Comfort and Light Controller
Lonbox® PZM4148
DIN or ready to go BOX

Comfort and Light Controller Lonbox® PZM4148
- Look for DIN hardware
- Find software
- Design boxes
- Produce boxes
- Lonbox® PZM4148 Solution
- Ready to go box from Prolon
Characteristics 1

- Ready to go Box
- Terminals for all wires
- Supply for all external units
- Two complete Zones
### Characteristics 2

- LonWorks® MIP design
- Software as LonMark®
- Extra software and functions
- Build-In test functions
Benefits 1

- Low design cost
- Low hardware cost
- Low or no production cost
- Lower cost for each zone
- Lower software cost
Benefits 2

- Quickly project design
- Quickly production
- Quickly integration
- Component independence

One software version, all projects
- Larger Contribution margin
- Finished in time
- Simple maintenance
- Ready for additional sale
Comfort and Light Controller PZM4148

Zone 1
- 0-10 Vdc and 24Vac on/off
- 0-10 Vdc and 24Vac on/off
- 0-10 Vdc and 2 * 24Vac on/off
- AC or DC motor
- 2 NO Relay with High Start Current and 2 0-10 Vdc output
- NO Relay
- Analog/digital input
- Analog/digital input
- Digital input
- Analog input Programmeable sensor type

Zone 2
- Heat
- Cool
- Ventilation
- Sunblind
- 2 Light and dimmer
- Light or load
- Pushbuttons
- Light sensor
- Movement detector
- Temperature Sensor
Digital and Analog objects

Digital Function

Analog Function

Digital Function

Digital Function

Analog Function

Digital Function

Analog Function
Zone Space Comfort Controller

- nvoOccu: Occupancy Sensor
- nvoSetptOffset: Setpoint Knob
- nvoHVACTemp: HVAC Temperature Sensor
- nvoCoolPrimary: Cool Actuator
- nvoCoolSecondary: Cool Actuator
- nvoEffectOccup: Cool Actuator
- nvoEffectSetpt: Cool Actuator
- nvoHeatCool: Cool Actuator
- nvoHeatPrimary: Cool Actuator
- nvoSpaceTemp: Cool Actuator
- nvoSetpt: Cool Actuator
- nvoSpaceTemp: Cool Actuator
- nvoUnitStatus: Cool Actuator
- nvoValveLevel1: Heat Actuator
- nvoValveLevel: Heat Actuator
- nviEnergyHoldOff: Energy Hold Off
- nviOccSchedule: Occupancy Schedule
- nviOccSensor: Occupancy Sensor
- nviOutdoorTemp: Outside Temperature
- nviSetpoint: Setpoint
- nviSetptOffset: Offset

Symbols:
- Bevægelses detektor: Movement detector
- Manuelt Setpunkt: Manual Setpoint
- Temperaturføler: Temperature sensor

Other Symbols:
- Comfort and Light Controller Lonbox® PZM4148
Comfort and Light Controller Lonbox® PZM4148

Indoor Air Quality

Occupancy Sensor (1060) #1

Indoor air quality controller #1

VAV Actuator #1
<table>
<thead>
<tr>
<th>Sensor</th>
<th>Calendar</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupied</td>
<td>Occupied</td>
<td>Occupied</td>
<td></td>
</tr>
<tr>
<td>Unoccupied</td>
<td>Standby</td>
<td>Unoccupied</td>
<td></td>
</tr>
</tbody>
</table>
Set-points and Space Comfort

- Occupied cool = 23°C
- Occupied heat = 21°C
- Standby cool = 25°C
- Standby heat = 16°C
- Unoccupied cool = 28°C
- Unoccupied heat = 16°C

Setpoint configuration (SCPTsetPnts)
Comfort and Light Controller Lonbox® PZM4148

Cool compensation

Example
With outdoor temperature -10° degrees the minimum heat will be 20%

Configuration for minimum heat (UCPTminHeat)

Out door temperature

low -20°, 30%
high 10°, 0%

Minimum Cool
Minimum Cooling

Configuration minimum cool (UCPTminCool)

Occupied = 40%
Standby = 20%
Unoccupied = 0%

Effective Occupancy

Minimum cool
0%
10%
20%
30%
40%
50%
60%
Light with Occupancy and Manual

Occupancy Sensor 1 (1060)

Occupancy Sensor 2 (1060)

Switch 1 (3200)

Occupancy Controller (3071)

Lamp Actuator 1 (3040)

Comfort and Light Controller Lonbox® PZM4148
Constant Light, Manual and Occupancy

[Diagram showing a network of sensors and actuators with labels such as Light Sensor (1010) #1, Switch 83200) #1, Occupancy Sensor (1060) #1, Constant Light Controller (3050) #1, Occupancy Controller (3071) #1, Lamp Actuator (3040) zone 1 #1, and Lamp Actuator (3040) zone 1 #2.]
Build-In Point test

