Data Sheet
Central Smart Lighting Controller

Made
in
Germany

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

- 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

Cooling

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

Management

- 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)

Connectors

Uplink

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

LED Light Interface

- 2x RJ-45 port, 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 mm²

RS-232 Console Port

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

The Serial Port can not be used without an isolated adapter! The Computer could be harmed.

USB Extension Port

- For optional accessories

Display

LEDs

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

Mounting

Mounting

- Mounting into 19” racks requiring 1U space

Technical Specifications

Network Ports

Type

- 1x Gigabit Ethernet, Triple Speed 10/100/1000Base-TX
- 2x Ethernet, 10/100Base-TX

Connector

- 3x RJ-45 jack, shielded

Cable

- Twisted-Pair cable, length up to 100 m, min. Category 5e, AWG 24, impedance 100 Ohm

Environmental Conditions

Temperature

- Typical: -25 °C
- Operating range: -00..+50 °C
- Storage: -20..+85 °C

Humidity

- 10..80%, non-condensing

Sensor Interface

Type

- Compatible with MICROSENS Smart Sensor (MS660222)

Connector

- 2x RJ-45 jack, shielded

Supply current

- Max. 800 mA to drive up to 24 sensors, A total number of 24 sensors on the device must not be exceeded.

Standards

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

Mechanical

Dimensions

- 435 x 258,3 x 43.5 mm (w x d x h, without connectors; width incl. mounting brackets: 481 mm)

Weight

- Approx. 2500 g

Protection Class

- IP 20

Cooling

Integrated fan

- 2x controlled fan

LED Driver Interface

Type

- Controlled current output

Output

- Max. 50 W, 20..50V DC, max. 1A

as the driver current per port is limited to 1A, the maximum output power is determined by the LED driver voltage.

Connector

- 24x RJ-45 jack, shielded

Cable

- Twisted-Pair cable, length up to 100 m, min. Category 5e, AWG 24, impedance 100 Ohm

Standard LED

- One LED output is required

Dual Tone LED

- Two LED outputs are required (Each light colour requires an LED output)

Dual tone LEDs must have a separate anode and cathode for each channel.

Power Supply

Input

- 54 VDC (typical)

Power

- minimum: 20 W,

Consumption

- maximum: 1100 W

Connector

- 1x Screw terminal (3 pos.) for solid or stranded wires, 0,2 … 4 mm²

Delivery / Contents

Package unit Contents

- 1x Central Smart Lighting Controller
- 1x Quick Start Guide
- 1x Power supply connector

