

## Data Sheet

### Central Smart Lighting Controller



### Description

The MICROSENS Central Smart Lighting Controller is designed to drive and control up to 24 independent LED lights from a central location. Typical areas of applications are intelligent control of light and brightness in various environments like offices, hotels, hospitals, corridors and many more.

The Central Smart Lighting Controller includes an integrated management feature to configure and setup basic lighting scenarios. The firmware option *Smart Director App* accelerates deployment of lighting solutions by automatic creation of room applications. The controller can collect light level data from several separate sensor devices. Based on these data, the Smart Director App automatically adjusts the light level. One or more controllers can be managed via the optional Smart Building Manager server application.

As a member of the MICROSENS Smart Building Solutions family, the Central Smart Lighting Controller seamlessly integrates with other IP devices in the network.

### Features

- 24 LED driver channels, max. 1000 W total output power per chassis
- Max. 1A@50V output current per channel
- Fully dimmable 0-100% per channel
- Integrated power monitoring per channel
- RJ-45 jack per channel for direct connection to structured cabling system
- Input: 54 VDC, max. 1100 W
- MQTT integrated (publish & subscribe)
- RJ-45 jacks for connection of light level sensors

## Specifications

### Lighting Controller

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- 24 independently controllable channels
- Flicker-free dimming of LED light (0-100%)
- Measurement and collection of LED power consumption
- Collection of environmental data provided by
  - MICROSENS Smart Sensor: motion, brightness, temperature, humidity
- Software assisted calibration of maximum power for the connected LED light

### Management

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- Web Manager (HTTP/HTTPS)
- Exchangeable SD memory card for the configuration, CLI scripts, Smart Director App, firmware
- Firmware-, script- and configuration files can be loaded, stored and executed directly from the device
- Integrated MQTT Broker for handling of max. 500 topics
- MQTT interface for monitoring and remote control
- IPv4/IPv6 Dual Stack
- Integrated CLI scripting for the automation of routine processes
- Telnet/SSH/Console, incl. standard commands (ping etc.)
- SNMP v1/v2c/v3 with View-based Access Control Model (VACM) and User-based Security Model (USM)

### Cooling

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- Temperature controlled fan with switch-off function
- If noiseless cooling is required contact our Sales (mounting in a suspended ceiling)

### Connectors

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#### Uplink

- 1x 10/100/1000Base-TX, RJ-45 jack, shielded
- 2x 10/100Base-TX, RJ-45 jack, shielded

#### LED Light Interface

24x RJ-45 jack, shielded

#### Sensor Interface

- 2x RJ-45 jack, shielded
- Support of up to 24 Smart Sensors
- Power source for connected sensors
- Compatible with MICROSENS Smart Sensor NeuronGrid

#### Power Supply

- 1x 3-pos. screw pluggable connector for solid or stranded wires, 0,2 ... 4 mm<sup>2</sup>

#### RS-232 Console Port

- Serial terminal port for CLI access (outband management)
- 1x RJ-45 jack

#### USB Extension Port

- For optional accessories

### Display

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#### LEDs

- Status LEDs for Network communication
- Light port LEDs for light channel status

### Mounting

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- Mounting into 19" racks requiring 1U space

## Technical Specifications

### Network Ports

<b>Type</b>	1x Gigabit Ethernet, Triple Speed 10/100/1000Base-TX, 2x Ethernet, 10/100Base-TX
<b>Connector</b>	3x RJ-45 jack, shielded
<b>Cable</b>	Twisted-Pair cable, length up to 100 m, min. Category 5e, AWG 24, impedance 100 Ohm

### LED Driver Interface

<b>Type</b>	Controlled current output
<b>Output</b>	Max. 50 W, 20..50V DC, max. 1A Note: as the driver current per port is limited to 1A, the maximum output power is determined by the LED driver voltage.
<b>Connector</b>	24x RJ-45 jack, shielded
<b>Cable</b>	Twisted-Pair cable, length up to 100 m, min. Category 5e, AWG 24, impedance 100 Ohm
<b>Standard LED</b>	One LED output is required
<b>Dual Tone LED</b>	Two LED outputs are required (Each light colour requires an LED output) Note: Dual tone LEDs must have a separate anode and cathode for each channel.

### Sensor Interface

<b>Type</b>	Compatible with MICROSENS Smart Sensor (MS660222)
<b>Connector</b>	2x RJ-45 jack, shielded
<b>Supply current</b>	Max. 800 mA to drive up to 24 sensors, A total number of 24 sensors on the device must not be exceeded.

