Luminex
Lighting Control Equipment

GigaSwitch 8

User Guide

GigaSwitch 8 User Guide
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Limited warranty

Unless otherwise stated, your product is covered by a two (2) years parts and labor limited warranty. It is the owner's responsibility to furnish receipts or invoices for verification of purchase, date, and dealer or distributor. If purchase date cannot be provided, date of manufacture will be used to determine warranty period.

Returning under warranty

Any Product unit or parts returned to Luminex LCE must be packaged in a suitable manner to ensure the protection of such Product unit or parts, and such package shall be clearly and prominently marked to indicate that the package contains returned Product units or parts. Accompany all returned Product units or parts with a written explanation of the alleged problem or malfunction.

Freight

All shipping will be paid by the purchaser. Items under warranty shall have return shipping paid by the manufacturer only in the European Union. Under no circumstances will freight collect shipments be accepted. Prepaid shipping does not include rush expediting such as air freight. Air freight can be sent customer collect in the European Union.

Warranty is void if the product is misused, damaged, modified in any way, or for unauthorized repairs or parts.

General

Packaging

- **Gigaswitch 8**

- 1 x Gigaswitch 8

- 1 x User guide

- **Gigaswitch 8 Truss**

- 1 x Gigaswitch 8

- 1 x Powercon male connector

- 1 x User Guide

Overview

The Luminex GigaSwitch 8 Ethernet Switch is equipped with eight neutrik Ethercon ports providing 10/ 100/ 1000 Mbps Bandwidth.
These ports can be used for connecting PCs, Media servers, ArtNET or sACN node. Each port can support up to 2000 Mbps of throughput in full-duplex mode. This stand-alone GigaSwitch 8 enables the network to use most multimedia and imaging applications concurrently with other user applications without creating bottlenecks.

This all comes in a 19'' unit high metal housing for the Gigaswitch 8. The Gigaswitch 8 Truss comes in a rugged truss mountable metal housing with two M10 inserts. This enclosure allows to use the node in a truss, on the floor or as a table top device.

Specification

Model: GigaSwitch 8 – Gigaswitch 8 Truss
Manufacturer: LUMINEX Lighting Control Equipment

Dimensions

GigaSwitch 8

> 482 x 172 x 44 (mm)
> 19" x 6,8" x 1,75"
> Package: 520 x 235 x 50 (mm)

GigaSwitch 8 Truss

> 279 x 169,5 x 102 (mm)
> 11" x 6,7" x 4"
> Package: 340 x 230 x 110 (mm)

Weight

> Gigaswitch 8: 2,5 kg
> Gigaswitch 8 Truss : 3,6 kg

Electrical

> Voltages: 90 – 260 VAC
> Frequency: 47 – 63 Hz
> Rated power: 20 W
> Fuses: 125V-250V, 1A, Slow blow only (5mm x 20mm)

Connectors

> 8 x shielded Neutrik RJ45 Ethercon connector
> 1 x IEC inlet (rack version only)
> 1 x Neutrik Powercon in (Truss version only)
> 2 x M10 inserts (Truss version only)

Environmental

> Operating temperature : 0 ~ 40°C (32 ~ 95°F)
>
> Storage temperature : -10 ~ 70°C (14 ~ 158°F)
>
> Humidity : 15% ~95% RH, non-condensing

Performance specifications

Ports	8
Port types	10/100/1000BaseT Gigabit Ethernet ports (Shielded RJ45)
Ethernet switch type	Store and Forward
Ethernet protocols supported	IEEE 802.3, 802.3u, 802.3x Flow control & 802.3ab Gigabit Ethernet, 802.1p CoS
Protocol	CSMA/CD
RJ45 operation	Auto negotiation, Auto MDIX
Data Transfert Rate	Ethernet: 10Mbs (Half Duplex) 20Mbps(Full Duplex) Fast Ethernet: 100Mbps (Half Duplex) 200Mbps (Full Duplex) Gigabit: 2000Mbps (Full Duplex)
Topology	Star

