PCR2 LoRaWAN™ Radar People Counter Outdoor

PCR2 is a camera-less people counting sensor with LoRaWAN connectivity in a slim enclosure which is easy to mount.

The system includes powerful signal processing that enables directional counting of humans.

Counters are transmitted in regular intervals over a public or private LoRaWAN™ network.

All Parametric Sensors are equipped with USB or NFC for easy configuration with our freely available configuration tools.

**Features**

- Directional counting of persons passing by
- Integrated dual channel Radar transmitter
- UV protected and waterproof enclosure
- Vertically (pole) or horizontally (overhead) mountable
- Slim-line design with hidden fixing points
- Integrated Antenna
- Wide range power supply input 5 … 12VDC or USB 5V
- LoRaWAN™ V1.0.2 Class A device
- EU868/US915/AU915 configurations available
- LoRaWAN Alliance Certification Pending

**Applications**

- People counting in shops or malls
- People flow measurement for trade shows
- Facility management
- Outdoor safety applications
**Functions**

**Counting mode:** Bi-directional counting of persons passing by (left / right counting)
Number of persons are incremented during a selectable counting interval

**Counters:**
- Left-to-Right incrementing counter (0…65535 persons)
- Right-to-Left incrementing counter (0…65535 persons)
Counters reset to 0 (zero) after successful transmit and ACK received.

**Interval range:**
1 min … 1440 min

**Temperature sensing:**
Internal CPU temperature, -40 … +60°C, precision ±1.5°C

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**Field of view and optimal placement**

![Field of view diagram]

**Ceiling mounted**
- 50cm distance above persons’ head

**Pole mounted:**
- 1.2 … 1.4 m above ground

**Detection direction:** Parallel to the device’ surface

**Optimal placement**

- Overhead mounted: 50cm distance above persons’ head

__There should be no constantly moving objects like escalators or revolving doors in the field-of-view!__
Specification

Electrical

Operating Voltage: 5 – 12 VDC or Micro USB Power Supply
Power Consumption: 25mA
Connector “DC Power” Dual Push-in CAGE CLAMP for use with 5 – 12 VDC Power Supply
Recommended wire diameter is 24 to 18 AWG (0.2 – 0.75 mm2)
Connector “CONFIG” Micro-USB Socket for use with USB Power-Supply

Radar Transceiver

Frequency: 24.125 GHz
Output Power EIRP: 12 dBm

LPWAN

Antenna: Integrated Dipole 1.4 dBi
Protocol: LoRaWAN™ V1.0.2 with LoRaWAN Regional Parameters v1.0.2rB
LoRaWAN™ Activation: OTAA, ABP
LoRaWAN™ Settings: ADR enabled, Confirmed/Unconfirmed Selectable, LinkCheckReq enabled, LinkStatusAns enabled, FSB selectable on US915 and AU915 devices
LoRaWAN™ Regions: EU868 (EU 863-870MHz ISM Band)
US915 (US 902-928MHz ISM Band)
AU915 (Australia 915-928MHz ISM Band)
AS923 (Asia 923-925MHz ISM Band)
# Mechanical

## Main dimensions and fixing points

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>UV protected ASA Plastics</td>
</tr>
<tr>
<td>Color</td>
<td>Munsell N8.75 (White gray)</td>
</tr>
<tr>
<td>Protection Class</td>
<td>IP67 (IEC 60529)</td>
</tr>
<tr>
<td>Cable diameter</td>
<td>Max. 11 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>195g</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-20 ... 70°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40 ... 85°C</td>
</tr>
</tbody>
</table>
Ordering information

Available Models

PCR2-EU868-OD  Outdoor Model for use in European LoRaWAN™ networks
PCR2-US915-OD  Outdoor Model for use in US and Canadian LoRaWAN™ networks
PCR2-AU915-OD  Outdoor Model for use in Australian LoRaWAN™ networks
PCR2-AS923-OD  Outdoor Model for use in Asian LoRaWAN™ networks

Where to buy

You can find a list of distributors and solution providers on the product website: www.parametric.ch/product/pcr2-od

Evaluation kits are available for interested integrators or solution providers.

Document revisions

2018-12-18  Revision 4  Added Asian Model
2018-11-23  Revision 3  PSU 5-12 V DC
2018-07-19  Revision 2  Improved Comprehensibility
2018-07-06  Revision 1  Added FoV Illustrations
2018-07-05  Revision 0  Initial Version

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