### Power Supply

<b>Input</b>	54 VDC (typical)
<b>Power Consumption</b>	minimum: 20 W, maximum: 1100 W
<b>Connector</b>	1x Screw terminal (3 pos.) for solid or stranded wires, 0,2 ... 4 mm <sup>2</sup>

### Environmental Conditions

<b>Temperature</b>	Typical: 25 °C Operating range: 0..+50 °C Storage: -20..+85 °C
<b>Humidity</b>	10..80%, non-condensing

### Cooling

<b>Integrated fan</b>	2x controlled fan
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### Mechanical

<b>Dimensions</b>	435 x 258,3 x 43.5 mm (w x d x h, without connectors; width incl. mounting brackets: 481 mm)
<b>Weight</b>	Approx. 2500 g
<b>Protection Class</b>	IP 20

### Standards

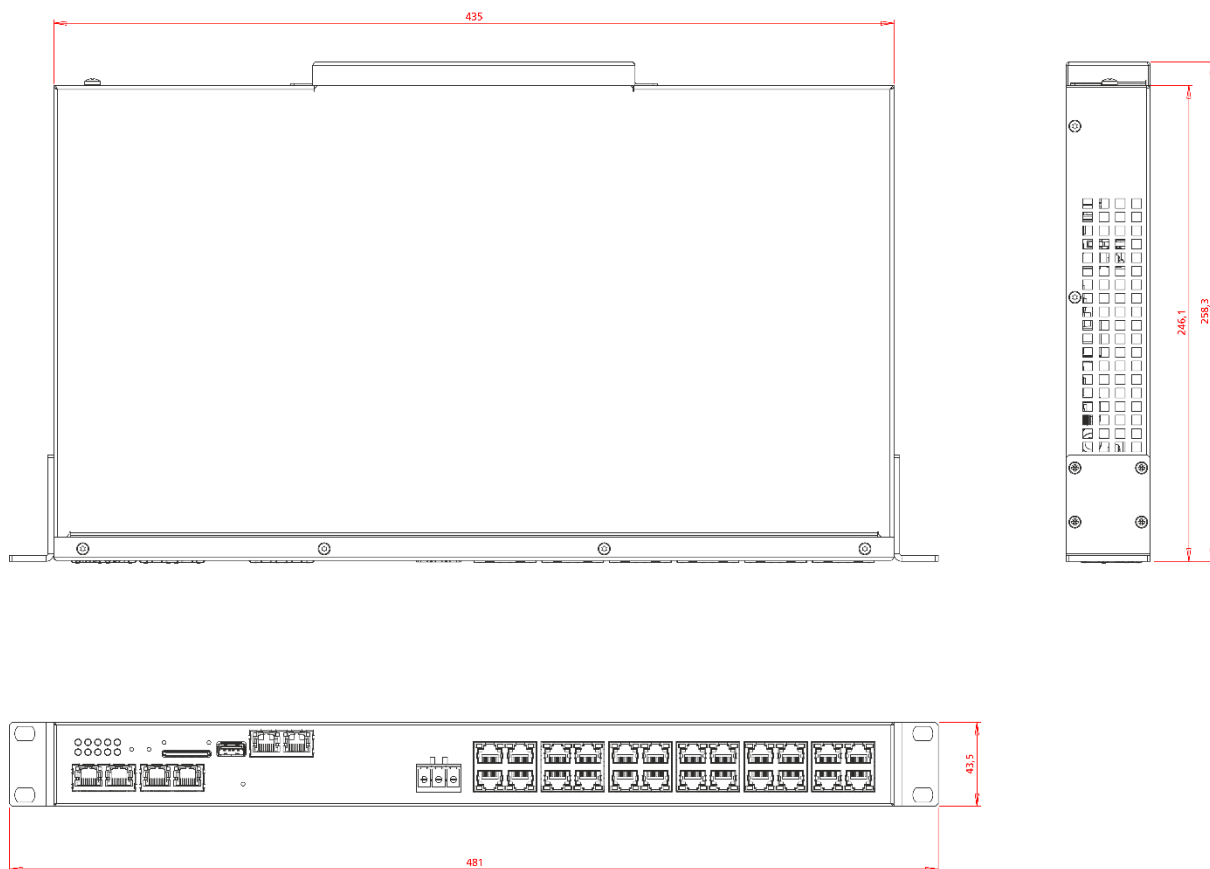
<b>CE</b>	2014/35/EU (EMC Directive) 2011/65/EU (RoHS Directive)
<b>REACH</b>	1907/2006/EC
<b>Safety</b>	EN 60950-1
<b>EMC Emission</b>	EN 55015
<b>EMC Immunity</b>	EN 61547
<b>Ethernet</b>	IEEE 802.3i, 802.3u, 802.3ab

