



# Tutorial for new light & sunblind extension module PCD7.L62xN

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**sbc**   
SAIA BURGESS CONTROLS

# Overview

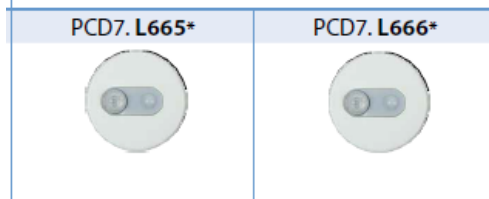
## New extension modules PCD7.L62xN and new PCD7.L60x-1 FW version SV2.13

### PCD7.L62xN

- New extension modules to be able to drive dimming lamps and sunblind lammella rotation

### PCD7.L60x-1

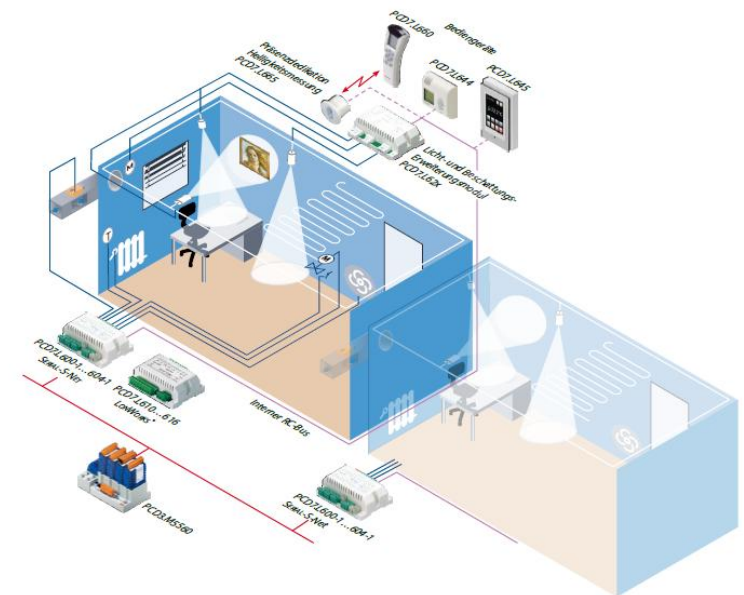
- New FW version SV2.13 with new functions for light and sunblind and presence detection
- New also for S-Bus Controllers to use the following functionalities of the PCD7.L665 and PCD7.L666
  - Presence detection
  - Luminosity measuring
  - infrared or a radio receiver



Multi sensor



New extension module PCD7.L621N


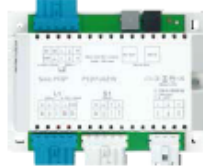
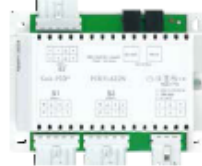



HaeVC and Light and Blind

# PCD7.L62xN

## 4 new extension moduls for light and sunblind

- **PCD7.L620N:** Extension module with 3 ON/OFF light outputs (L1, L2, L3)
- **PCD7.L621N:** Extension module with 2 dimming light outputs and 1 sunblind motor 230Vac output (L3, L4, S4)
- **PCD7.L622N:** Extension module with 3 sunblind motor 230 VAC outputs (S1, S2, S3)
- **PCD7.L624N:** Extension module with 3 dimming light outputs (L1, L2, L3)

	PCD7. L620N*	PCD7. L621N*	PCD7. L622N*	PCD7. L624N*
				
On/Off light outputs, 1 relay 230 VAC/2 A per output <sup>1)</sup>	3x: L1, L2, L3			
Dimming light outputs, 1 relay 230 VAC/2 A <sup>1)</sup> and output 1...10 V max. 3 mA		2x: L3, L4		3x: L1, L2, L3
Motor outputs, 2 relays 230 VAC/2 A per output <sup>2)</sup>		1x: S4	3x: S1, S2, S3	
Supply voltage	230 VAC			
Max. current consumption via supply terminal	6 A			

