the carton is damaged, carefully inspect the device for damage, and be sure all accessories necessary to install and operate the device have arrived intact. In the event damage has been found or parts are missing, please contact our customer support team for further instructions. Please do not return this device to your dealer without first contacting customer support. Please do not discard the shipping carton in the trash. Please recycle whenever possible.

CUSTOMER SUPPORT

Contact your local Obsidian Controls Systems dealer or distributor for any product related service and support needs. Also visit forums.obsidiancontrol.com with questions, comments or suggestions.

OBSIDIAN CONTROL SERVICE EUROPE - Monday - Friday 08:30 to 17:00 CET
+31 45 546 85 63 | support@obsidiancontrol.com

OBSIDIAN CONTROL SERVICE USA - Monday - Friday 08:30 to 17:00 PST
(866) 245-6726 | support@obsidiancontrol.com

LIMITED WARRANTY

1. Obsidian Control Systems hereby warrants, to the original purchaser, Obsidian Control Systems products to be free of manufacturing defects in material and workmanship for a period of two years (730 days).
2. For warranty service, send the product only to the Obsidian Control Systems service center. All shipping charges must be pre-paid. If the requested repairs or service (including parts replacement) are within the terms of this warranty, Obsidian Control Systems will pay return shipping charges only to a designated point within the United States. If any product is sent, it must be shipped in its original package and packaging material. No accessories should be shipped with the product. If any accessories are shipped with the product, Obsidian Control Systems shall have no liability whatsoever for loss and/or or damage to any such accessories, nor for the safe return thereof.
3. This warranty is void if the product serial number and/or labels are altered or removed; if the product is modified in any manner which Obsidian Control Systems concludes, after inspection, affects the reliability of the product; if the product has been repaired or serviced by anyone other than the Obsidian Control Systems factory unless prior written authorization was issued to purchaser by Obsidian Control Systems; if the product is damaged because not properly maintained as set forth in the product instructions, guidelines and/or user manual.
4. This is not a service contract, and this warranty does not include any maintenance, cleaning or periodic check-up. During the periods as specified above, Obsidian Control Systems will replace defective parts at its expense, and will absorb all expenses for warranty service and repair labor by reason of defects in material or workmanship. The sole responsibility of Obsidian Control Systems under this warranty shall be limited to the repair of the product, or replacement thereof, including parts, at the sole discretion of Obsidian Control Systems. All products covered by this warranty were manufactured after January 1, 1990, and bare identifying marks to that effect.
5. Obsidian Control Systems reserves the right to make changes in design and/or performance improvements upon its products without any obligation to include these changes in any products theretofore manufactured.
6. No warranty, whether expressed or implied, is given or made with respect to any accessory supplied with the products described above. Except to the extent prohibited by applicable law, all implied warranties made by Obsidian Control Systems in connection with this product, including warranties of merchantability or fitness, are limited in duration to the warranty periods set forth above. And no warranties, whether expressed or implied, including warranties of merchantability or fitness, shall apply to this product after said periods have expired. The consumer's and/or dealer's sole remedy shall be such repair or replacement as is expressly provided above; and under no circumstances shall Obsidian Control Systems be liable for any loss and/or damage, direct and/or consequential, arising out of the use of, and/or the inability to use, this product.
7. This warranty is the only written warranty applicable to Obsidian Control Systems products and supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.
8. Use of software and firmware:
   To the maximum extent permitted by applicable law, in no event shall Elation or Obsidian Control Systems or its suppliers be liable for any damages whatsoever (including, but not limited to, damages for loss of profits or data, for business interruption, for personal injury or other loss whatsoever) arising out of or in any way related to the use of or inability to use firmware or software, the provision of or failure to provide support or other services, information, firmware, software, and related content through the software or otherwise arising out of the use of any software or firmware, even in the event of the fault, tort (including negligence), misrepresentation, strict liability, breach of warranty of Elation or Obsidian Control Systems or any supplier, and even if Elation or Obsidian Control Systems or any supplier has been advised of the possibility of such damages.

