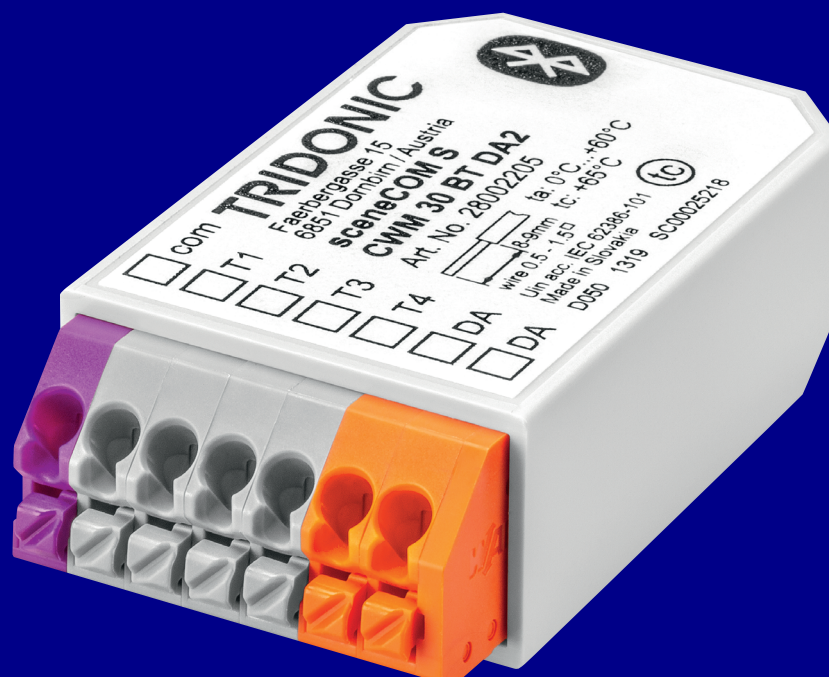


Sensors and Controls

sceneCOM S

Manual



TRIDONIC

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Validity

1. Validity

This operating instruction is valid for the following release version of the sceneCOM S system.

Hardware version	nRF version	STM version	iOS App version	Android App version	Valid with release
4.2	0.86	1.1.5	V 1.4.4 B144	V 1.4.5 B145	05.2023

TRIDONIC GmbH & Co KG is constantly striving to develop all its products. This means that there may be changes in form, equipment and technology.

Claims cannot therefore be made on the basis of information, diagrams or descriptions in these instructions.

The latest version of these operating instructions is available on our home page.

1.1. Copyright

This documentation may not be changed, expanded, copied or passed to third parties without the prior written agreement of TRIDONIC GmbH & Co KG.

We are always open to comments, corrections and requests. Please send them to info@tridonic.com

1.2. Imprint

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Safety instructions

2. Safety instructions

The instructions in this section have been compiled to ensure that operators and users of the sceneCOM S system from Tridonic are able to detect potential risks in good time and take the necessary preventative measures.

The operator must ensure that all users fully understand these instructions and adhere to them. This device may only be installed and configured by suitably qualified personnel.

2.1. Intended use

2.1.1. Proper use

DALI-2 monitoring and control solution. DALI-2 devices can be configured locally via Bluetooth® connection and app. The device may only be used for this intended purpose.

2.1.2. Improper use

Outdoor use. Extensions and modifications to the product.

WARNING!

Improper use could result in injury, malfunction or damage to property.
It must be ensured that the operator informs every user of existing hazards.

2.2. Dangers associated with the operation of the system

DANGER!

Danger of electrocution
Disconnect the power to the entire lighting system before working on the lighting system!

CAUTION!

Risk of damage caused by condensation
Prior to commissioning the system, wait until the control device is at room temperature and completely dry!

CAUTION!

Risk of damage caused by humidity
Only use the control device in dry rooms and protect it against humidity!

Safety instructions

CAUTION!

Electromagnetic compatibility (EMC)

Although the Tridonic control device meets the stringent requirements of the appropriate directives and standards on electromagnetic compatibility, it could potentially interfere with other devices under certain circumstances!

The sceneCOM S system



3. The sceneCOM S system

3.1. General information

The sceneCOM S system is a DALI-2 monitoring and control solution. DALI-2 devices can be configured locally via Bluetooth connection and app.




The sceneCOM S can be updated over the air, providing a continuously evolving solution.