Accuracy of Power Measurement

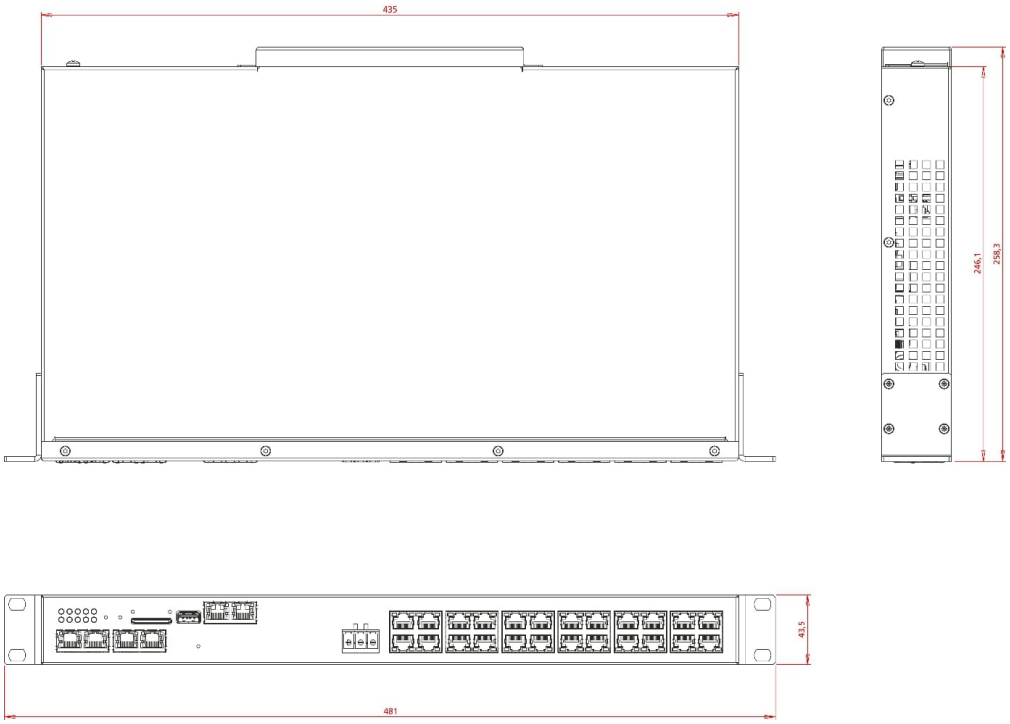
Range

- 0..50 Watt

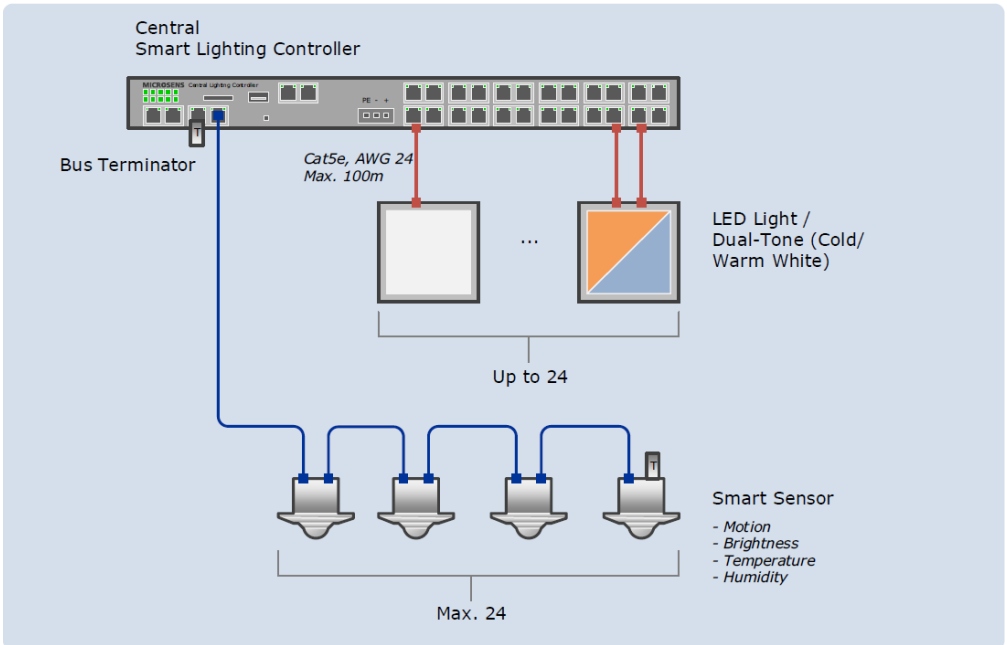
Failure

- 4% of End of Scale Failure (up to 2 Watt)