WARRANTY RETURNS: All returned service items, whether under warranty or not, must be freight pre-paid and accompany a return authorization (R.A.) number. The R.A. number must be clearly written on the outside of the return package. A brief description of the problem as well as the R.A. number must also be written down on a piece of paper and included in the shipping container. If the unit is under warranty, you must provide a copy of your proof of purchase invoice. Items returned without a R.A. number clearly marked on the outside of the package will be refused and returned at customer's expense. You may obtain a R.A. number by contacting customer support.

SAFETY GUIDELINES

This device is a sophisticated piece of electronic equipment. To guarantee a smooth operation, it is important to follow all instructions and guidelines in this manual. OBSIDIAN CONTROL SYSTEMS is not responsible for injury and/or damages resulting from the misuse of this device due to the disregard of the information printed in this manual. Only the original included parts and/or accessories for this device should be used. Any modifications to the device, included and/or accessories will void the original manufactures warranty and increase the risk of damage and/or personal injury.

PROTECTION CLASS 1 – DEVICE MUST BE PROPERLY GROUNDED
DO NOT ATTEMPT TO USE THIS DEVICE WITHOUT BEING FULLY TRAINED ON HOW TO USE IT. ANY DAMAGES OR REPAIRS TO THIS DEVICE OR ANY LIGHTING FIXTURES CONTROLLED BY THIS DEVICE RESULTING FROM IMPROPER USE, AND/OR THE DISREGARD OF THE SAFETY AND OPERATION GUIDELINES IN THIS DOCUMENT VOIDS THE OBSIDIAN CONTROL SYSTEMS WARRANTY, AND ARE NOT SUBJECT TO ANY WARRANTY CLAIMS AND/OR REPAIRS, AND MAY ALSO VOID THE WARRANTY FOR ANY NON-OBSIDIAN CONTROL SYSTEMS DEVICES.
KEEP FLAMMABLE MATERIALS AWAY FROM DEVICE.
DRY LOCATIONS USE ONLY!
DO NOT EXPOSE DEVICE TO RAIN, MOISTURE, AND/OR SEVERE ENVIRONMENTS!
DO NOT SPILL WATER AND/OR LIQUIDS ON OR INTO THE DEVICE!

DISCONNECT the device from AC power before removing fuses or any part, and when not in use.

Always electrically ground this device.

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

Do not expose the device to rain or moisture.

Never attempt to bypass fuses. Always replace defective fuses with ones of the specified type and rating.

Refer all service to a qualified technician.

Do not modify the device or install other than genuine Netron parts.

CAUTION: Risk of Fire and Electrical Shock. Use only in dry locations.

CAUTION: Risk of Explosion if Battery is replaced by an incorrect type. Dispose of used batteries according to local environmental regulations.

AVOID brute force handling when transporting or operating.

DO NOT expose any part of the device to open flame or smoke. Keep device away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

DO NOT use device in extreme and/or severe environments.

Replace fuses with ones of the same type and rating only. Never attempt to bypass a fuse. Unit provided with a single fuse in Line side.

DO NOT operate device if power cord is frayed, crimped, damaged and/or if any of the power cord connectors are damaged, and does not insert into the device securely with ease. NEVER force a power cord connector into device. If the power cord or any of its connectors are damaged, replace it immediately with a new one of similar power rating. Strictly use a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection. Use only the provided AC power supply and power cords and the correct connector for the country of operation. Use of the factory provided power cable is mandatory for operation in the US and Canada.

Allow free unobstructed airflow to the bottom and back of the product. Do not block the ventilation slots.

Operate the console only on a stable and solid surface.

DO NOT use the product if the ambient temperature exceeds 40°C (104° F)

Transport the product only in suitable packaging or a custom fitted road case. Transportation damage is not covered under warranty.

Protect the internal touch screen from sharp objects and operate the screen using only a finger.

CAUTION: Risk of explosion if CMOS battery is replaced by an incorrect type. Dispose of used batteries according to local environmental regulations.

CAUTION: Do not expose CMOS battery to excessive heat such as sun or fire.