3.2. System components


Image	Title	Description
	sceneCOM S	<p>DALI Application Controller</p> <ul style="list-style-type: none"> _ Support for complete Tridonic control gear with DALI and DALI-2, as well as control gear certified by other brands with DALI and DALI-2 _ Future-proof thanks to simple firmware update via Bluetooth App _ 4 independent inputs enabling connection of floating contact, standard momentary switches _ Power supply via DALI line
	MSensor G3 SFI 30 PIR 5DPI WH /BK	<ul style="list-style-type: none"> _ Sensor developed to work with the latest DALI specification _ Monitoring of ambient light and motion detection _ Remote control interface allowing infrared remote control interaction _ Individual adjustment of the parameters with configuration software _ Power supply via DALI line _ Shutter for preventing movement detection in one direction included _ Small dimensions allowing easy and inconspicuous integration in luminaries _ Wide range of accessories allowing extended application range

...proceed on next page

The sceneCOM S system




Image	Title	Description
	MSensor G3 SFI 30 PIR 10DPI WH	<ul style="list-style-type: none"> _ Sensor developed to work with the latest DALI specification _ Monitoring of ambient light and motion detection _ Remote control interface allowing infrared remote control interaction _ Individual adjustment of the parameters with configuration software _ Power supply via DALI line _ Shutter for preventing movement detection in one direction included _ Small dimensions allowing easy and inconspicuous integration in luminaires _ Wide range of accessories allowing extended application range
	MSensor G3 SFI 30 PIR 16DPI WH	<ul style="list-style-type: none"> _ Sensor developed to work with the latest DALI specification _ Monitoring of ambient light and motion detection _ Remote control interface allowing infrared remote control interaction _ Individual adjustment of the parameters _ Power supply via DALI line _ Mounting ring and gasket included to reach IP65 protection _ Wide range of accessories allowing extended application range _ Double terminals for through wiring
	PSensor SSI 31 2xPIR 8DP DG	<ul style="list-style-type: none"> _ Monitoring of ambient light and motion detection _ 2 x PIR Sensor built-in enabling extended features like detecting objects with side orientation _ Low energy consumption over DALI-2 bus supply _ Ready for Zhaga book 18 Ed. 2 receptacle for easy and flexible installation to luminaire _ Rectangular detection area ideal for street applications _ Pressure equalizing membrane built-in

The sceneCOM S system

	<p>PCell SSI 31 PC DA2 SA</p>	<ul style="list-style-type: none">_ Monitoring of ambient light for standalone and connected applications_ Ready for Zhaga book 18 Ed. 2 receptacle for easy and flexible installation to luminaire_ Provides accurate light measurements between 0.2 and 20,000 Lux_ Designed to be mounted on top or bottom of luminaire
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The sceneCOM S system

Image	Title	Description
	REMOTECONTROL IR6	<ul style="list-style-type: none"> _ Optional infra-red remote control _ Switching on and off (On/Off button) _ Dimming (Up/Down button) _ Activation of automatic lighting control (Automatic button) _ Setting the threshold control point (Set button) <p>The REMOTECONTROL IR6 has a separate documentation: https://www.tridonic.com/en/download/technical/REMOTECONTROL_IR6_en.pdf</p>
	DALI XC G3	<ul style="list-style-type: none"> _ 4 independent inputs enabling connection of floating contact, standard momentary switches _ Multiple DALI XCs possible on the DALI-2 line _ Power supply via DALI-2 line _ Connection wires according to the terminal colours with 25 cm length included
	DALI-PCD 1-300 one4all G2	<ul style="list-style-type: none"> _ Digital leading-edge and trailing-edge phase dimmer _ Total connected load: 1 – 300 VA _ one4all input: DALI, DSI, switchDIM and corridorFUNCTION input _ Zero cross switching supported _ 1 dimmed phase (output) _ With automatic load detection _ Surface-mounted casing _ Suitable for operation with LED retrofit bulbs

...proceed on next page

The sceneCOM S system

Image	Title	Description
	LED Drivers	<p>All Tridonic Drivers with one4all interface are supported</p> <ul style="list-style-type: none"> _ Best dimming quality from 1 – 100 % _ High efficiency of up to 92 % _ Large number of designs including the new Stretched Compact housing with attachable cable clamp
	DALI PS3	<ul style="list-style-type: none"> _ DALI-2 power supply providing 70 mA for a DALI-2 installation _ Excellent scalability allowing to connect up to 2 PS3 in a DALI-2 installation _ Compact form factor combined with detachable mounting flaps allowing high installation flexibility, e.g. in luminaire _ Up to 100,000 guaranteed operating hours enable outstanding life-time of the entire lighting system

3.3. Support for sensors from other manufacturers

In addition to the mentioned Tridonic components, which have been tested and released with the system, sensors from third-party manufacturers which have been certified by DiiA according to DALI-2 are also supported since the 06.2021 update. Further information can be found in the [release notes](#) and in the [sceneCOM S commissioning App Manual](#).