4 new Extension modules

# PCD7.L62xN

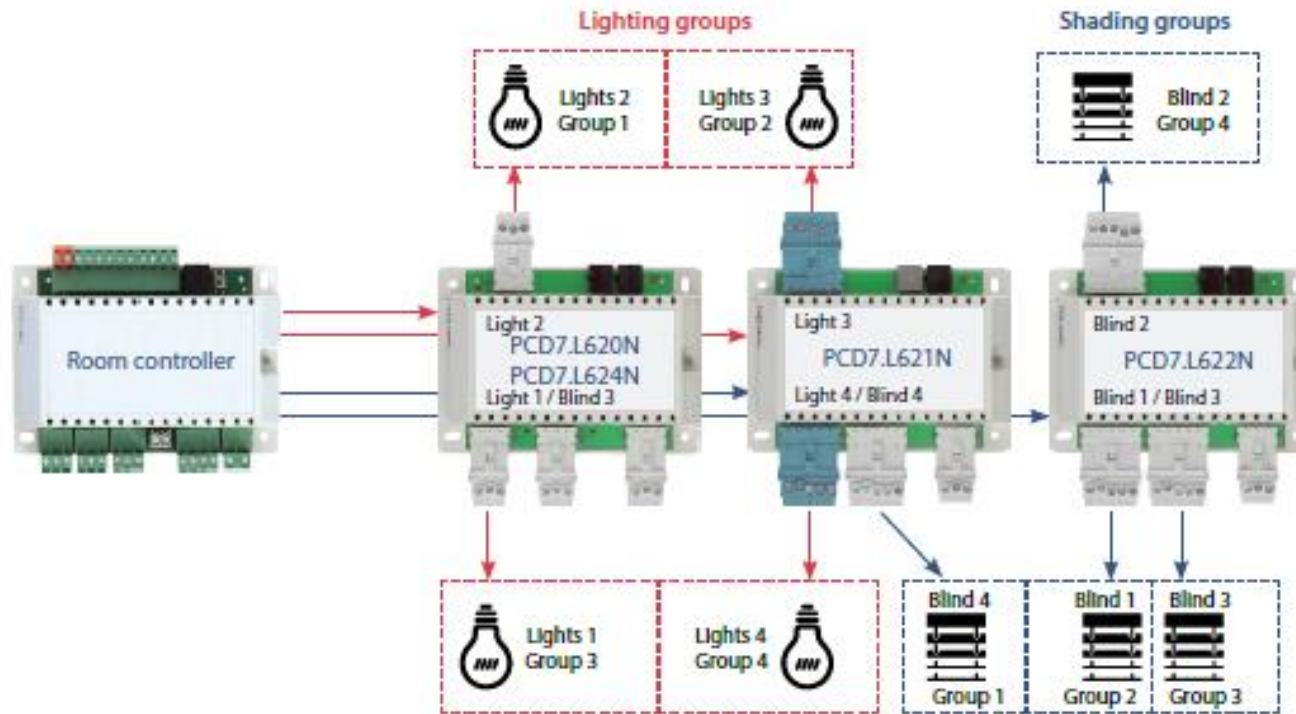
## Technical specification of outputs:

On/Off Light output	
230 VAC inrush current relay	2 A max
Starting current	< 60 A during 2 ms
Normally Opened contact	
Dimming Light output	
230 VAC inrush current relay	2 A max
Starting current	< 60 A during 2 ms
Normally Opened contact	
Command:	1...10 VDC - 3 mA maximum
Sunblind motor output	
230 VAC relay	2 A max on inductive or resistive load Peak current 4 A max (<20 ms)
Maximal Load for the whole module is 6 A.	