Connectivity

Front panel – Left panel

Status LEDs

10/100/1000MBps Ethernet ports
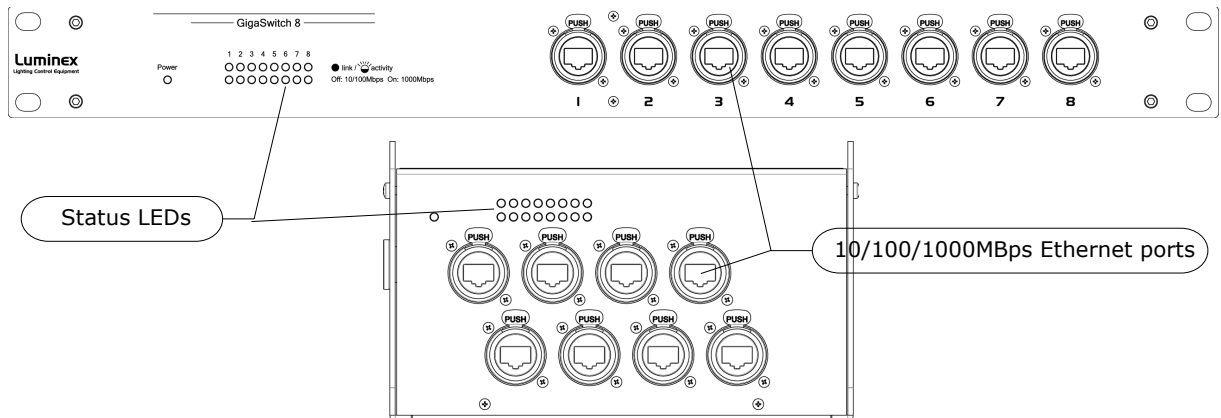
8 X shielded Ethercon connectors (rack version default configuration)

Rear panel – Side panel

Power input +
Fuse holder
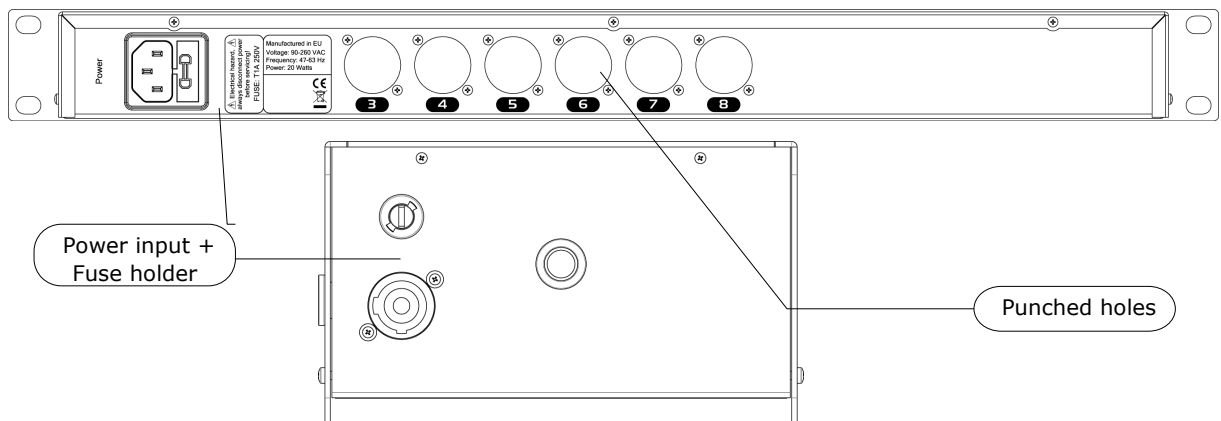
Punched holes

6 X punched holes (rack version default configuration)

1 X IEC inlet + fuse holder (rack version only)

1 x Neutrik Powercon inlet (truss version only)

1 x Fuse holder (truss version only)

Mains

Gigaswitch 8

The device operates with an AC voltage between 90V and 260V within a frequency range of 47Hz and 63Hz.

An IEC socket is located at the rear of the unit. Please use an IEC plug compliant cable to feed power to the unit.
Luminex recommend the use of a power cable, fitted with an IEC-Lock™ plug. The IEC-Lock™ system offers a reliable way to connect the power cable to the unit. The equipment must be earthed !

!!! This equipment must be earthed !!!

Gigaswitch 8 Truss

The device operates with an AC voltage between 90V and 260V within a frequency range of 47Hz and 63Hz.