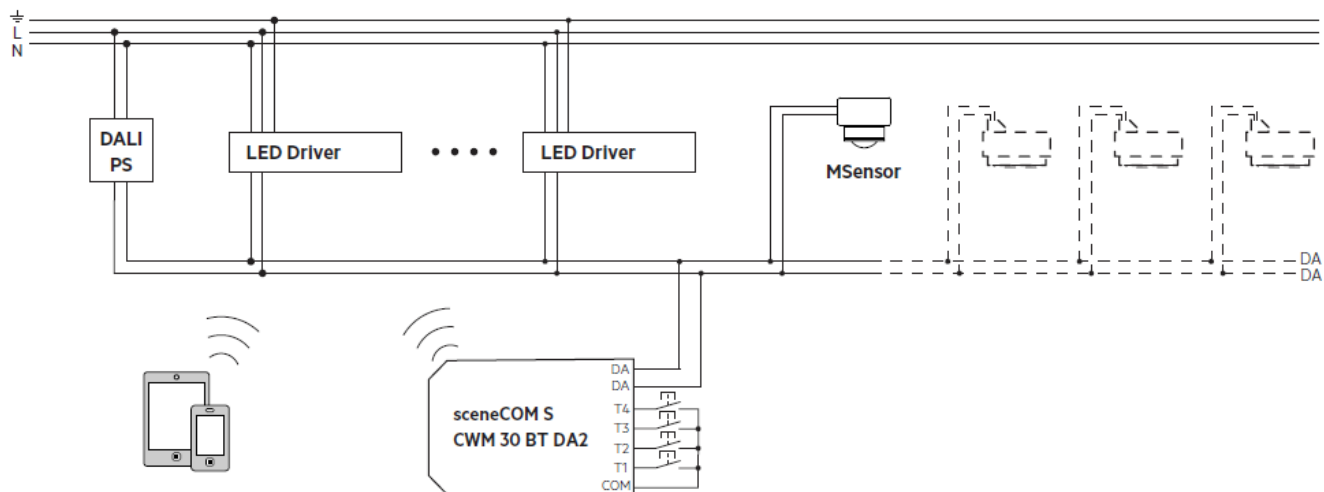
3.4. sceneCOM S solution schematic

sceneCOM S supports:

- _ single DALI Line (max 250mA):
- _ up to 64 converters / drivers
- _ 16 groups
- _ 16 scenes
- _ 16 input devices / sensors / push buttons

The sceneCOM S system

3.5. Connection diagram



3.6. Wiring type

3.6.1. Wire length and cross section

In DALI the wire length is limited depending on the cross section and material used. Try to avoid wire length above 300 m in your DALI installation.

The sceneCOM S system

3.6.2. Max. output cable length

Recommended wire length depending on material, ambient temperature and cross section.

Material	Cross section	Max. cable length		
		25 °C	50 °C	75 °C
Copper	0.20 mm ²	45 m	41 m	37 m
	0.50 mm ²	112 m	102 m	93 m
	0.75 mm ²	168 m	153 m	140 m
	1.00 mm ²	224 m	204 m	187 m
	1.50 mm ²	300 m ⁽¹⁾	300 m ⁽¹⁾	281 m
Aluminum	0.20 mm ²	27 m	25 m	23 m
	0.50 mm ²	68 m	62 m	57 m
	0.75 mm ²	102 m	93 m	86 m
	1.00 mm ²	136 m	125 m	115 m
	1.50 mm ²	205 m	187 m	172 m

⁽¹⁾ Cable lengths of more than 300 m are not recommended.

The sceneCOM S system

3.7. Wireless signal range

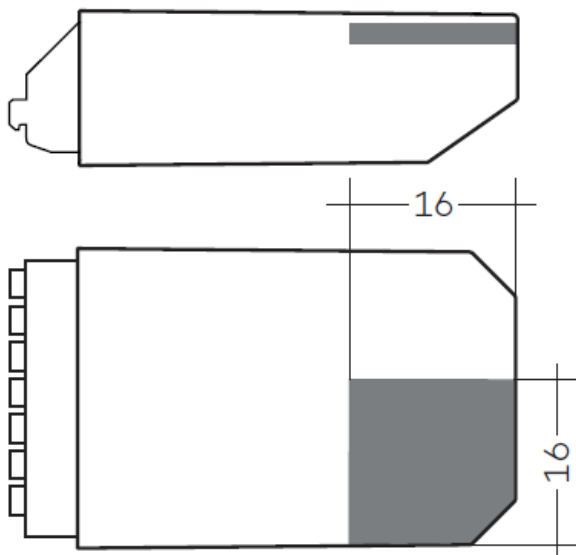
Maximum range of the signal provided by the sceneCOM S is up to 20 m. Avoid mounting the device behind glass, concrete surfaces and in metal enclosures. If mounted behind such materials the signal range will be reduced.