### Delivery / Contents

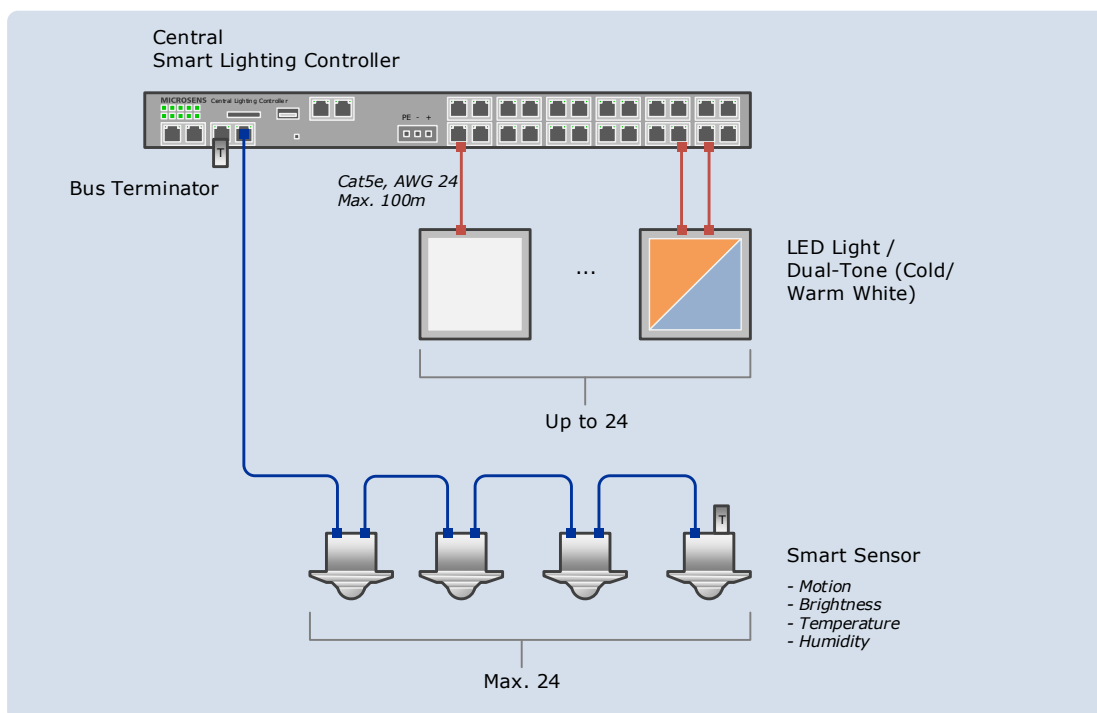
#### Standard Packaging

<b>Package unit</b>	1x Central Smart Lighting Controller
<b>Contents</b>	1x Quick Start Guide 1x Power supply connector

