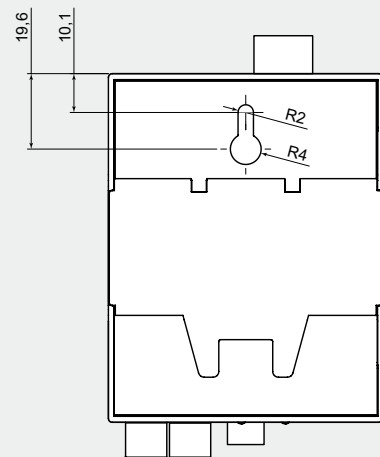
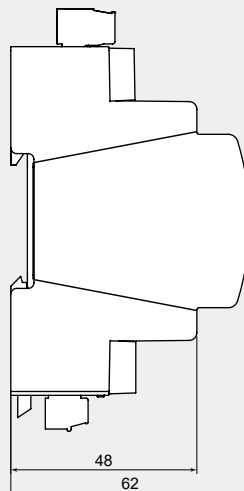
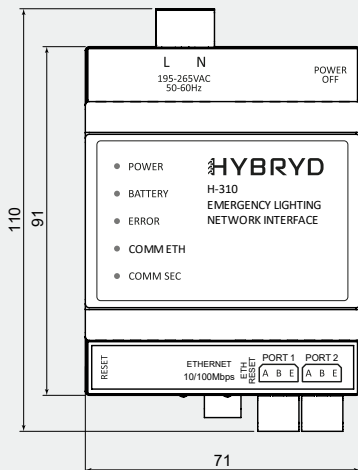
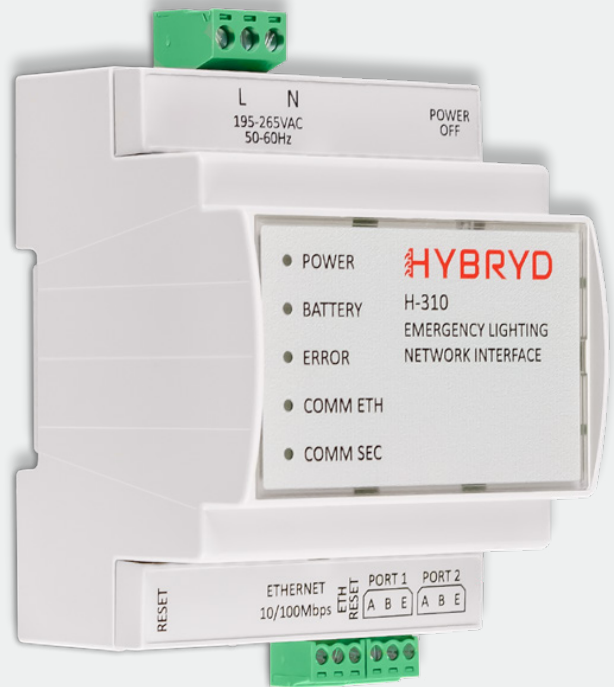
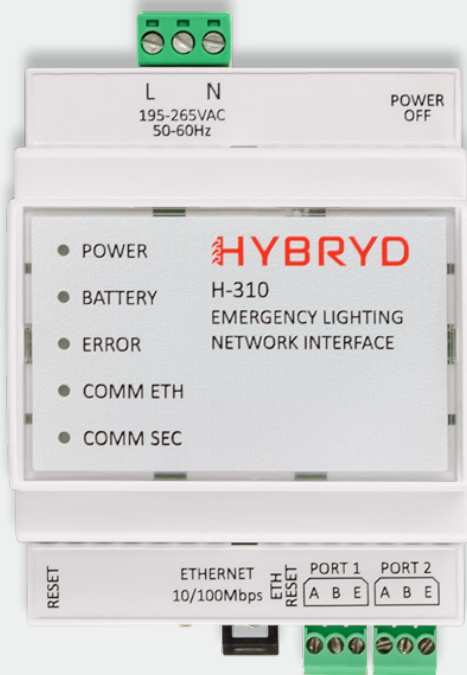


# H-310 INTERFACE



Main task of the **H-310 network interface** is to allow a PC computer access to the HYBRID emergency lighting luminaire network.

