PHILIPS

Lighting Controls

SpaceWise

User manual

Wireless Lighting Control solutions from Philips for industrial applications



15 SCHEWER

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This document should only be used for commissioning a SpaceWise Industrial System with high bay luminaires. For office applications, please refer to the commissioning manual of SpaceWise for Office Applications.

1. SpaceWise Technology Industry Luminaire

Philips luminaires with wireless SpaceWise Technology are stand-alone LED lighting systems with integrated high bay occupancy sensing and daylight harvesting, designed specifically to meet the lighting control needs of an industrial space. With this technology, installers can group multiple luminaires and activate automated dimming behaviors using a SpaceWise remote control.

A SpaceWise Technology Luminaire contains an integrated MultiSensor which comprises of the following elements –



A maximum of 50 luminaires can be grouped together using the SpaceWise remote. Users can pick an application mode that best suits their lighting controls preference.



1.1 SpaceWise Technology Luminaire sensor coverage area

To limit unwanted motion detection, the coverage of the luminaire can be restricted by applying a cover. The cover is a plastic circular ring sticker that can be peeled and applied on the lens of the sensor. In any instance the view of the sensor should not be blocked with any obstructions.



2. Layout

Do not install the luminaire close to steel or concrete constructions. A distance of at least 2 feet should be maintained in all directions. Installing the luminaire near heater fans and air-conditioning outlets will hamper the performance of the sensor and therefore it is important to have a minimum of 6.5 feet distance between air outlets and the luminaire.



Also check that the first luminaire is in the right position and oriented correctly with respect to the edge of the isle. Refer to section 12 (walk test) for details on testing the coverage area of the sensor. Note the luminaire needs to be grouped before performing the walk test.



When configuring industrial spaces with SpaceWise Remote, large groups of 30-50 luminaires are recommended to maintain the lighting aesthetics of the space and improve reliability of the system. Smaller groups may turn off more frequently than desired.

Install luminaires per manufacturer installation instructions and ensure sensors from adjacent luminaires are not positioned next to one another.



3. SpaceWise Remote (IRT 9090)

The SpaceWise remote is the only tool required by the installer to group the SpaceWise Technology Luminaires together and to change any default configuration settings. A set of 2 AAA batteries of 1.5V each are supplied with the remote. Before proceeding to the commissioning instructions, make sure that the batteries are correctly installed in the remote and the luminaires are powered. Also, while commissioning always aim the remote directly at the sensor.





4. Grouping

Grouping is required to initiate system functionality and dimming behaviors.

The Luminaires have to be in a factory new state to group them together. If changes were previously made on the luminaires then perform a factory reset as per the instructions in section 12 "Troubleshooting" before proceeding.

	Luminaire	
	Luminaire	
а.	Point remote to any luminaire and press "Open," once.	Wait for the luminaire to dim down to 5%.
		Luminaire
-	Make sure the button is pressed only or create multiple networks which can cause	once. Pushing multiple times can e undesired operation.
b.	Walk to the next luminaire to be added to the group, point to the luminaire and press "add."	Added luminaire will dim down to 5%.
	add	
	Repeat step for adding all the luminaires in the group.	
C.	Point to any of the luminaires added in the group and press "close."	All the luminaires in the group will go to 50% light level.
		Luminaire



5. Application Modes

Various industrial application modes are supported within SpaceWise Technology. The default factory setting is set as the warehouse mode (mode# 6) and since the behavior varies for each mode, it is recommended to select the mode that closely reflects the installed application space. See the SpaceWise Design Guide (www.philips.com/spacewise) for details.

Application	ON/OFF behavior	Mode
Warehouse (Default)	Auto ON/Auto OFF	6
Sporting Area	Auto ON/Auto OFF	7
Warehouse Comfort	Auto ON/Auto DIM to Background Level	8
Manufacturing	Auto ON/Auto DIM to Background Level	9

Application setting	Mode 6 (default): Warehouse	Mode 7: Gymnasium	Mode 8: Warehouse comfort	Mode 9: Manufacturing
Out of the box behavior	Behavior of the luminaires before grouping or being altered via the commissioning remote.			
Power-up state	On	On	On	On
Hold Time ¹	15 min	15 min	15 min	15 min
Background Level	30%	30%	30%	30%
Prolong Time ²	Infinite	Infinite	Infinite	Infinite
Start-up and Dim	Behavior of the luminaires after grouping.			
Switch ON Loval ³	60%	609/	60%	60%
Switch ON Level	00%	00%	00%	00%
Background Level	10%	20%	10%	20%
Hold Time	2 min	5 min	2 min	5 min
Fading to Switch ON Level	Os	Os	Os	Os
Fading to Background Level	10s	10s	10s	10s
Prolong Time	2 min	5 min	Infinite	Infinite
Switch OFF to 0%	Yes	Yes	No. Stays at background level	No. Stays at background level

¹ Hold time is the occupancy time out after which the luminaire dims from the task level to the background level.

