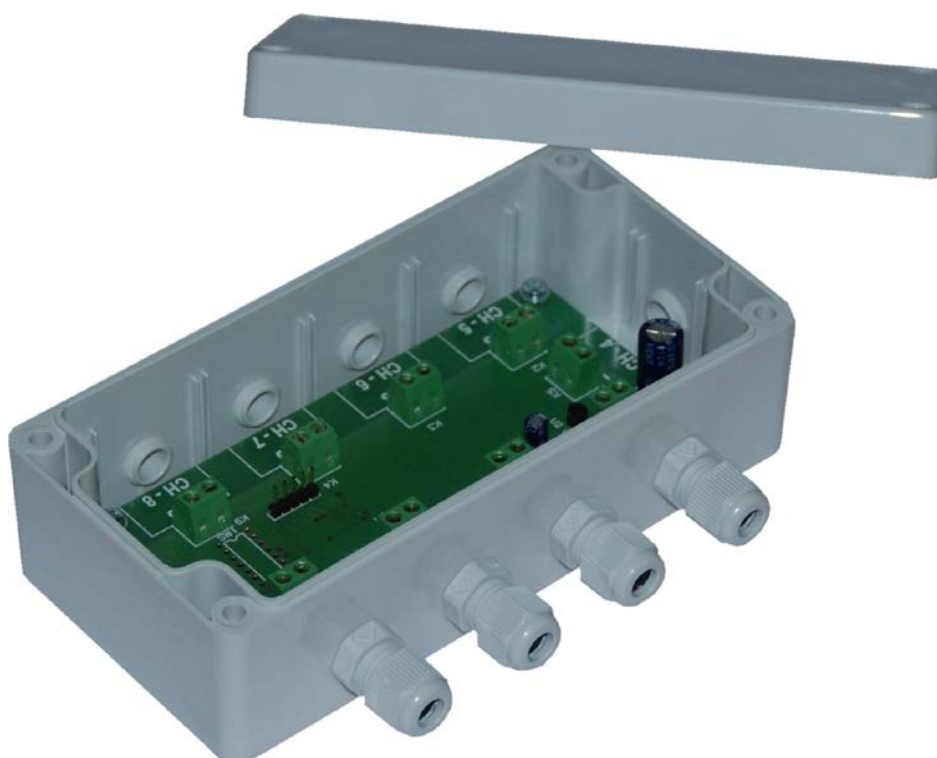


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# LSU08

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SYNCHRONIZATION  
UNIT



Operating Instructions

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**ASTEL**  
LIGHTING

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## **PREFACE**

The LSU08 is a special unit designed to use with multi-color LED lights. The 8 outputs enable color synchronization of different underwater and interior & exterior LED lights Meteor, Intensa and Arcus series when automatic changing of the color of lighting through the complete rainbow spectrum is selected.

## **FEATURES**

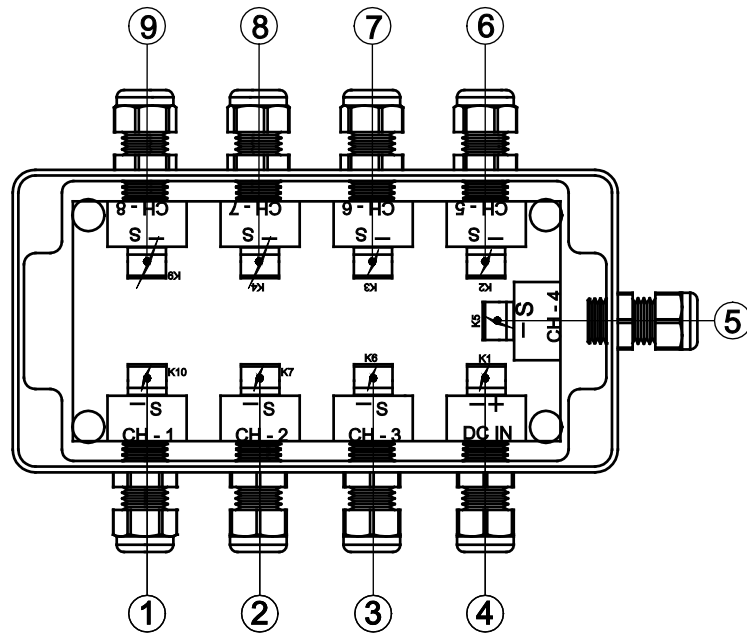
- 8 Synchronization Outputs
- Wide Range Power Supply
- Low Power Consumption
- Polarity Protection
- Transient Protection
- Short Circuit Output Protection
- Simple Installation