# PCD7.L62xN

## Combination of extension moduls

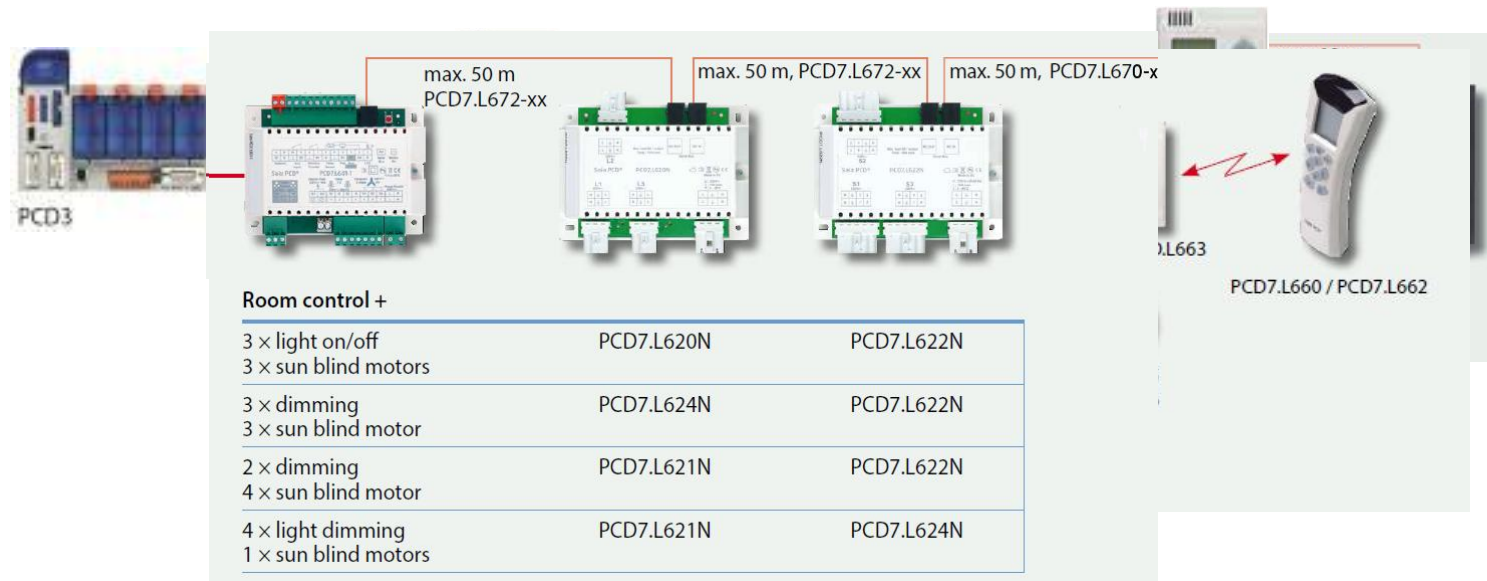
- If the PCD7.L621N extension module will be used in combination with the PCD7.L620N or PCD7.L624N on the same controller, the L3 output can only be driven in the same group. The same behavior exists with L1, L2 and L3 if the PCD7.L620N and PCD7.L624N will be connected on the same controller.



Combination extension moduls

# PCD7.L6xx combination room control system

## Example for combination extension module



For controlling HVAC  
and light and  
sunblind

# PCD7.L6xx combination room control system

## Room operation unit for Light & Sunblind control

Room operation unit	Light	Sunblind	Presence
PCD7.L644	Manual on/off and dimming	Manual up/down and rotation steps with short button press on arrows	Only button
PCD7.L645	Manual on/off and dimming	Manual up/down and rotation steps over a rotation button	Only button
PCD7.L644 or PCD7.L645 and external Presence sensor connected on E2	Manual on/off and dimming and automatic on/off	Manual up/down and rotation steps and automatic up/down	Sensor and button
PCD7.L660 + PCD7.L665/6	Manual on/off and dimming and automatic on/off	Manual up/down and rotation steps over a rotation button and automatic up/down	Sensor and button
PCD7.L662 + PCD7.L666 + PCD7.L662-CT	Manual on/off and dimming and automatic on/off	Manual up/down and rotation steps over a rotation button and automatic up/down	Sensor and button
PCD7.L63x + PCD7.L665/6	Only automatic on/off	Only automatic up/down	Sensor and button
PCD7.L650 + PCD7.L642	Only manual on/off and only 2 groups	Only manual up/down and only 2 groups	Only button

Dimming lamps can only be commanded by long press on the buttons to 100% on or 0% off (exception PCD7.L645 and PCD7.L644 from SV3.7 also by short button press). But it is possible adapt the dimming ramp time in the Light configuration FBox.

# PCD7.L62xN connectors

## Extension module Wieland connectors

- The PCD7.L62xN extension modules will be delivered without connectors. These Wieland connectors have to be ordered separately.
- A document with ordering information is available on the support page

Saia-Burgess Controls AG  
 Bahnhofstrasse 19, 3280 Murten, Switzerland  
 T +41 26 872 72 72, F +41 26 872 74 66  
 www.saia-pcd.com