The H-310 network interface is equipped with a 10/100Mbps Ethernet port and may be connected directly or indirectly by the means of a network switch to a computer. It is also equipped with two output channels of which one may be used for direct luminaire connection and the other to connect luminaires over H-311 network expanders.



### TECHNICAL DATA

Supply voltage	230V AC 50-60Hz	
Power consumption	< 8VA	
Power factor	0,5	
Electrical protection class	II	
Ingress protection	IP20	
Maximum bus length	CT	1000m
	CT-BUS, CT-LOOP	1200m
Battery	Li-Ion 3,7V / 2,2Ah	

Emergency operation time	>3h
Network topology	CT; CT-BUS; CT-LOOP <sup>1)</sup>
Ambient temperature	+5°C - +35°C
Installation kind	DIN rail, 4m; Wall <sup>2)</sup>
Power supply cable	0,5 - 1,5mm <sup>2</sup>
Housing	PC/ABS UL94 V-0

<sup>1)</sup> Possible configuration in the software, 2x CT-BUS available only in the CTL version  
<sup>2)</sup> Power supply terminal must be covered by means of a cable tray

### CONSTRUCTION

The device consists of an ETHERNET interface and a built-in H-311 network expander.

Device elements are placed in a modular housing designed for mounting on a DIN rail or on the wall.

Supplied using two cables (L, N), cable cross section area 0,5 - 1,5mm<sup>2</sup>, supply voltage 230V AC 50-60Hz.

Internal Lithium Ion battery guarantees more than 3 hours of operation without external power.

On the front of the H-310 unit a label with the built-in network expander MAC address and ETHERNET interface MAC address is placed.

### SIGNALLING

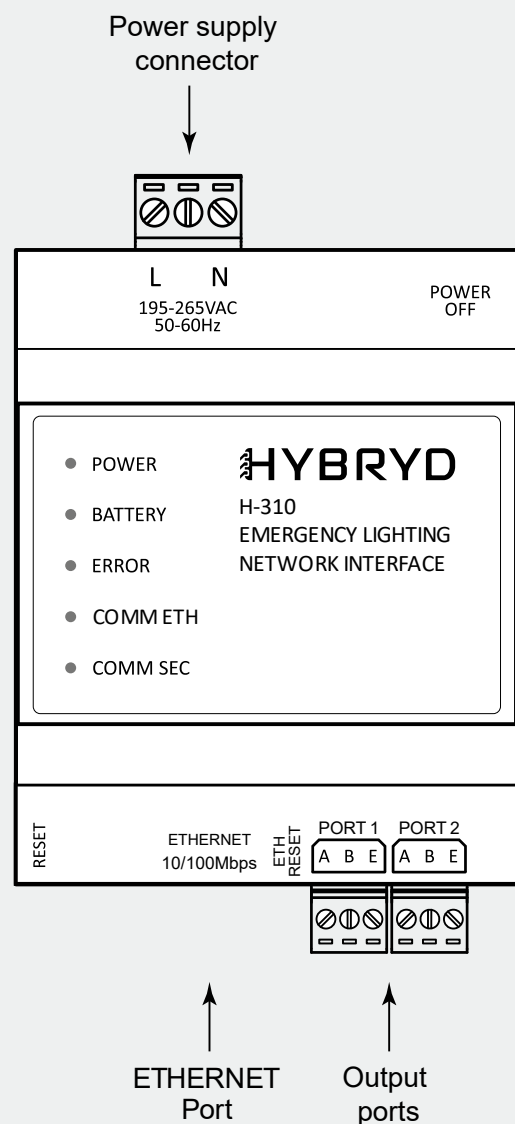
**POWER** - green LED: lights constantly when AC power is present, blinks during power loss (battery supply).

**BATTERY** - green LED: lights constantly - battery fully charged, blinks - battery being charged, turned off - battery not connected.

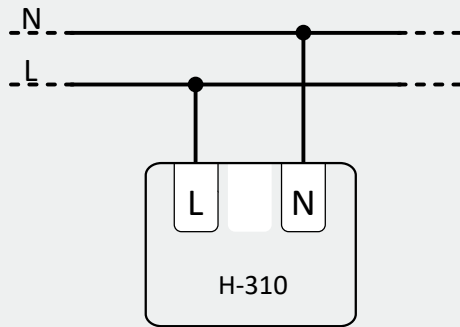
**ERROR** - red LED: lights constantly - network interface operation error or internal battery failure.