Dimensions



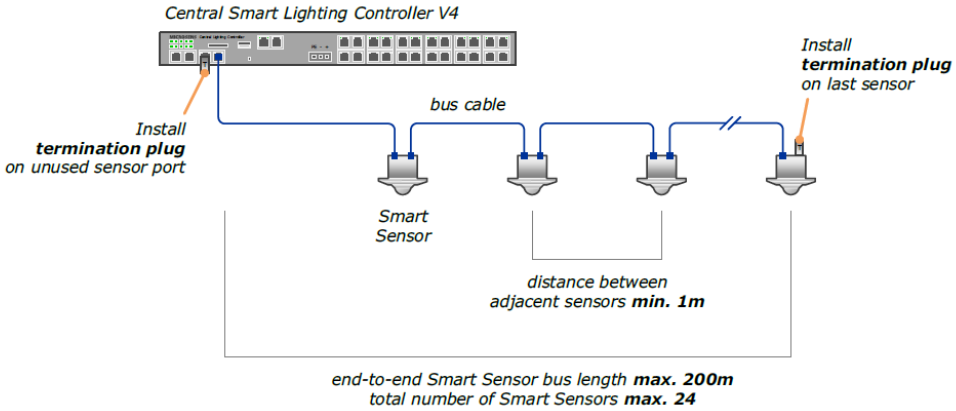
Application



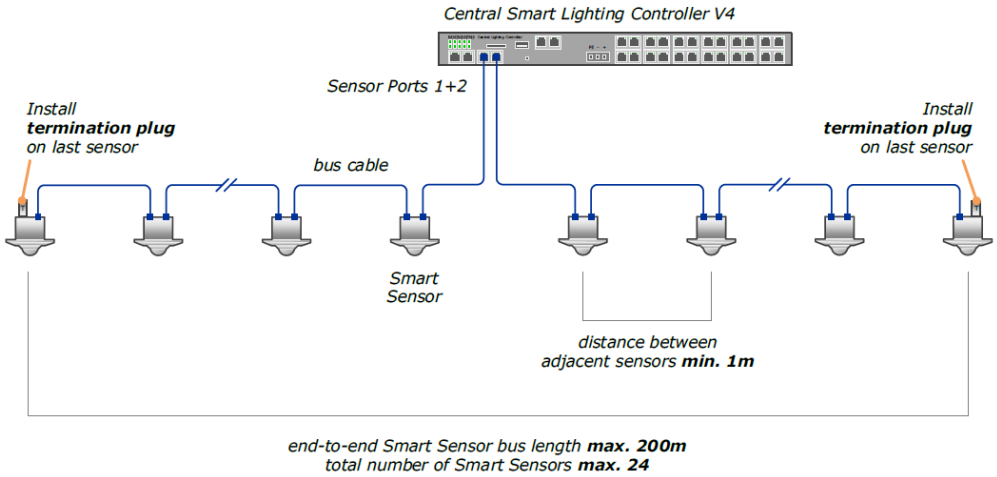
Planning Guideline

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 or a mixing of NeuronGrid and NeuronLink 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

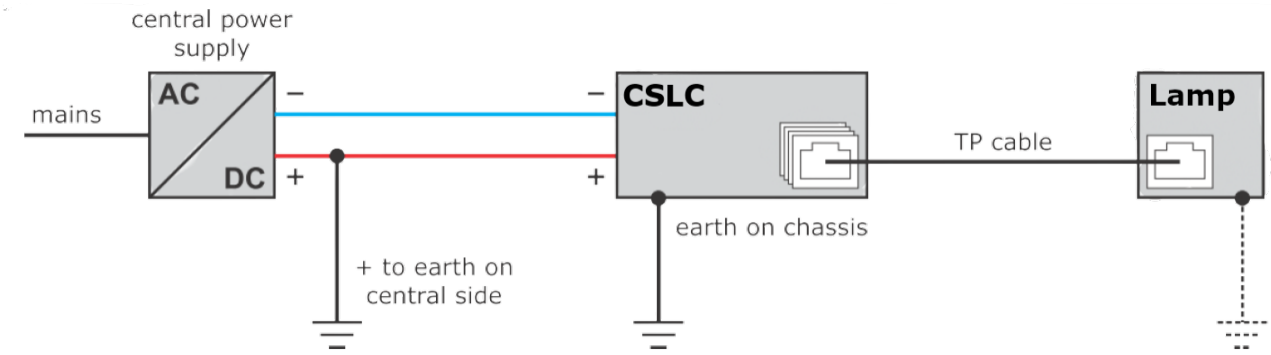


1. Maximum 24 Smart Sensors can be connected to one CSLC V4 device.
2. The minimum cable length between two adjacent sensors on the bus is 1 meter.
3. The maximum end-to-end cable length of the Smart Sensor bus is 200 meters.
4. The Smart Sensor bus must be terminated at both ends.
5. There is one Smart 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.