² Prolong time is the time for which the luminaire stays at the background level before switching off.

³ Level at which lights turn ON before ramping up to full output or the level determined by the daylight sensor.

6. Application Mode Selection





7. Maximum light output selection

Choice of max light output per group will be influenced by existing conditions such as partition height, reflectances, light level preference and energy goals.

Light output setting	Percentage
High	100%
Medium (default)	88%
Low	77%
Minimum	66%

	Luminaire	
	Luminaire	
а.	Point remote to any luminaire and press "unlock," once.	Red LED on remote will start blinking.
		Image:
	Wait for LED to stop blinking (apx. 10 seconds).	Red LED on remote will stop blinking.
	Point remote to any of the luminaires and press "send."	The luminaire will FLASH twice and group light level will go to 50%.

To select light output settings, use the up and down arrows to change between high, medium, low and minimum. Light level can be altered one step at a time. The daylight button must be pressed to initiate a new change after every end of step.





Note that the default setting is Medium. To get to high, go one step up. To get to Minimum, go two steps down.

Medium to High: Will move light output setting from default of 88% to 100%.Medium to low: Will move light output setting from default of 88% to 77%.Low to minimum: Will move light output setting from 77% to 66%.



During programming, the fixture is temporarily at 50% (unlocked state). So, while changing the light level from default 88% to 77%, you will notice the fixture getting brighter because it is actually going from the temporary 50% light level to permanent 77% light level. If you repeat the step down sequence again then upon careful observation you will see the subtle change in light level from 77% to 66%.



8. Creating zones in a group

Up to 16 zones can be created within a SpaceWise group and each luminaire can be part of just one zone.

When a group is created with zones, occupancy detected by one SpaceWise luminaire is distributed across the zone and also across the whole group. All luminaires within the zone will react in the same way to any sensor in the zone. All other luminaires that are in the same group but in a different or no zone will react on the occupancy signal by going to background level.



Zones can only be created within a group so a group should be created first as per the instructions in section 4.

		Luminaire	
		Luminaire	
	a.	Point remote to any luminaire and press	Red LED on remote will start
		"unlock," once.	blinking.
D	4		O
		Wait for LED to stop blinking (apx. 10 seconds).	Red LED on remote will stop blinking.

	Point remote to any of the luminaires	The luminaire will FLASH twice
	and press "send."	and group light level will go to
		50%.
		Luminaire
la la	Point romoto to any luminairo that is	The luminaire will go to 50%
D .	roing to be part of the zone and proce	while the rest of the luminaires
	going to be part of the zone and press	while the rest of the luminaires
	"Zone," once.	go to 5%.
		Luminaire Luminaire
	2011	Rest of the group
	Make sure the zone button is pressed o	nly once. Up to 16 zones can be
	defined and every time the zone button	n is pressed a new zone creation
•	•	
	process is initiated.	
	process is initiated.	Added luminaire will go to 50%
<u>с.</u>	process is initiated. Walk to the next luminaire to be added	Added luminaire will go to 50%.
 C.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and	Added luminaire will go to 50%.
<u>с.</u>	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add."	Added luminaire will go to 50%.
с.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add."	Added luminaire will go to 50%.
с.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add."	Added luminaire will go to 50%.
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с.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone.	Added luminaire will go to 50%.
C.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and	Added luminaire will go to 50%.
с. <u>!</u>	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone.	Added luminaire will go to 50%.
с. <u>!</u>	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone. To stop the zone creation process, point	Added luminaire will go to 50%.
c.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone. To stop the zone creation process, point to any of the luminaires added in the	Added luminaire will go to 50%.
c.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone. To stop the zone creation process, point to any of the luminaires added in the zone and press "close."	Added luminaire will go to 50%.
c. ! d.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone. To stop the zone creation process, point to any of the luminaires added in the zone and press "close."	Added luminaire will go to 50%.
c.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone. To stop the zone creation process, point to any of the luminaires added in the zone and press "close."	Added luminaire will go to 50%.
c.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone. To stop the zone creation process, point to any of the luminaires added in the zone and press "close."	Added luminaire will go to 50%.
c. 1 d.	process is initiated. Walk to the next luminaire to be added to the zone, point to the luminaire and press "add." add Repeat step for adding all the luminaires in the zone. To create new zones execute steps "b" and can only be part of one zone. To stop the zone creation process, point to any of the luminaires added in the zone and press "close."	Added luminaire will go to 50%.