Tid i sekunder

Zone 1
Lys 1
Lys 2
Lys 3

Zone 2
Lys 1
Lys 2
Lys 3

Comfort and Light Controller Lonbox® PZM4148
## Occupancy Test

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Occupied</th>
<th>LYS 1+ 2+ 3</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Light on 15 sec.</td>
<td>Light off</td>
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</table>

*Table showing the occupancy test conditions for a Comfort and Light Controller Lonbox® PZM4148.*
## LUX sensor test

<table>
<thead>
<tr>
<th>Sensor</th>
<th>LUX sensor</th>
<th>Niveau</th>
<th>Delta 20 %</th>
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</thead>
<tbody>
<tr>
<td>Occupied</td>
<td>Light</td>
<td></td>
<td>Dimmered light</td>
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<tr>
<td>Unoccupied</td>
<td>No light</td>
<td></td>
<td>No light</td>
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</table>

**LUX test**

**Comfort and Light Controller Lonbox® PZM4148**
## Terminal Blocks 1

### Terminal Blocks Table

<table>
<thead>
<tr>
<th>Type No.</th>
<th>RJ12 ZONE 1</th>
<th>RJ12 ZONE 2</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>LUX INPUT</td>
<td>PIR INPUT</td>
</tr>
<tr>
<td></td>
<td>ANALOG INPUT 1</td>
<td>ANALOG INPUT 2</td>
</tr>
<tr>
<td></td>
<td>TEMP</td>
<td>OUTPUT DIMMER</td>
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<tr>
<td></td>
<td>OUTPUT VENTILATION</td>
<td>OUTPUT COOL</td>
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<tr>
<td></td>
<td>OUTPUT HEAT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>36.1 V</td>
<td>37.1 LUX</td>
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<tr>
<td></td>
<td>38.2 V</td>
<td>39.1 +24V</td>
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<tr>
<td></td>
<td>39.2 V</td>
<td>40.2 PIR</td>
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<tr>
<td></td>
<td>41.2 V</td>
<td>42.1 +24V</td>
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<tr>
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<td>42.2 V</td>
<td>43.2 +24V</td>
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<tr>
<td></td>
<td>44.2 V</td>
<td>45.1 TEMPb</td>
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<td>46.2 V</td>
<td>47.1 DM2</td>
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<td>48.2 V</td>
<td>49.1 DM1</td>
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<td>49.3 V</td>
<td>50.1 LON1A</td>
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<tr>
<td></td>
<td>50.3 V</td>
<td>51.1 LON2A</td>
</tr>
<tr>
<td></td>
<td>51.3 V</td>
<td>52.1 LON3A</td>
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<tr>
<td></td>
<td>52.3 V</td>
<td>53.1 LON4A</td>
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<tr>
<td></td>
<td>53.3 V</td>
<td>54.1 V+dc</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>65.3 V</td>
<td>66.1 V+ac</td>
</tr>
</tbody>
</table>

**DIP Switch SW6**
For input selection

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**Comfort and Light Controller Lonbox® PZM4148**
Comfort and Light Controller Lonbox® PZM4148

Terminal blocks 2

Fuse

<table>
<thead>
<tr>
<th>33 L</th>
<th>34 L</th>
<th>35 L</th>
<th>36 L</th>
<th>37 L</th>
<th>38 L</th>
<th>39 L</th>
<th>40 L</th>
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</thead>
<tbody>
<tr>
<td>33 N</td>
<td>34 N</td>
<td>35 N</td>
<td>36 N</td>
<td>37 N</td>
<td>38 N</td>
<td>39 N</td>
<td>40 N</td>
</tr>
<tr>
<td>33 PE</td>
<td>34 PE</td>
<td>35 PE</td>
<td>36 PE</td>
<td>37 PE</td>
<td>38 PE</td>
<td>39 PE</td>
<td>40 PE</td>
</tr>
</tbody>
</table>

ZONE 1

- 230VAC MAIN SUPPLY
- 230VAC LIGHT SUPPLY
- LIGHT 1 OUT
- HIGH INRUSH
- LIGHT 2 OUT
- HIGH INRUSH
- LIGHT 3 OUT
- 230VAC / 24VDC SUNBLIND INPUT
- 230VAC / 24VDC SUNBLIND OUTPUT

ZONE 2

- 13 L + dc
- 14 L + dc
- 15.2 N without
- 15.1 N without
- 16.1 Ma
- 17.1 Mb
- 18.1 N without

230VAC / 24VDC

SUNBLIND

INPUT

OUTPUT
Questions

- +45 4366 8060
- www.prolon.dk