We recommend grounding the positive power supply conductor for maximum electrical protection as described below. In case of a short circuit of the LED output to other voltages, the risk of a permanent damage of the Device is reduced. Not following this recommendation increases the risk of a irreparable damage in such cases.

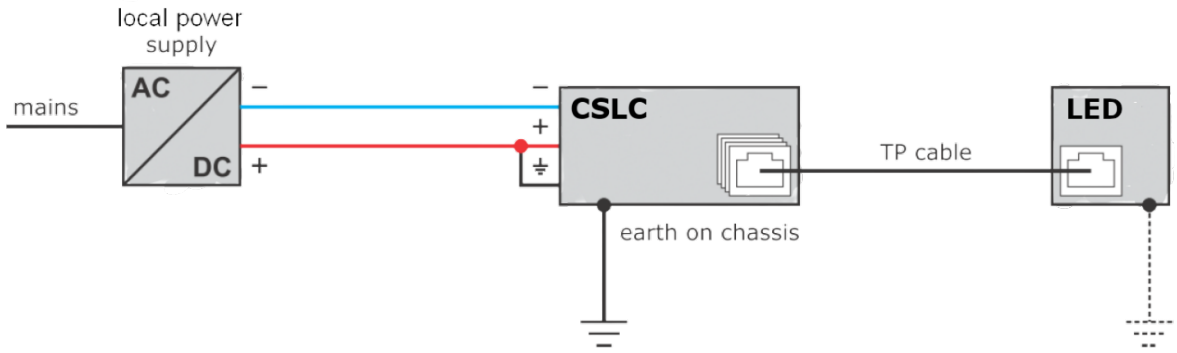
Grounding with Centralised Power Supply

When using a centralised DC power supply, grounding is typically done by connecting the "+" pole to earth potential as near and short as possible to the power supply output. Grounding of the Smart Device is done via its chassis.



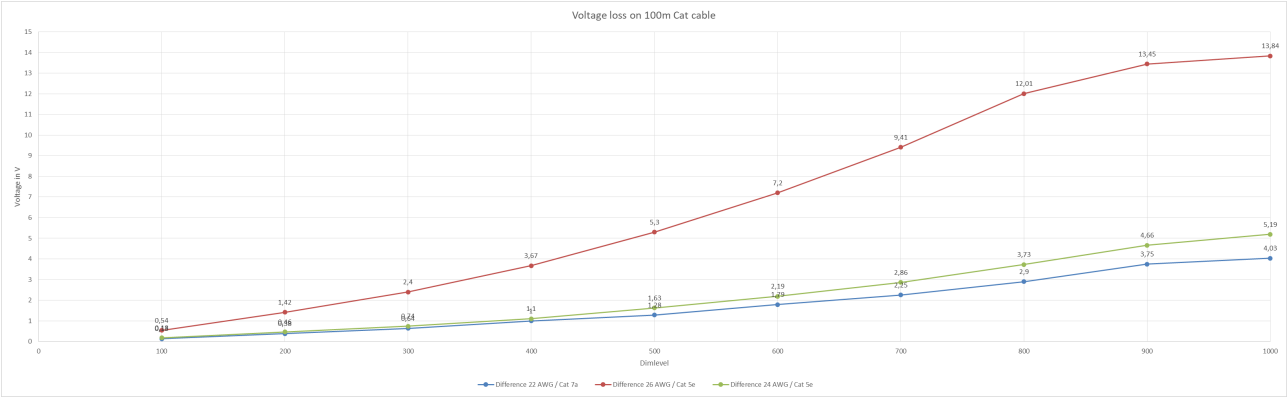
Grounding with Local Power Supply

When a local power supply is used, there is only one grounding connection necessary between power supply and Smart Device. The "+" pole of the Smart Device has to be connected to the ground potential.