A Neutrik PowerCon IN connector can be connected to the device. Please use an authorized plug and connect the cores in the mains lead in accordance with the following scheme:
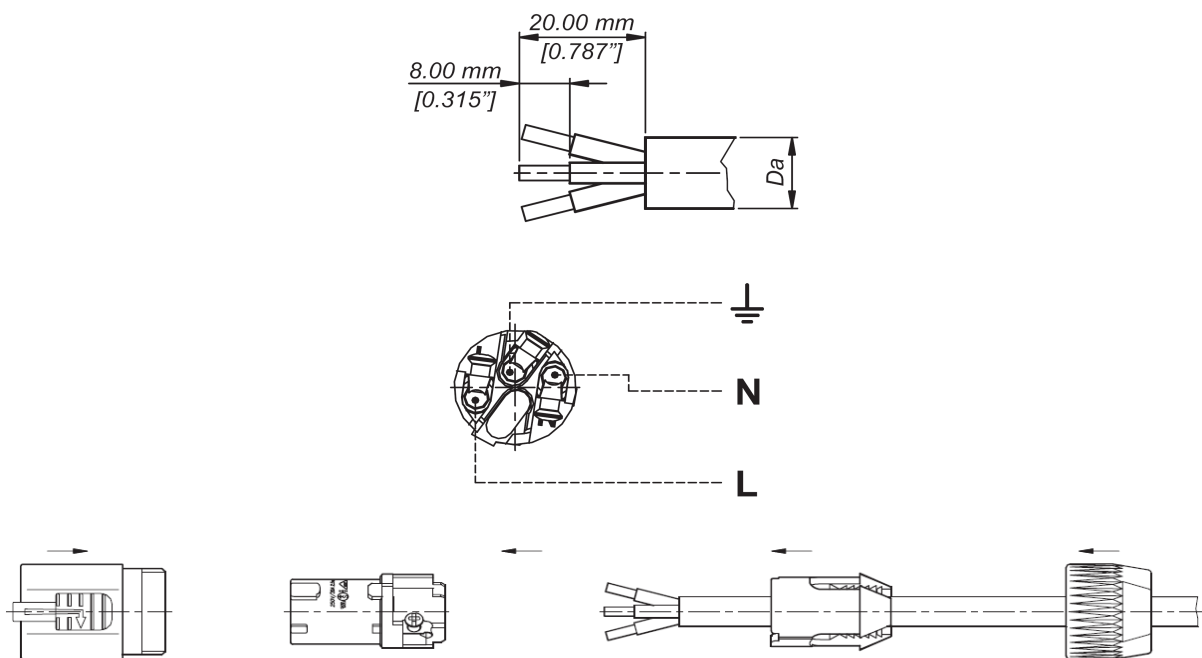
Green / Yellow: Earth
Blue: Neutral
Brown: Live

!!! This equipment must be earthed !!!

Overview

The LED indicators of the GigaSwitch 8 include power, 100/1000Mbps and link activity. The following shows the LED indicators for the GigaSwitch along with an explanation of each indicator.
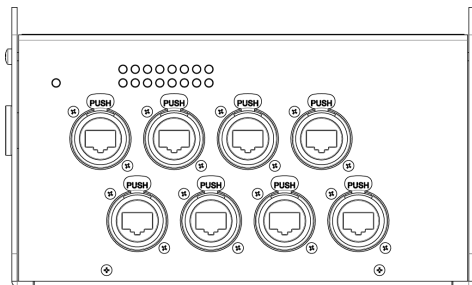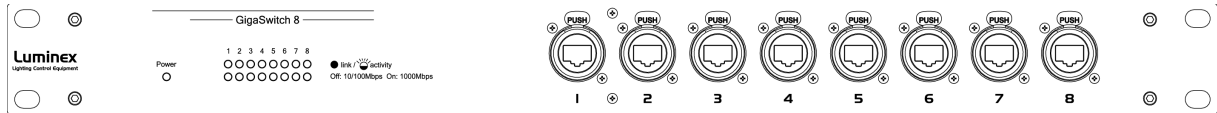
Led indicators

Comprehensive LED indicators display the conditions of the GigaSwitch 8 and status of the network. A description of these LED indicators follows. The LED indicators of the GigaSwitch 8 include power, Link/Act, 10/100Mbps and 1000Mbps.

Switch LEDs	Status	Meaning
Power (Green)	On	The internal power supply is working properly
	Off	No power connection. The switch is NOT receiving power
Ports LEDs		
Link/Activity (Green)	On	The port is enabled and receiving a link indication from the connected device
	Off	no active network cable is connected to the port
	Flashing (1)	Indicates that there is network activity on the port
Speed (Green)	On	Indicates the port is operating at 1000 Mbps
	Off	Indicates the port is operating at 10 or 100 Mbps
(1) The flashing behavior is an on/off cycle once every 0.083 seconds approximately		

Illustration 1: LED indication

Connecting to an end node

An end node includes an Ethernet-DMX converter or PC's outfitted with a 10,100 or 1000Mbps RJ-45 Ethernet, Fast Ethernet Network interface Card (NIC).

An end node can be connected to the switch via a twisted pair Category 5 UTP/FTP/STP or higher. The end node can be connected to any port of the switch. If the end node is outfitted with a 1000Mps Network interface card, a twisted pair Category 5e or Higher must be used.

The end node can be connected to the GigaSwitch using either a straight cable or crossover cable; any cable is fine. The GigaSwitch 8 comes with the MDI/MDIX feature.