OVERVIEW

This device is a multipurpose DMX and EtherDMX Gateway processor with many advanced features. Please read the manual carefully in its entirety to fully understand all functions of the unit.

To quickly setup the unit as an Art-Net Output device without advanced features, you can use the factory presets which allow fast and uncomplicated setup of the most common applications.

KEY FEATURES

The Netron EN12 is a powerful high-density Ethernet to DMX gateway with twelve RDM compatible ports. Easy to configure with a range of integrated presets plus a wide array of advanced merge and routing features it is the ideal device for live production or installations requiring a lot of physical DMX ports. Contact closures allow for recall of presets, routings, mergers or any of the internal cues.

- RDM, Artnet and sACN support
- Factory and user presets for plug and play setups
- Line Voltage or POE powered
- 1.8" OLED Display with rotary knob
- 99 Internal cues with fade and delay time
- Customizable routing and merging options
- Remote configuration via internal webpage
- Contact closures for cue or preset recall
- Powder-coated aluminum rackmount housing

SOFTWARE

The software for EN12 is available from the support website http://obsidiancontrol.com . Update your device to the latest software, and periodically check the website for updates.

INSTALLATION INSTRUCTIONS

⚠ **DISCONNECT POWER BEFORE PERFORMING ANY MAINTENANCE!**

⚠ **ELECTRICAL CONNECTIONS**
A qualified electrician should be used for all electrical connections and/or installations.

⚠ **USE CAUTION WHEN POWER LINKING OTHER MODEL DEVICES AS THE POWER CONSUMPTION OF OTHER MODEL DEVICES MAY EXCEED THE MAXIMUM POWER OUTPUT OF THIS DEVICE. CHECK SILK SCREEN FOR MAXIMUM AMPS.**

⚠ **THE NETRON EN12 IS DESIGNED TO BE RACK-MOUNTED; HOWEVER, IT CAN BE USED STAND-ALONE, WHERE THE DEVICE MUST SIT ON A FIRM FLAT SURFACE.**

Device MUST be installed following all local, national, and country commercial electrical and construction codes and regulations.

POWER LINKING

⚠ **USE CAUTION WHEN POWER LINKING AS THE POWER CONSUMPTION MAY EXCEED THE MAXIMUM POWER OUTPUT ON THIS DEVICE. CHECK SILK SCREEN FOR MAXIMUM AMPS.**

CONNECTIONS

AC CONNECTIONS

⚠️ The Obsidian Control Systems Netron EN12 is rated 100-240V 50/60Hz and accepts AC mains power over a range of 90-264V 50/60Hz. Do not connect it to power outside this range. Damage resulting from incorrect connection is not covered under warranty.

North America: A cable with a NEMA 15-5P plug is provided for use with the EN12 in the USA and Canada. This approved cable must be used in North America.

Rest of the world: The provided power cable is not fitted with a country-specific plug. Install only a plug that meets local and or national electrical codes and is suitable for the country's specific requirements.

⚠️ A 3-prong grounded-type (earthed type) plug must be installed following the plug manufacturer's instructions. To apply power to the product: In addition to the input, the unit has a loop through output connection, allowing daisy chaining between multiple EN12s. Do not exceed 6A total power draw from the power output.
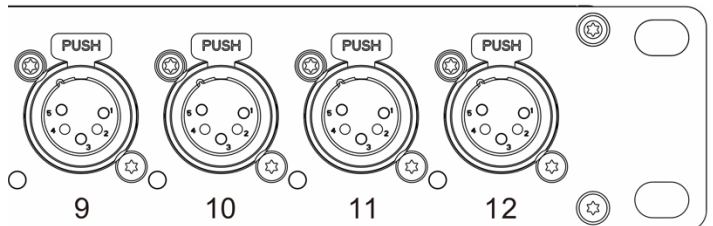
DMX CONNECTIONS

All DMX Output connections are 5pin female XLR; however, the pin-out on all sockets is pin 1 to shield, pin 2 to cold (-), and pin 3 to hot (+). Pins 4 and 5 are not used.

Carefully connect DMX cables to the respective ports.