Further descriptions can be taken from the Application Note "Grounding of MICROSENS Switches", which is available from the MICROSENS Website.

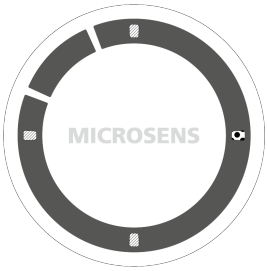
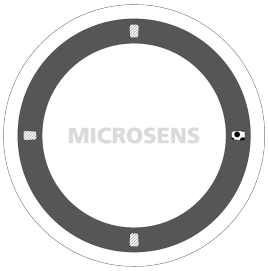
Line Losses

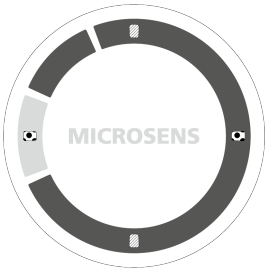
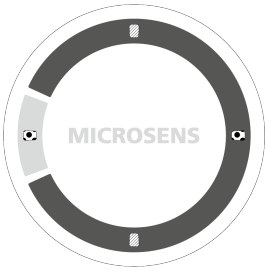


Ordering Information

	Description	Article-No.
	**Central Smart Lighting Controller** 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	**MS660301M-V4**
	**Firmware Application for Smart Lighting Controller** 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)	**MS200310**

Accessories

	Description	Article-No.
	**Smart Sensor NeuronGrid** Integrated Sensor for Light Level, Motion, Temperature and Humidity; supply via bus, 2x RJ-45 jack for bus (NeuronGrid interface compatible) compatible with MS660301M-V4, MS660103M and MS660104M.	**MS660222**
	Smart Radar Sensor for CSLC and SLC's (compatible with MICROSENS Central Smart Lighting Controller MS660301M-V4, Smart Lighting Controller MS660103M and MS660104M)	
	**Smart Radar Sensor (Bluetooth Beacon)** Integrated Sensor for Light Level, Motion, Temperature and Humidity, incl. Bluetooth Beacon; supply via bus, 2x RJ-45 jack for bus; compatible with MS660301M-V4, MS660103M and MS660104M	**MS660230**
	**Smart Radar Sensor** Integrated Sensor for Light Level, Motion, Temperature and Humidity; supply via bus, 2x RJ-45 jack for bus; compatible with MS660301M-V4, MS660103M and MS660104M	**MS660230-1**

	Description	Article-No.
	**Smart Radar Sensor (AQI + BLE Beacon)** Integrated Sensor for Light Level, Motion, Temperature and Humidity, incl. VOC Sensor and Bluetooth Beacon; supply via bus, 2x RJ-45 jack for bus; compatible with MS660301M-V4, MS660103M and MS660104M	**MS660230-2**
	**Smart Radar Sensor (AQI)** Integrated Sensor for Light Level, Motion, Temperature and Humidity, incl. VOC Sensor; supply via bus, 2x RJ-45 jack for bus; compatible with MS660301M-V4, MS660103M and MS660104M	**MS660230-3**
	**Smart Matrix Sensor** Integrated infrared matrix sensor for room temperature measurement. Additional sensors for ambient light level and humidity. RGB LED indicator. 2x RJ-45 connector (MICROSENS NeuronGrid bus compatible)	**MS660240**
	Smart Sensor Bus Termination plug Termination resistor for Smart Sensor Bus, 100 Ohm, RJ-45 plug	**MS660309**
	**RJ45 to 2 Wire Adapter** Adapter RJ-45 connector/2-wire clamp	**MS180294**

Our General Terms and Conditions of Sale (GTCS) apply to all orders (see https://www.microsens.com/fileadmin/files/downloads/Impressum/MICROSENS_AVB_EN.pdf).

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