е.	To test the zone, point to any luminaire and press the "right arrow" key. Press the right arrow key again to move to verify the next zone.	All the luminiare in the selected zone will go to 50% while the luminaires in the other zone will go to 5%.
f.	Point to any of the luminaires in the group and press "lock."	Red LED on remote will start blinking. The luminaire will FLASH twice. Group is ready for normal operation.
g.	Alternately zones can also be re-tested after locking the group. Point remote to any of the luminaires in the created zone and press "zone". One Point to the same luminaire and press "on" or "off." On Off To stop the test process, point to the same luminaire and press "close."	The entire zone turns on or off accordingly.

9. Activate / Deactivate occupancy sensor



Occupancy sensor is active by default. Changes have to be performed on each luminaire in the group.

L		Luminaire	
		Luminaire	
	a.	Point remote to any luminaire and press "unlock," once.	Red LED on remote will start blinking.
		Wait for LED to stop blinking (apx. 10 seconds).	Red LED on remote will stop blinking.
		Point remote to any of the luminaires and press "send."	The luminaire will FLASH twice and group light level will go to 50%.
	b.	Press "pir" button.	Red LED on remote will start blinking.
		While the LED is still blinking red, enter the numbers: " 10 ": Enable occupancy sensing " 12 ": Disable occupancy sensing (lights will stay at 100%)	Red LED on remote will stop blinking.



10.Activate / Deactivate daylight sensor



Daylight sensor is active by default. Changes have to be performed on each luminaire in the group.

L		Luminaire	
		Luminaire	
	a.	Point remote to any luminaire and press "unlock," once.	Red LED on remote will start blinking.
		Wait for LED to stop blinking (apx. 10 seconds).	blinking.
		Point remote to any of the luminaires and press "send."	The luminaire will FLASH twice and group light level will go to 50%.
	b.	Press "daylight" button.	Red LED on remote will start blinking.
		While the LED is still blinking red, enter the numbers: "1": Disable daylight sensing "2": Enable daylight sensing	Red LED on remote will stop blinking.



11. Daylight Calibration



Daylight calibration should be performed during night time. Daylight calibration is set for all the luminaires in the group.

	Luminaire	
	Luminaire	
а.	Point remote to any luminaire and press "unlock," once.	Red LED on remote will start blinking.
		Image:
	Wait for LED to stop blinking (apx. 10 seconds).	Red LED on remote will stop blinking.
		• 0
	Point remote to any of the luminaires and press "send."	The luminaire will FLASH twice and group light level will go to 50%.
b.	Point remote to any of the luminaires and adjust the group light level to the required level using the dimming "up" or "down" arrow keys	When the arrow keys are pressed, red LED on remote will keep blinking.
	Save D	The group will dim up or down accordingly.

с.	Press the "save" button, the light level is stored as a new daylight set-point.	Red LED on remote will blink.
		The entire group will FLASH twice and group light level will go to 50%.
d.	Point to any of the luminaires in the group and press "lock."	Red LED on remote will start blinking.
	Wait for LED to stop blinking (apx. 10 seconds) then press "send."	The luminaire will FLASH twice. Group is ready for normal operation.

12. Test occupancy coverage area (walk test)





13. Path of egress mode for emergency applications

Luminaires that are part of egress lighting or powered by a backup generator or any other building wide emergency supply source, can be configured with the "path of egress" mode setting. In this setting, the luminaire behaves in accordance with the commissioned group and the only difference is that it never automatically turns off; instead, if the space is unoccupied then background light level of 27% will be delivered.