Wireless signals are electromagnetic waves. These waves are damped under the following circumstances:

- _ Increasing distance between sceneCOM S and your smart device
- _ Materials of different compositions near the sceneCOM S and your smart device
- _ Building installations, such as hollow drywall with insulation wool on metal foil, suspended ceilings with metal or carbon fibre panels, fixtures and furnishings made of steel, glass, lead glass or with metal coating, and metal walls/surfaces
- _ Fire protection walls, lift shafts, stairwells and supply areas must be considered completely sealed areas

3.8. Placement and mounting of sceneCOM S

The sceneCOM S DALI-2 application controller has an integrated antenna. Certain materials can reduce the range of the antenna. During installation, the following should be observed. The antenna is located at the corner of the case, at the bottom of the PCB, just above the bottom of the device. By placing the antenna at this point, the influence of other components on the antenna performance is minimized. In addition, the device should be placed as far away as possible from metal structures. Wires of the device should not lead past the antenna.



The antenna location is the grey area on the graph.

Applications overview

4. Applications overview

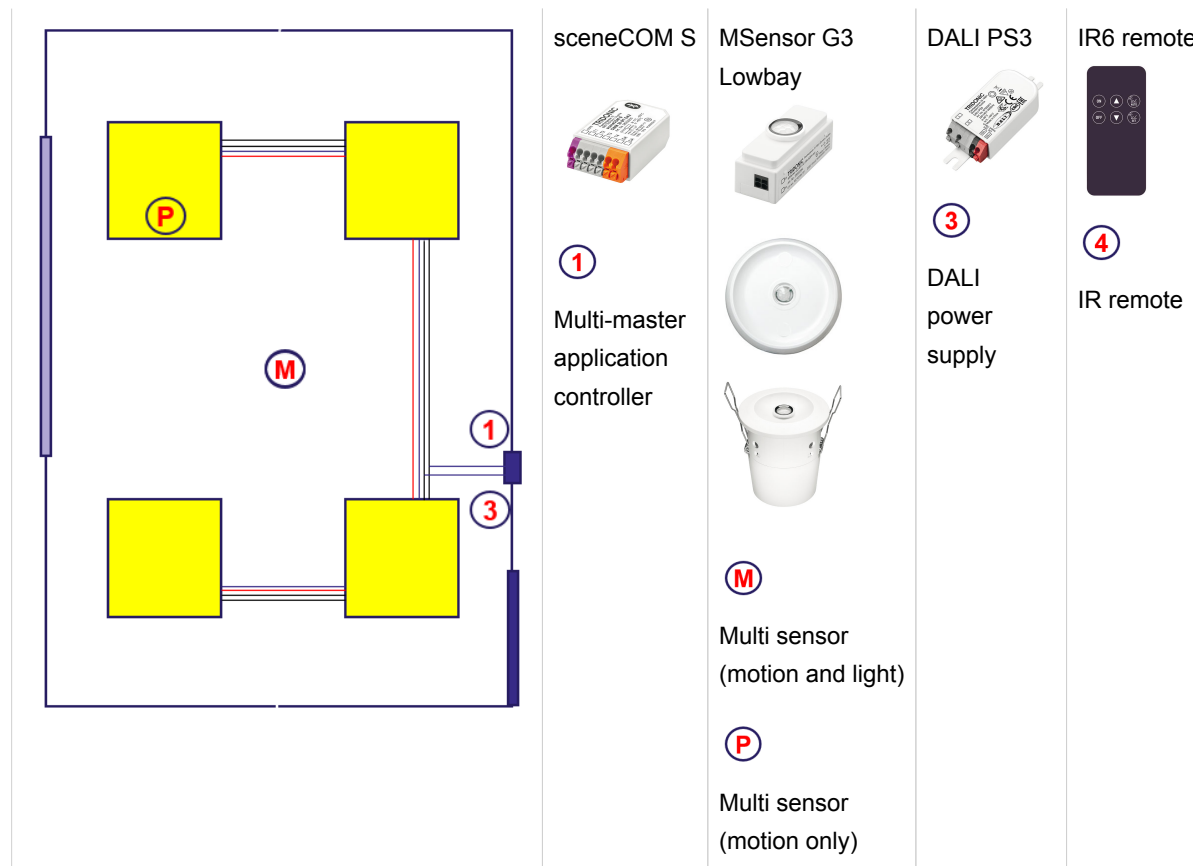
The sceneCOM S System can cover all applications where one DALI-2 Line fulfills the requirement.

In the following pages a short overview of different applications is described.