See the example below:

The link/Act LED for each UTP port blink turns green when the link is valid. A flashing Link/Act LED indicates packet activity on that port. A LED on the bottom indicates a port speed of either 10/100Mbps or 1000Mbps (see Illustration 1).

Connecting to a Hub or a switch

These connection can be accomplished in a number of way using a normal cable

- A 10BaseT hub or switch can be connected to the switch via a twisted pair Category 5 or higher UTP/STP/FTP cable.

- A 100BaseTX hub or switch can be connected to the switch via a twisted pair Category 5 or higher UTP/STP/FTP cable.

- A 1000BaseT hub or switch can be connected to the switch via a twisted pair Category 5e or higher UTP/STP/FTP cable.

See example below

The hub or switch can be connected to the GigaSwitch 8 using either a straight cable or crossover cable; any cable is fine. The GigaSwitch 8 comes with the MDI/MDIX feature.

Wiring

RJ45 Wiring guidelines

Use data-quality (not voice-quality) twisted pair cable rated category 5 or better with standard RJ45 connectors with or without Neutrik Ethercon connectors. For best performance use shielded cable. Straight through or crossover category 5 cable can be used regardless of the type of device connected to the GigaSwitch 8. This is because the Gigawitch 8 supports auto-mdi/mdix-crossover. 1000Mbps devices must be connected to the GigaSwitch using 5e Category cable or higher.

Pair #	Wire	Pin #
1-White/Blue	White/Blue	5
	Blue	4
2-White/Orange	White/Orange	1
	Orange	2
3-White/Green	White/Green	3
	Green	6
4-White/Brown	White/Brown	7
	Brown	8
568-B diagram		

Pair #	Wire	Pin #
1-White/Blue	White/Blue	5
	Blue	4
2-White/Green	White/Green	1
	Green	2
3-White/Orange	White/Orange	3
	Orange	6
4-White/Brown	White/Brown	7
	Brown	8
568-A diagram		

Notes for wiring diagrams above:

- For patch cables, 568-B wiring is by far, the most common method.

- There is no difference in connectivity between 568B and 568A cables. Either wiring should work fine on any system.

- For a straight through cable, wire both ends identical.

- For a crossover cable, wire one end 568A and the other end 568B.

- Do not confuse pair numbers with pin numbers. A pair number is used for reference only (eg: 10BaseT Ethernet uses pairs 2 & 3). The pin numbers indicate actual physical locations on the plug and jack.

The maximum cable length for 10/100BaseT is typically 100 meters (328 ft.). Luminex recommend using 80 meters.

Technical specifications

Copper RJ45 Ports: (10/100BaseT or 10/100/1000BaseT)	
Connectors	Shielded Neutrik Ethercon
Protocol	CSMA/CD
Ethernet compliancy	IEEE 802.3, 802.3u, 802.3x Flow control & 802.3ab Gigabit Ethernet
Auto-crossover	RJ45 MDI/MDIX (allows you to use straight or cross wired cables)
Auto-negotiating	10BaseT,100BaseTX, 1000BaseT
Auto-sensing	Full or half duplex (Gigabit is full duplex)
Cable requirements	Twisted pair (Cat. 5e or better)
Max. cable distance	100 meters

General:	
Operation	Intelligent store & forward, non-blocking
Mac address table	4096 entries
Memory	4Kb EEPROM, packet buffer size: 192KB
Switching Throughput	16 Gbps for full-wire speed on all ports
Latency	100Mb Latency: <3.6µs (LIFO 64-bytes packets); 1000Mb Latency: <1.2µs (LIFO 64-bytes packets)
Throughput	Up to 11.9 millions pps (64 bytes packets)
Address learning	Automatic
Address aging	Self learnig, auto-aging
Environmental	
Input power (typical with all ports active) (Max. 20 W)	Max. 20W
Input voltage	90 - 260 VAC / (120-370 VDC)
Frequency	47 - 63 Hz
Fuse	125V-250V, 1A, Slow blow (5mm x 20mm)
Operating temperature range	0 to +40 °C
Storage temperature range	-10 to +70 °C
Humidity (non-condensing)	15 to 95% RH
Dimensions (L x W x H): Rack Version	482 x 172 x 44 (mm) 19" x 6,8" x 1,75" Package: 520 x 235 x 50 (mm)
Dimensions (L x W x H): Truss Version	279 x 169,5 x 102 (mm) 11" x 6,7" x 4" Package: 340 x 230 x 110 (mm)
Weight: Rack version Weight: Truss version	2,5kg 3,6kg

Additional Documentation

All additional documentation can be downloaded from our web pages in the support section.

Http://www.luminex.be

--> Support