## Dimensions



## Application



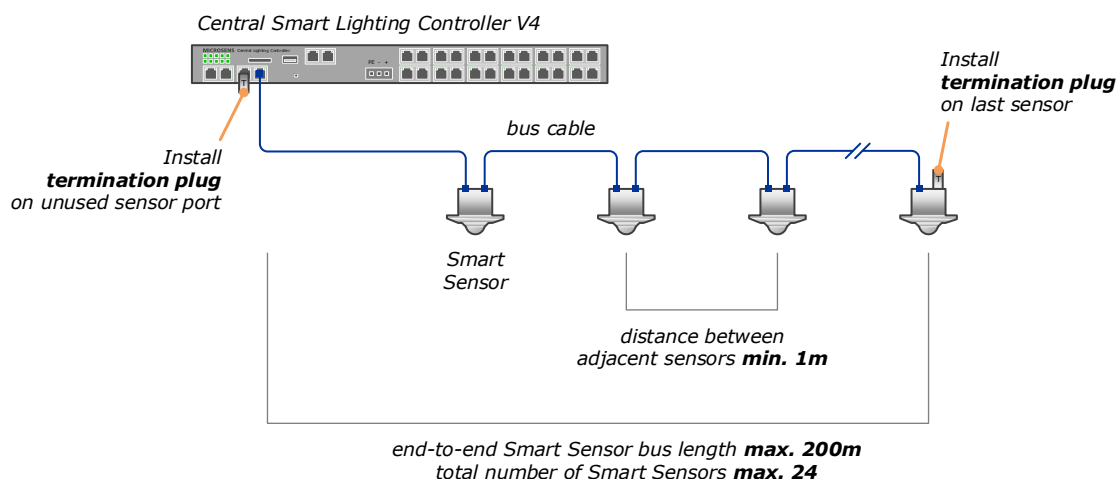
## Planning guideline



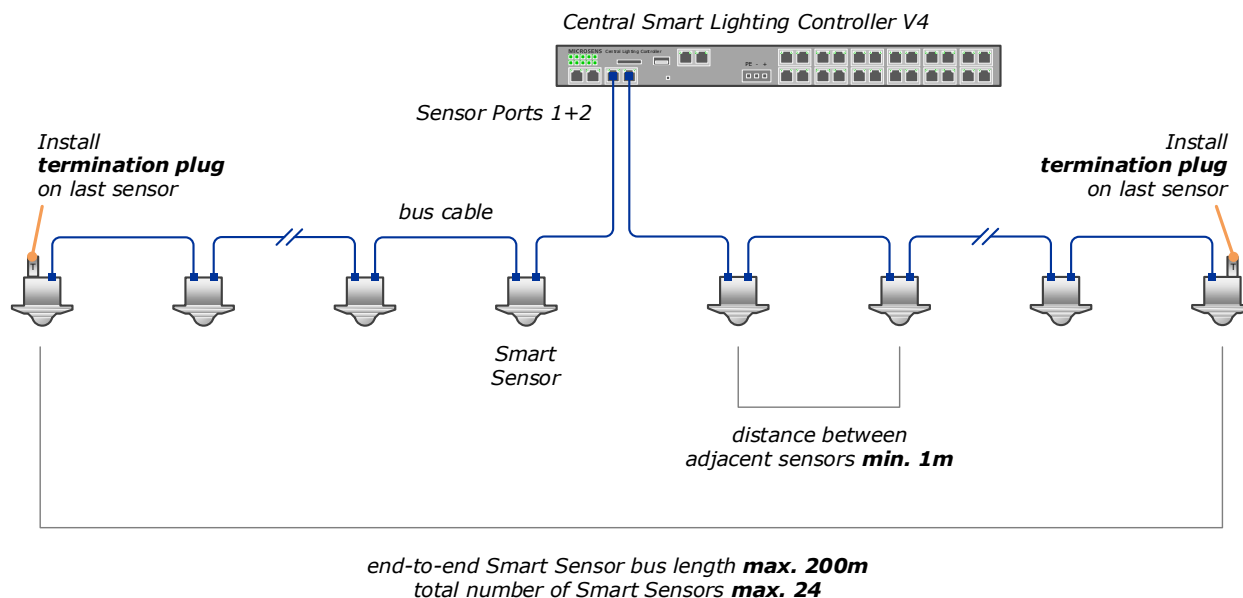
**WARNING**

Only compatible Smart Sensors must be connected to the Smart Sensor bus. Do not connect any other equipment to the bus. Connecting incompatible equipment to the bus may cause irreparable damage to the equipment, the CSLC or other Smart Sensors on the bus.

### Sensor installation with single bus segment





### Sensor installation with two bus segments


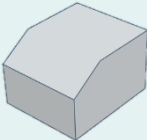


1. Maximum 24 Smart Sensors can be connected to one CSLC V4 device.
2. The minimum cable length between two adjacent sensors on the bus is 1 meter.
3. The maximum end-to-end cable length of the Smart Sensor bus is 200 meters.
4. The Smart Sensor bus must be terminated at both ends.
5. There is one Smart Sensor bus per CSLC device. When two bus segments are connected, they form together one bus.
6. For bus cabling, twisted pair cable according to ISO/IEC 11801, shielded Cat 5, AWG 26 must be used.  
Attach 8pin RJ-45 connectors on both ends, pinout straight 1:1, pairs on pins 1/2, 3/6, 4/5, 7/8.

## Ordering Information

	Description	Article-No.
	<b>Central Smart Lighting Controller</b>	
	Central Smart Lighting Controller for LED lighting 24x LED driver output (RJ-45) 2x Sensor input (RJ-45), 1x Power Input 54 VDC 1x 1000BasedTX (RJ-45, shielded), 2x 100BasedTX (RJ-45, shielded), 1x USB	<b>MS660301M-V4</b>
	<b>Firmware Application for Smart Lighting Controller</b>	
	Smart Director App 1 x usage right to operate the App on 1 Central Smart Lighting Controller or on 1 compatible MICROSENS Switch with FW G6; incl. SW Maintenance for 1 year (download of updates)	<b>MS200310</b>

## Accessories

	Description	Article-No.
	<b>Smart Sensor for CSLC</b>	
	Smart Sensor NeuronGrid Integrated Sensor for Light Level, Motion, Temperature and Humidity; supply via bus, 2x RJ-45 jack for bus compatible with MS660301M-V4 and MS660102MMS	<b>MS660222</b>
	<b>RJ45 to 2 Wire Adapter</b>	
	Adapter RJ-45-Stecker/2-Draht-Klemme	<b>MS180294</b>
	<b>Smart Sensor Bus termination plug</b>	
	Termination resistor for Smart Sensor Bus, 100 Ohm, RJ-45 plug	<b>MS660309</b>

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