## **PRECAUTIONS**

- The synchronization unit has to be installed and used in accordance with the instructions of this manual only.
- The power supply has to be disconnected before installation.
- Avoid installing the synchronization unit in extremely hot places and near appliances generating strong magnetic fields.
- Do turn power off immediately and refer servicing to qualified service personnel if the synchronization unit does not operate normally following the operating instructions.

# CONTROLS AND CONNECTORS

## Synchronization Unit LSU08



**(1) CH-1**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

**(2) CH-2**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

**(3) CH-3**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

**(4) DC IN**

Terminal-block connector to connect 12-24Vdc power supply.

**(5) CH-4**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

**(6) CH-5**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

**(7) CH-6**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

**(8) CH-7**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

**(9) CH-8**

The synchronization output to connect the +Control and GND wires of Meteor/Intensa/Arcus series.

# INSTALLATION

The synchronization unit kit consists of the following components:

- Synchronization Unit LSU08
- 5 x cable gland M12
- Operating Instructions with Declaration of Conformity and Warranty conditions

The LSU08 has to be installed on suitable location.

Avoid the installation in extremely hot places and near appliances generating strong magnetic fields.

The installation have to be realized by a qualified personnel.

**Note:**

- ***The main DC power supply has to be switched off before installation.***

## Power supply connection

The power supply has to be connected through the switch (not included) and protected by a fuse (not included) to the DC IN terminal-block connector with correct polarity. The power supply voltage has to be from 10 - 30Vdc.

## Synchronization outputs connection

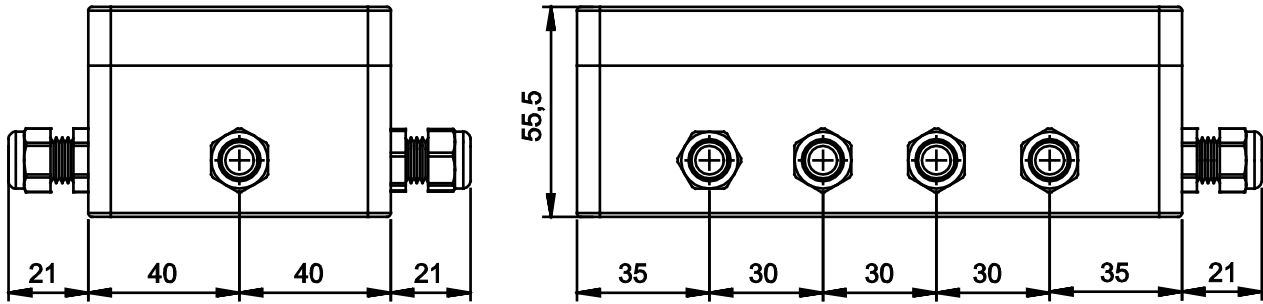
The multi-color LED lights have to be connected to the CH-1 to the CH-8 terminal-block connectors as described in the table below:

LSU08 terminal-block connector		ARCUS series wire colour	INTENSA series wire colour	METEOR series wire colour
CH-1	-	Black	Black	Brown
	S	Green	Red	Orange
CH-2	-	Black	Black	Brown
	S	Green	Red	Orange
CH-3	-	Black	Black	Brown
	S	Green	Red	Orange
CH-4	-	Black	Black	Brown
	S	Green	Red	Orange
CH-5	-	Black	Black	Brown
	S	Green	Red	Orange
CH-6	-	Black	Black	Brown
	S	Green	Red	Orange
CH-7	-	Black	Black	Brown
	S	Green	Red	Orange
CH-8	-	Black	Black	Brown
	S	Green	Red	Orange

**Note:**

- ***To connect more than 3 groups of the multi-color LED lights to the synchronization outputs the appurtenant caps should be removed from the casing and enclosed cable glands M12 should be inserted.***

## APPEARANCE



## TECHNICAL SPECIFICATIONS

Input voltage	12-24 Vdc
Consumption	max. 10 mAdc
Operating temperature	-10°C - +50°C
Casing	ABS
Protection	IP 65
Dimensions	max. 181x122x55.5mm
Weight	0.3 kg

*Design and specifications subject to change without notice.*

## WARRANTY

1. The equipment manufactured by ASTEL d.o.o. is warranted to be free from defects in workmanship and materials under normal use and service.
2. This Warranty is in effect for of two years from the date of purchase by the user. Proof of purchase must be included, to establish that it is inside the warranty period.
3. This Warranty is transferrable and covers the product for the specified time period.
4. In case any part of the equipment proves to be defective, other than those parts excluded in paragraph 5 below, the owner should do the following:
  - (a) prepare a detailed written statement of the nature and circumstances of the defect, to the best of the Owner's knowledge, including the date of purchase, the place of purchase, the name and address of the installer, and the Purchaser's name, address and telephone number;
  - (b) the Owner should return the defective part or unit along with the statement referenced in the preceding paragraph to the warrantor, ASTEL d.o.o., or an authorized distributor, postage/shipping prepaid and at the expense of the Purchaser;
  - (c) if upon the Warrantor's or authorized distributor's examination, the defect is determined to result from defective material or workmanship, the equipment will be repaired or replaced at the Warrantor's option without charge, and returned to the Purchaser at the Warrantor's expense;
  - (d) no refund of the purchase price will be granted to the Purchaser, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. Prior to refund of the purchase price, Purchaser must submit a statement in writing from a professional boating equipment supplier that the installation instructions of the Operating Instructions manual have been complied with and that the defect remains;
  - (e) warranty service shall be performed only by the Warrantor, or an authorized distributor, and any attempt to remedy the defect by anyone else shall render this warranty void.
5. There shall be no warranty for defects or damages caused by faulty installation or hook-up, abuse or misuse of the equipment including exposure to excessive heat, salt or fresh water spray, or water immersion except for equipment specially designed as waterproof.
6. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives for injury to any person or persons, or damage to property, loss of income or profit, or any other consequential or resulting damage or cost which may be claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment, or part thereof.
7. The Warrantor assumes no liability for incidental or consequential damages of any kind including damages arising from collision with other vessels or objects.

# DECLARATION OF CONFORMITY

according to IEC Guide 22 and EN 45014

*Manufacturer's Name:* ASTEL, Podjetje za projektiranje, proizvodnjo in trgovino, d.o.o.

*Manufacturer's Address:* Dutovlje 138  
6221 Dutovlje  
Slovenija

declares that the products

*Item, Product Name and Model Number:* 1. Synchronization Unit LSU08

conform to the following Product Specifications:

*EMC:* EN 55103-1:2009+A1:2012

*Safety:* EN 62368-1:2014

Supplementary Information:

The products herewith comply with the requirements of the following Directives and carry the CE-marking accordingly:

- the Low Voltage Directive 2014/35/EU
- the EMC Directive 2014/30/EU
- the RoHS Directive (EU)2015/863

ASTEL d.o.o.  
Dutovlje 138  
6221 Dutovlje  
Slovenija

Dutovlje, 7<sup>th</sup> November 2016









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