To prevent damaging the DMX ports, provide strain relief and support. Avoid connecting FOH Snakes to the ports directly.

Certain functions may require adapters (purchased separately), such as a 5 pole XLR male to 5 pole XLR male.

| Pin	Connection
1	Com
2	Data -
3	Data +
4	Not connected
5	Not connected

ETHERNET DATA CONNECTION

The Ethernet cable is connected on the back of the router into the port labeled A or B. Devices can be daisy chained, but it is recommended not to exceed 10 Netron devices in one chain. Although this is an EtherCON connector, and the use of EtherCON cables is recommended, any RJ45 connector is suitable.

The Ethernet connection is also used to connect a computer to the EN12 for remote configuration via a web browser. To access the web interface, simply enter the IP address shown in the display in any web browser connected to the device. Information about the web access can be found in the manual.

CONNECTIONS: FRONT & REAR PANELS

FRONT CONNECTIONS

- (12) 5pin DMX/RDM optically isolated ports
- Ports are bidirectional for DMX In and Output
- Full color OLED display
- Encoder w. Push to Select / Exit Button

5-Pin DMX/RDM
optically isolated port

OLED Display

Turn to scroll,
push-to-select

Menu return
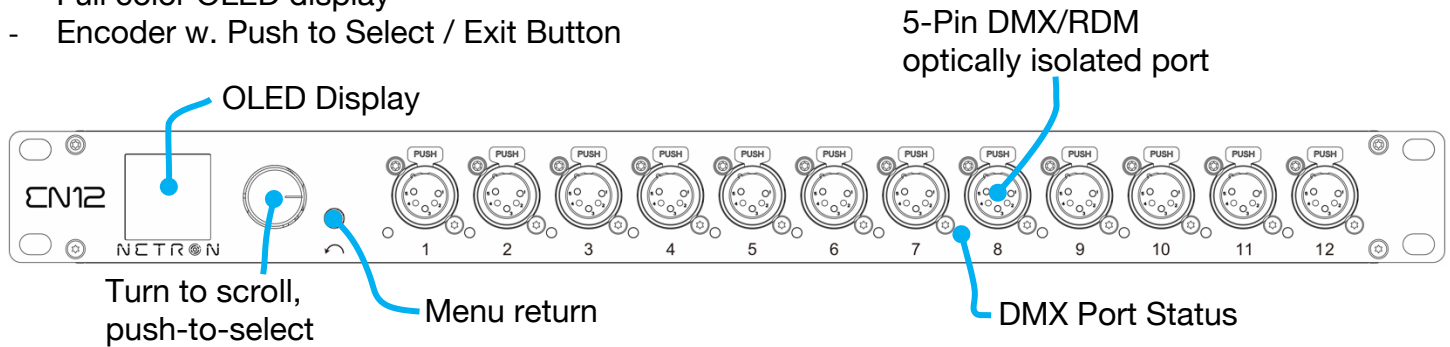
DMX Port Status

DMX PORTS STATUS LEDs

| LED Color	Solid	Blink	Flashing/Strobing
DMX PORTS RGB	Error		
DMX PORTS RGB	DMX In	DMX Lost	
DMX PORTS RGB	DMX Out	DMX Lost	
DMX PORTS WHITE			Flash on RDM packets

All LEDs are dimmable and can be turned off via the Menu/System/Display menu.

REAR CONNECTIONS

- (2) RJ45 Ethercon network in
- (10) Contact Closures (Terminal Block)
- 2) RJ45 network connections (1x POE)