**COMM ETH** - green LED: blinks during data transmission with central unit.

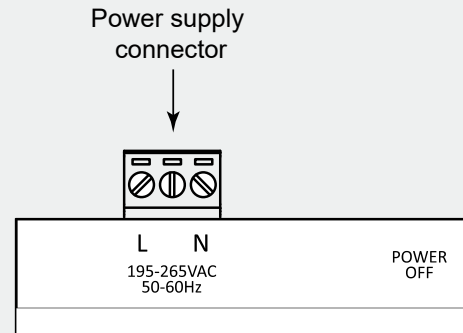
**COMM SEC** - red LED: blinks during data transmission with a secondary device.



## WIRING DIAGRAM



The PE protective conductor is not used.



The power supply terminal allows for the connection of single and multiple stranded cables with a cross-section area of up to 1.5mm<sup>2</sup>.

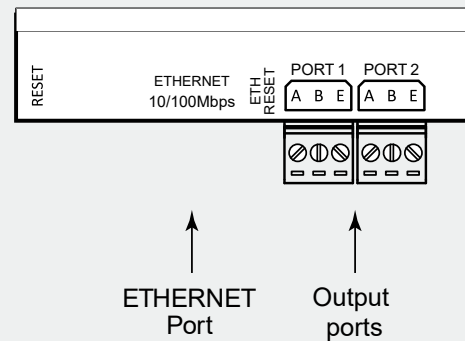
Two-part connectors are used to simplify the installation and reduce the installation time. The interface power supply should be protected. It is recommended to use an overcurrent circuit breaker with rated current 2A and B-type characteristics.

## COMMUNICATION LINE CONNECTION

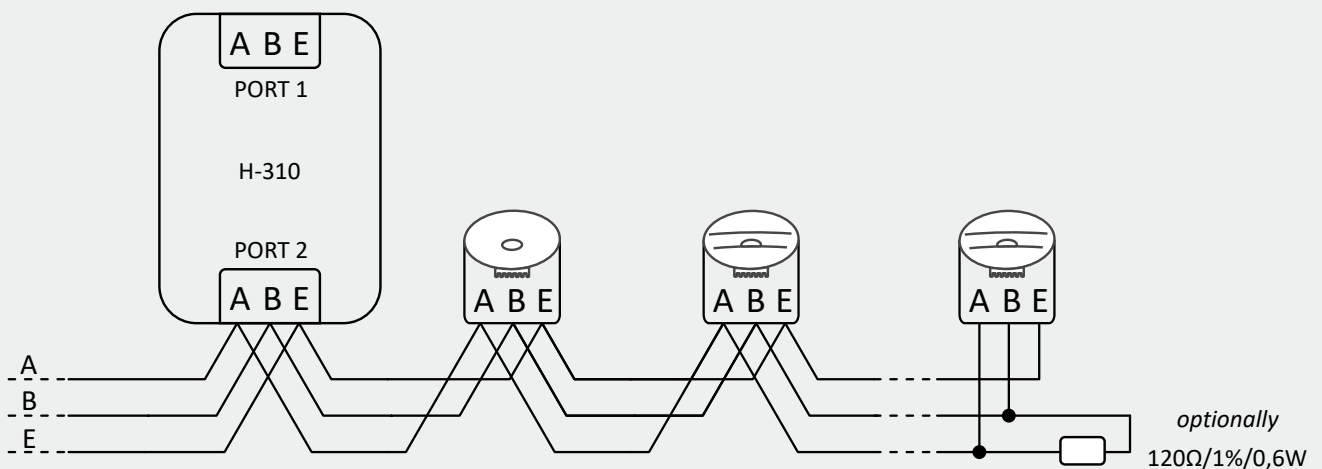
The H-310 network interface has two independently working communication ports. The first one can operate as CT for the required CT-BUS (PORT2), the second one can operate only as CT-BUS (PORT1).

Both ports can be associated for the CT-LOOP topology.