- _ [Individual office \(cabinet type\)](#), p. 15
- _ [Open plan office](#), p. 16
- _ [Meeting / conference room](#), p. 18
- _ [Classroom](#), p. 19
- _ [Warehouse / DIY shop \(between shelf lighting control\)](#), p. 20
- _ [Industrial midrack small area applications](#), p. 21

Applications overview

4.1. Individual office (cabinet type)



Basic setup:

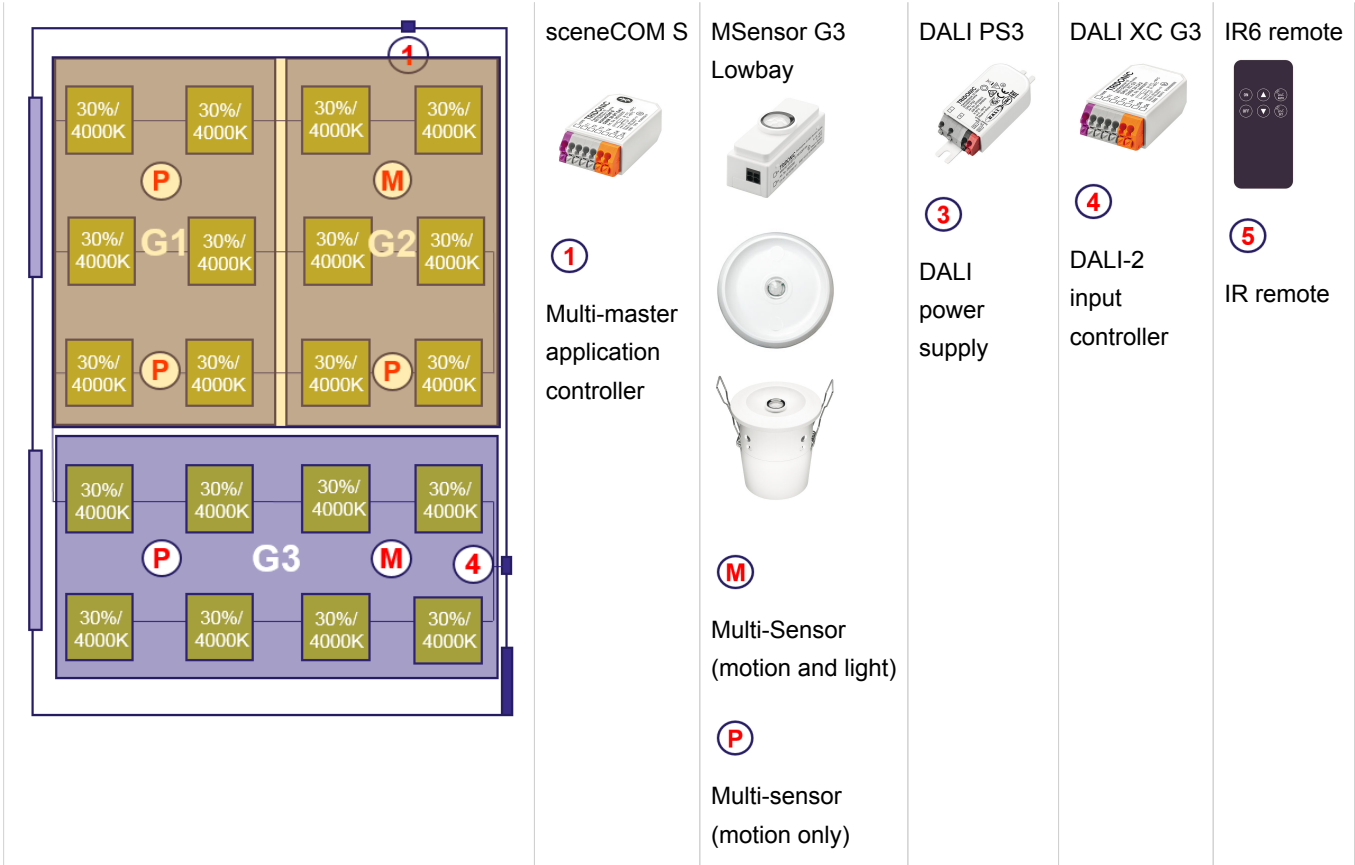
- _ On/Off,
- _ Dim Up/Down,
- _ Daylight/Presence control,
- _ Push-button (manual-input)

Advanced setup:

- _ IR6 remote
- _ On/Off,
- _ Dim Up/Down
- _ Daylight/Presence
- _ Push-button (manual-input)
- _ Direct-Indirect light control
- _ Only-off function,
- _ Basic Tunable White
- _ Grouping
- _ Scenes

Applications overview

4.2. Open plan office



Basic setup:

- _ On/Off,
- _ Dim Up/Down,
- _ Daylight/Presence control,
- _ Push-button (manual-input)
- _ Grouping*

Advanced setup:

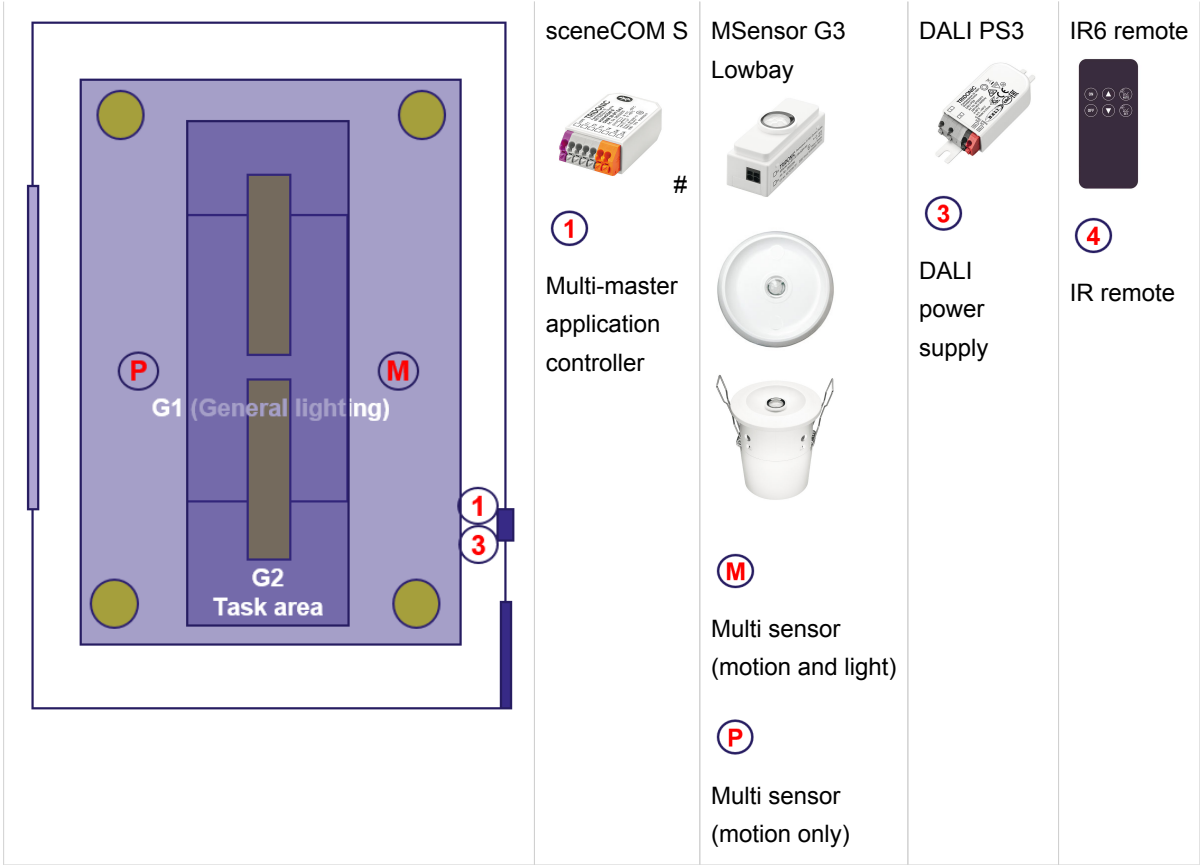
- _ On/Off,
- _ Dim Up/Down
- _ Daylight/Presence
- _ Push-button (manual-input)
- _ Direct-Indirect light control
- _ OnlyOFF function,
- _ Basic Tunable White
- _ Grouping*
- _ Scenes**

Applications overview

- *-Single sensor can be applied to multiple groups
- ** -Single switch can be applied to multiple groups

Applications overview

4.3. Meeting / conference room



Basic setup:

- _ On/Off
- _ Dim Up/Down
- _ Daylight/Presence control
- _ Push-button (manual-input)
- _ Grouping*