GST 1515S	Connector with Traction relief	Connector with Traction relief and cable and male connector																		
Sunblind S1...S4 PCD7.L621N PCD7.L622N  91.952.3053.0																				
		<table border="1"> <thead> <tr> <th>Cable length</th> <th>White</th> </tr> </thead> <tbody> <tr> <td>1.0 m</td> <td>91.257.1060.2</td> </tr> <tr> <td>2.0 m</td> <td>91.257.2060.2</td> </tr> <tr> <td>3.0 m</td> <td>91.257.3060.2</td> </tr> <tr> <td>4.0 m</td> <td>91.257.4060.2</td> </tr> <tr> <td>5.0 m</td> <td>91.257.5060.2</td> </tr> <tr> <td>6.0 m</td> <td>91.257.6060.2</td> </tr> <tr> <td>7.0 m</td> <td>91.257.7060.2</td> </tr> <tr> <td>8.0 m</td> <td>91.257.8060.2</td> </tr> </tbody> </table>	Cable length	White	1.0 m	91.257.1060.2	2.0 m	91.257.2060.2	3.0 m	91.257.3060.2	4.0 m	91.257.4060.2	5.0 m	91.257.5060.2	6.0 m	91.257.6060.2	7.0 m	91.257.7060.2	8.0 m	91.257.8060.2
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8.0 m	91.257.8060.2																			

For more details please refer your local "Wieland-Electric" distributor.  
[www.wieland-electric.de/sales/searching-for-addresses.html](http://www.wieland-electric.de/sales/searching-for-addresses.html)

26\_035\_EN02\_Leaflet\_WielandConnector  
 Information\_PCD7L62xN



# FBoxes

## New FBox

- [-] PCD7\_L60x-1 from SV2\_13
  - ⊕ Airquality
  - ⊕ Fan
  - [-] HVC
    - [-] HVC Config
    - [-] HVC Configuration +
    - [-] HVC Room
    - [-] HVC Room +
  - [-] Init
    - [-] Online
    - [-] Setup
  - [-] Light and SB
    - [-] Light 1-4 Room Dimming
    - [-] Light 1-4 Room On/Off
    - [-] Light Config
    - [-] Sunblind 1-4 Room continuous
    - [-] Sunblind Config
  - ⊕ Manual mode

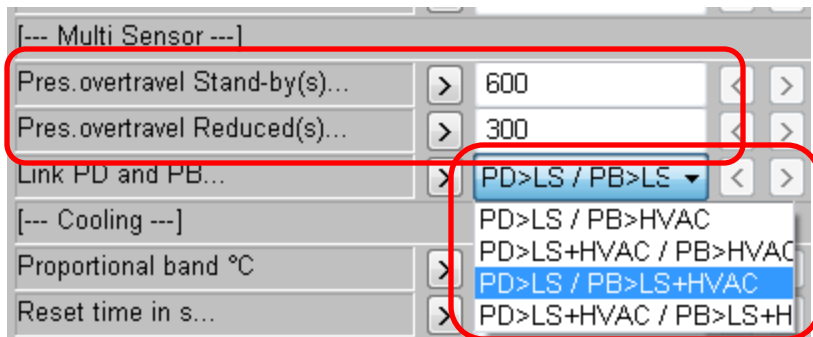
## Adapted FBoxes

- [-] PCD7\_L60x-1 from SV2\_13
  - ⊕ Airquality
  - ⊕ Fan
  - [-] HVC
    - [-] HVC Config
    - [-] HVC Configuration +
    - [-] HVC Room
    - [-] HVC Room +
  - [-] Init
    - [-] Online
    - [-] Setup
  - [-] Light and SB
    - [-] Light 1-4 Room Dimming
    - [-] Light 1-4 Room On/Off
    - [-] Light Config
    - [-] Sunblind 1-4 Room continuous
    - [-] Sunblind Config
  - ⊕ Manual mode

# New Applications

## Automatic Light & Sunblind switching

- By multisensor PCD7.L665 or PCD7.L666 over RJ9
- By presence sensor on input E2 by linking of the presence button «PB» to the presence detection «PD»



HVC configuration FBox

## Multisensor

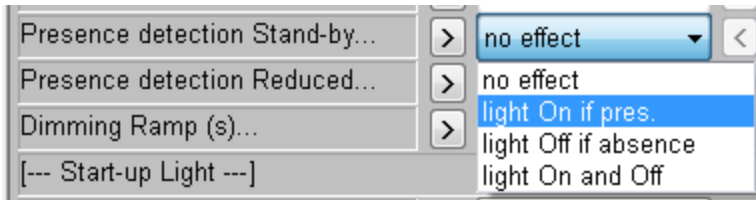
- The occupied status of “PD” relaunch the occupancy timer and the “PD” status return to Unoccupied after no presence will be detected and the occupancy timer expire.