Use the YTKSYekw 1x2x0,8 as a communication medium. If a non-fire spreading cable is required use YnTKSYekw 1x2x0,8. Use cable of type HTKSHekw 1x2x0,8 in case a flame retardant cable is required. This cable can also be mounted in areas covered by fixed fire extinguishing systems.



## EXAMPLE OF DIRECT LUMINAIRE CONNECTION TO OUTPUT PORT 2\*



\*) Luminaires can be directly connected to the second port of H-310 unit.

## NETWORK TOPOLOGY

The connection between the computer and the **H-310** network interface is via Ethernet. The connection can be direct using a crossover cable or by a network switch using a normal four-pair UTP or FTP type category 5e or higher cable. In case of the network interface and computer are connected to a building network it is recommended to use a virtual LAN (VLAN) to increase the security of the system.

Communication between the H-310 interface and H-311 network expander and between nested expanders is carried out using the CT-BUS connection.

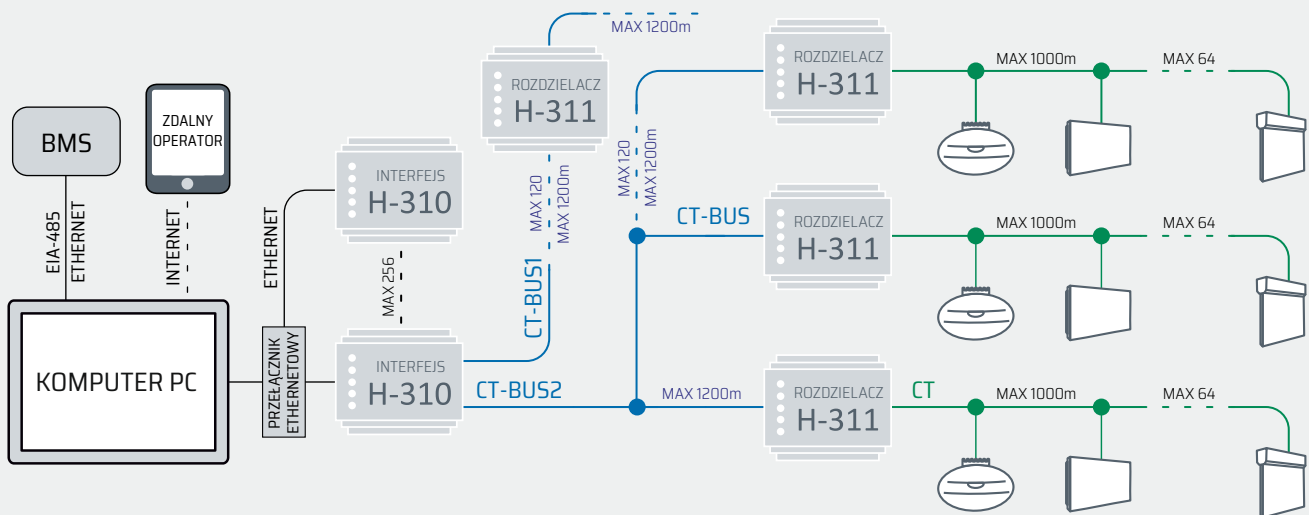
For CT-BUS the line length is limited to 1200 meters and the amount of devices to 120. For CT the line length is limited to 1000 meters and the amount of devices to 64.

For device interconnection the physical layer EIA-485 is being used. Two signal wires (A, B) and a shield wire which is also used for potential equalization between system devices are being used for communication.

The shield cable should be grounded (connected to the protective earth wire) only in one place. It is allowed to interchange A and B signals on no more than 30% of devices connected on same communication line. The shield cable should not be connected in place of A or B signal, because the device may be damaged.

All devices are connected in parallel on the communication line. Devices are recommended to be through wired (luminaires, other system elements).

Between the H-310 network interface and luminaire up-to 8 network expanders may be nested, but in practice it is recommended to limit the number to two expanders due to the increase in data transmission time between the H-310 interface and the luminaire along with another expanders between them.



## ORDERING

**H-310 0000 - EN - IB - CTL**

System variant:

**IB** - with integrated battery

Output ports:

**CTL** - two output lines