SpaceWise luminaires can also be ordered with a Philips emergency driver option. If this configuration is purchased then luminaires don't have to be configured as "path of egress" because of the built in battery capability of the emergency driver and the non-reliance on the generator back up system. During emergency, the battery will bypass the sensors and therefore the luminaire will not shut off automatically. When normal power is restored the luminaire will behave like a standard SpaceWise system.



The "path of egress" luminaire should be powered on the emergency circuit. As long as the luminaire is powered an adequate light level will be delivered by the luminaire. The emergency circuit is usually regulated by the backup generator so the system relies on the generator's ability to provide power for at least 90 minutes.

		Luminaire		
Luminaire				
	a.	Point remote to any luminaire and press "unlock," once.	Red LED on remote will start blinking.	
			🥥 🖕	
		Wait for LED to stop blinking (apx. 10 seconds).	Red LED on remote will stop blinking.	
		Point remote to any of the luminaires and press "send."	The luminaire will FLASH twice and group light level will go to 50%.	
	b.	Press "pir" button.	Red LED on remote will start blinking.	
		While the LED is still blinking red, enter the numbers: " 11 ": Enable path of egress feature " 10 ": Disable path of egress feature	Red LED on remote will stop blinking.	

	Point to the luminaire that needs to be altered, press "send." o))) Repeat step on all the luminaires that need to be configured with the path of egress feature.	The luminaire will FLASH twice and group light level will go to 50%.
с.	Point to any of the luminaires in the group and press "lock."	Red LED on remote will start blinking. The luminaire will FLASH twice. Group is ready for normal operation.

14. Troubleshooting



Factory reset will restore the luminaire to its default state and all the group configuration settings will be deleted. Reset operation can be used to bring any wrongly configured luminaire back to its original factory reset condition.

		Luminaire	
		Luminaire	
	а.	Point remote to any luminaire and press "unlock," once. The second sec	Red LED on remote will start blinking. Red LED on remote will stop blinking.
		Point remote to any of the luminaires and press "send."	The luminaire will FLASH twice and group light level will go to 50%.
-	b.	Point to any of the luminaires in the group and press "reset."	Red LED on remote will start blinking.
-		still pointing to the luminaire in the group, press "send."	turn back ON to indicate reset.
	Repeat step "b" for all the luminaires that need to be reset.		

15. FAQs

A. My luminaire group is at low light level and does not respond to SpaceWise remote buttons.

Luminaire may be in an "open" group state. In this state, the luminaire level is at 5% and won't respond to ON/OFF or locking and unlocking commands. Press the close door button to close the group. The luminaire will now respond to normal commands.

B. The luminaire light level is high but it is not responding to any commands. Sometimes it responds to ON/OFF commands. As a result, I cannot group the luminaires.

Turn the luminaire OFF using the "OFF" button. Now test the other commands such as locking, unlocking, open door etc. If the luminaire responds to these commands then finish all the grouping steps.

If the luminaire is not responding to ON/OFF commands, then perform a power cycle on the luminaire either from a wall switch (non SpaceWise switch) or from the breaker panel – turn the power off for 5 seconds and then turn it back on. After a power cycle, the luminaire will take 30 seconds to stabilize. After these 30 seconds test the ON/OFF commands on the luminaire.

Please note that, if power cycle is performed or interrupted in between the grouping sequence, then those luminaires that were successfully grouped will be in a locked state while the remaining ones on that circuit will be in the factory state (unlocked). To continue grouping, unlock and open the successful group first.

C. What is the recommended distance between two SpaceWise luminaires?

Standard grid spacing must be maintained between luminaires. It is recommended to keep the distance as short as possible but it can be extended up to 20 ft. if other physical parameters of the space are conducive for wireless transmission.

D. Do my luminaires forget their settings after power is lost or interrupted?

No, all settings are retained as long as the luminaires have not been factory reset or there has been a hardware failure.

16. FCC Compliance Statement

The luminaire complies with the part 15 of the FCC rules. Operation is subject to the following two conditions:

- This luminaire may not cause harmful interference, and
- This luminaire must accept any interference received, including interference that may cause undesired operation

Any changes or modification not expressly approved by Philips could void the user's authority to operate this equipment. This product is intended for commercial use only.

17. Warranty

A detailed product warranty statement can be found on the Philips website <u>http://www.lighting.philips.com/us en/connect/tools literature/warranties.wpd</u>.

18. Technical support

For technical support on this product contact 1-800-372-3331 and select the controls prompt option.



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