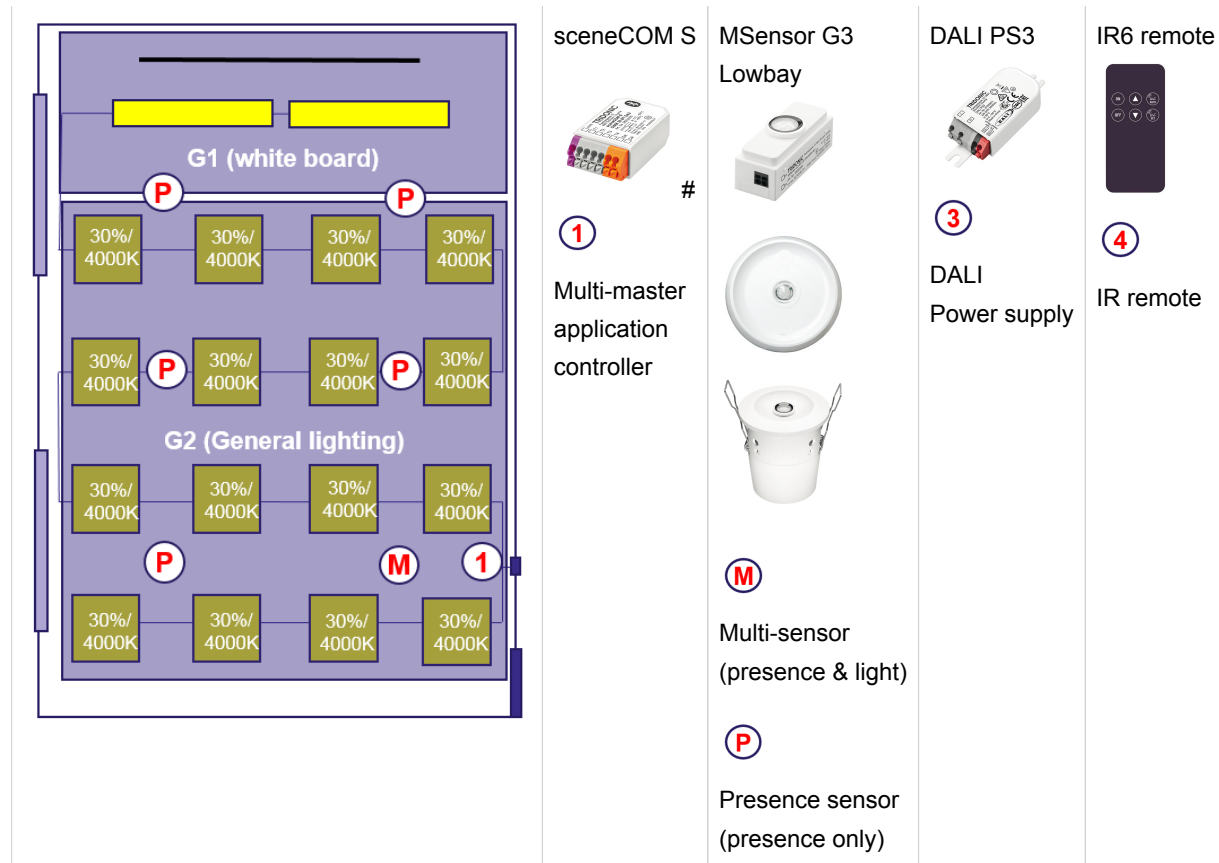
Advanced setup:

- _ On/Off,
- _ Dim Up/Down
- _ Daylight/Presence
- _ Push-button (manual-input)
- _ Direct-Indirect light control
- _ Only-off function,
- _ Basic Tunable White
- _ Grouping*
- _ Scenes*