# Automatic Light & Sunblind switching

## Automatic Light & Sunblind switching

Operating mode	Presence detection by Multisensory	Sunblind	Lights
Reduced / permanent reduced	Unoccupied (1)	Close <sup>1</sup>	Off <sup>2</sup>
	Occupied (0)	Open <sup>1</sup>	On <sup>2</sup>
Comfort / standby	Unoccupied (1)	Close <sup>1</sup>	Off <sup>2</sup>
	Occupied (0)	Open <sup>1</sup>	On <sup>2</sup>

Table for automatic mode configuration



Light configuration FBox



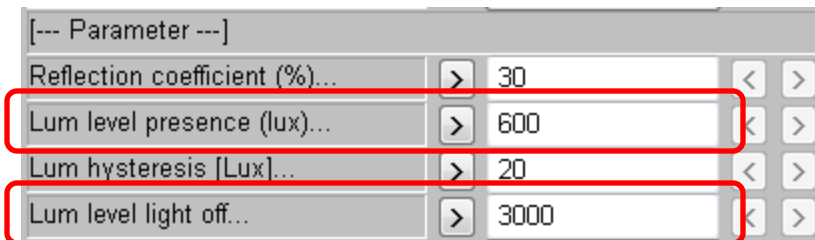
Sunblind configuration FBox

# Automatic light switching

## Demand driven light switching

### Switch light on

When presence detection of the multi-sensor “Pres detec by MS” occurs, the luminosity level of the room is checked. If the “Lum in Lux” level is less than the parameter “Lum level presence” threshold, the lights are turned ON



[--- Parameter ---]	
Reflection coefficient (%)...	> 30 < >
Lum level presence (lux)...	> 600 < >
Lum hysteresis [Lux]...	> 20 < >
Lum level light off...	> 3000 < >

Light configuration FBox

### Switch off

When the “Pres detec by MS” is occupied, the room luminosity is compared to the “Lum level light off” threshold. If the lights have been switching on by the luminosity level threshold (Lum Level Presence) and the luminosity level is higher than the “Lum level light off” value the lights are switching Off.

# Configuration of Sunblind

## Rotation

- the sunblinds rotate during the time =  $\text{Rotation per step}/100 \times \text{Total rotation time}$
- Minimum adjustable rotation time for sunblind is 100ms. The total rotation time of the sunblind defines the minimum angle change which is possible with a short button press of the room operating unit or from a BMS command

## Translation

- From 0 to 120 : Translation Time = **Full translation time** seconds
- From 121 to 255 : Translation Time = **(Full translation time × 2) – 120** seconds

[--- Parameter ---]		
Total rotation time (s)...	>	5,0
Rotation per step (%)...	>	10
Full translation time (s)...	>	20

Sunblind configuration FBox

# Light & Sunblind start-up conditions

[--- Start-up Light ---]				
Group 1	>	switch on	▼	< >
Group 2	>	switch on	▼	< >
Group 3	>	switch on	▼	< >
Group 4	>	switch on	▼	< >
[--- Start-up Sunblind ---]				
Group 1	>	up	▼	< >
Group 2	>	up	▼	< >
Group 3	>	up	▼	< >
Group 4	>	up	▼	< >

Light configuration FBox

To prevent that on a start-up of the PCD the sending of the sunblind FBox input values do not interfere the start-up procedure of the sunblind at reboot of the controller, it has to be set a “start delay” in the Setup FBox.

## Calculation of this delay time:

$$2 \times \text{“full translation time”} + 5 \text{ s}$$

For this calculation, the sunblind with the biggest “full translation time” time has to be taken.

[--- Start delay ---]	
First command to sunblind (s)...	> 120,0

Setup FBox

# Compatibility

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## Compatibility to previous PCD7.L60x-1 FW version

- The controller with FW version SV2.13 are compatible with the actual PCD7.L60x-1 controller from SV2.11
- For compatibility with older PCD7.L60x controller it is the same as for the actual controllers (see document on support site)

## Compatibility of M/S functionality

- The new functionalities of M/S connection can only be made with the new FBox Library from 2.6.512.
- Therefore on replacement of old controllers which use M/S functionality, should the old FBoxes still be used.

## Compatibility of extension modules

- For light and sunblind switching with controller FW version SV2.13 or higher, the new extension modules PCD7.L62xN has to be used.
- The old controllers with FW version SV2.12 or older are compatible to the new extension modules PCD7.L62xN (but of course without dimming and rotation functions).