RJ45 Network
connection w/POE

RJ45 Network
connection

Power In

Power Out

Fuse

Contact Closures
(Terminal Block)
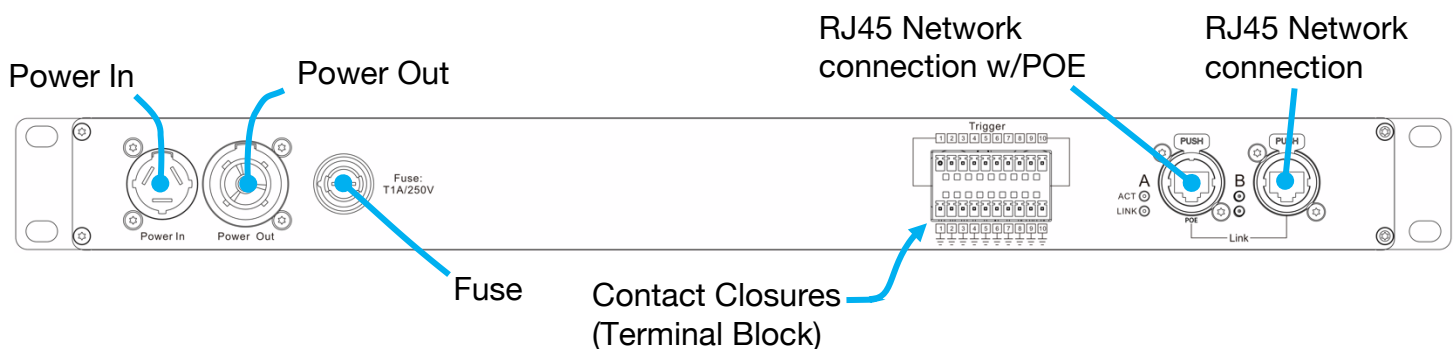
CONNECTIONS: CONTACT CLOSURES
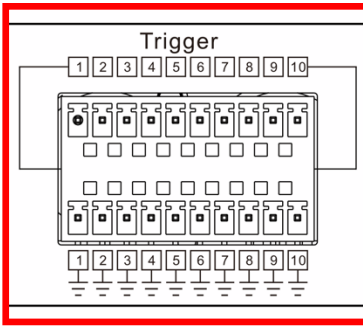
10 Inputs are provided that can be mapped to various functions of the EN12. The inputs are simple dry contact closures and are provided in ten pairs of trigger and ground connections.

DO NOT APPLY VOLTAGE TO THE CONTACT! DOING SO WILL DAMAGE THE INPUT AND IS NOT COVERED UNDER WARRANTY.

The EN12 is shipped with two terminal blocks that connect to the back ports. Lost or missing blocks can be purchased from authorized Obsidian Dealers.

MAINTENANCE

The Obsidian Control Systems Netron EN12 is designed as a rugged, roadworthy device. The only required service is occasional cleaning. For other service related concerns, please contact your Obsidian Control Systems dealer, or visit www.obsidiancontrol.com.

Any service that is not described in this guide must be carried out by a trained and qualified Obsidian Control Systems technician.

As any computer, the EN12 requires periodic cleaning. The schedule relies on the environment in which the controller is operated. An Obsidian Control Systems technician can provide recommendations if necessary.

Never spray cleaner directly onto the device surface; always spray into a lint-free cloth and wipe it clean. Consider using cleaning products designed for cellphone and tablet devices for cleaning a lighting console.

Important! Excessive dust, dirt, smoke, fluid build-up, and other materials can degrade the performance of the EN12 controller, causing overheating and damage to the unit that is not covered by the warranty.

Fuse Replacement:

Single fuse in the Line side; the EN12 is protected by a single 1A slow blow mains fuse in a fuse holder on the back of the device.

Disconnect the product from AC mains power before replacing the fuse as parts of the product may remain live even if one of the two mains fuses has blown.

SPECIFICATIONS

Connections

Front
- (12) 5pin DMX/RDM optically isolated ports
- Ports are bidirectional for DMX In and Output
- Full color OLED display
- Encoder w. Push to Select / Exit Button

Back
- (2) RJ45 network connections
- (10) Contact Closures (Terminal Block)
- Seetronic Power In/Thru

Physical
- Length: 19.0" (482.5mm)
- Width: 5.7" (146mm)
- Height: 1.7" (44mm)
- Weight: 1 kg (2.2 lbs)

Electrical
- 100-240 V nominal, 50/60 Hz, 10W
- POE 802.3af

Included Items
- 1.5m Seetronic power cable (EU or US version)

D I M E N S I O N S