*-Single sensor can be applied to multiple groups

Applications overview

4.4. Classroom



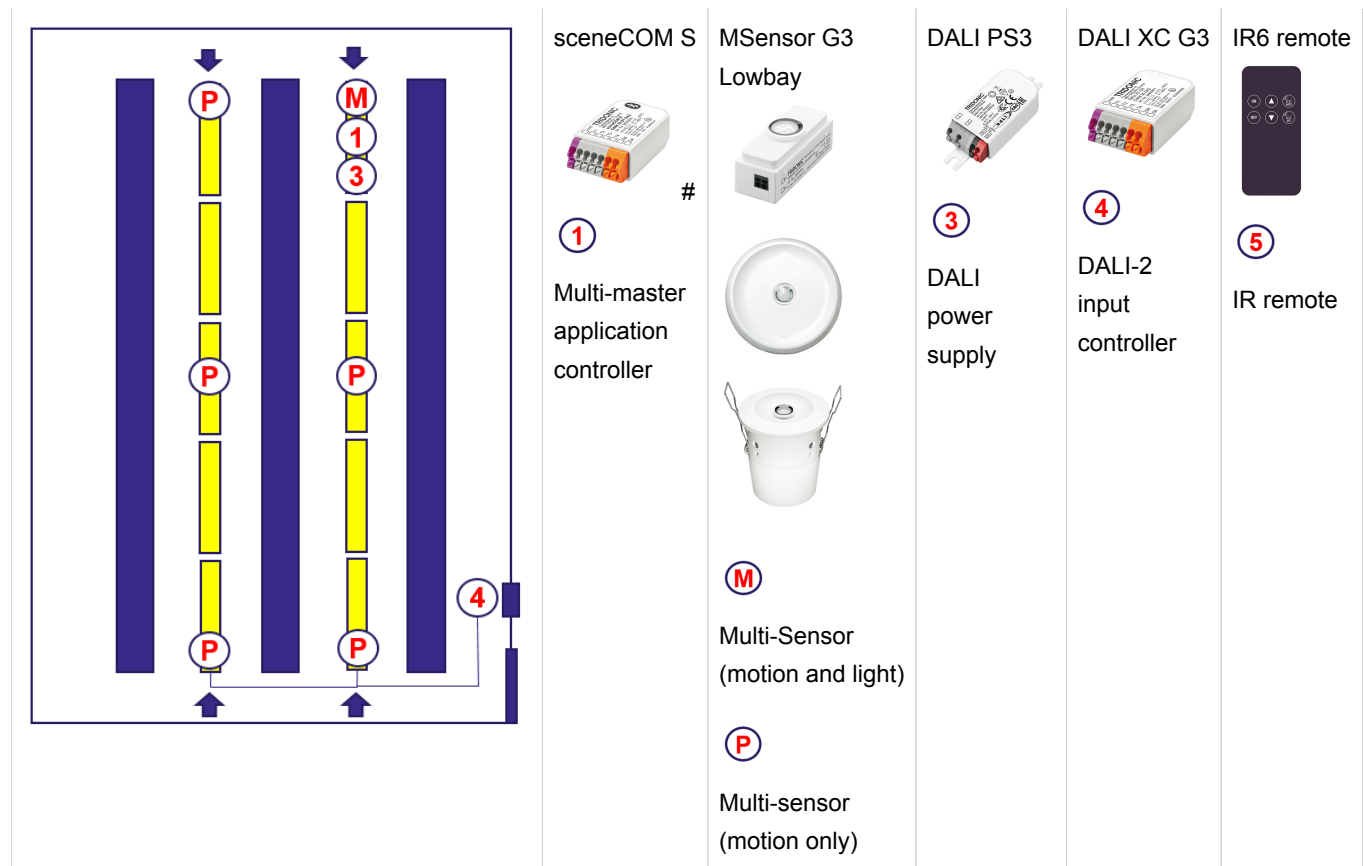
Basic setup:	Advanced setup:
<ul style="list-style-type: none"> _ On/Off _ Dim Up/Down _ Daylight/Presence control _ Push-button (manual-input) _ Grouping* 	<ul style="list-style-type: none"> _ On/Off _ Dim Up/Down _ Daylight/Presence _ Push-button (manual-input) _ Only-off function _ Basic Tunable White _ Grouping* _ Scenes**

*-Single sensor can be applied to multiple groups

** -Single switch can be applied to multiple groups

Applications overview

4.5. Warehouse / DIY shop (between shelf lighting control)



Basic broadcast setup:

- _ On/Off
- _ Dim Up/Down
- _ Mainly presence control, light sensing also possible
- _ Push-button (manual-input)
- _ Broadcast
- _ Only-off function

Main use-case:

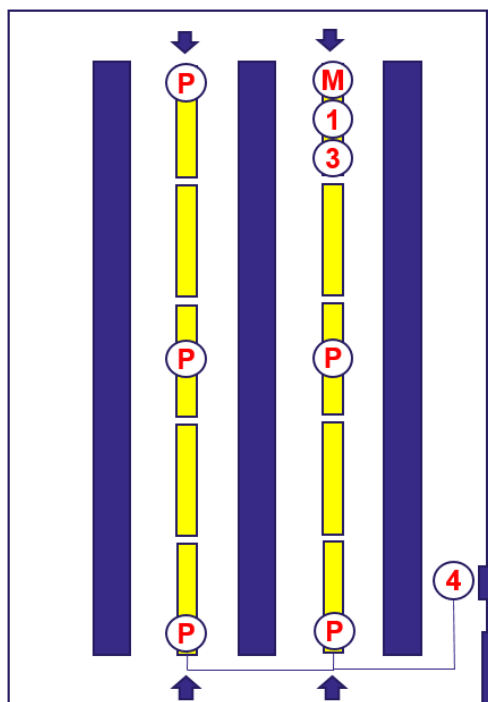
Continues presence detection until peoples or machines staying between shelves, racks or production lines, light sensing with the master-sensor.

Reasonable energy savings around 45 %.

This use-case as well can be relevant for dot-type light sources (e.g. medium and high height fixtures).

Applications overview

4.6. Industrial midrack small area applications



Main use-case:

Areas not continuously occupied with people and machines, light follow you, Maximal energy savings 80-90 %.

This use-case as well can be relevant for dot-type light sources (e.g. medium and high height fixtures)

Advanced setup:

- _ On/Off
- _ Dim Up/Down
- _ Mainly presence control
- _ Push-button (manual-input)
- _ Grouping*
- _ Tunable White

*-Single sensor can be applied to multiple groups