

QUICKSTART GUIDE

PCR2-XIO Industrial Object Counter with Digital Outputs

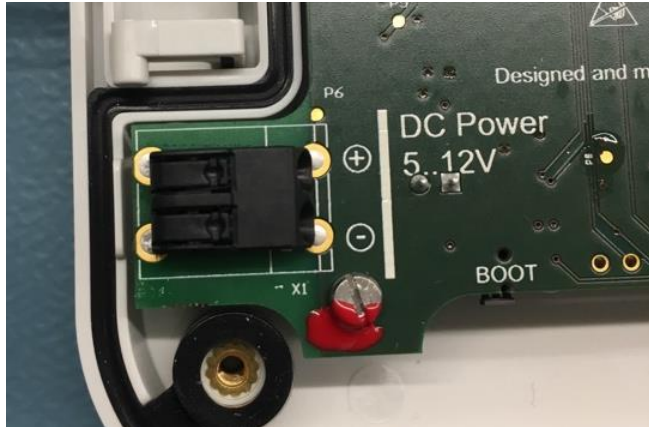
PCR2-XIO-EU868
PCR2-XIO-US915
PCR2-XIO-AU915
PCR2-XIO-AS923



LoRaWAN Certified^{CM} is a mark used under license from the LoRa AllianceTM.

Installation Instructions

Electrical Installation

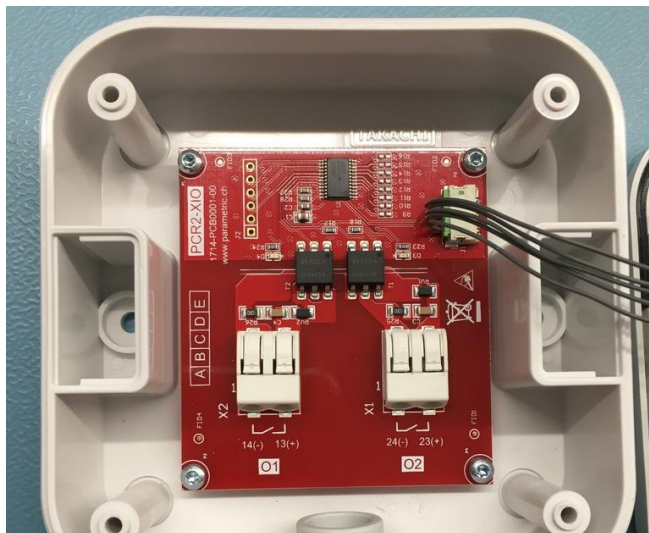


Use DC-Power Supply 5 ... 24V.

Cable diameter should not exceed 11mm.

Wires should be 22AWG ... 18AWG (0.2 - 0.75mm²).

XIO Digital Outputs



Digital outputs are Solid State Relais that can switch up to 60V / 2A.

Wires should be 22AWG ... 18AWG (0.2 - 0.75mm²).

WARNING!

- Do not exceed this maximum rating.
- Check polarity!

Mounting

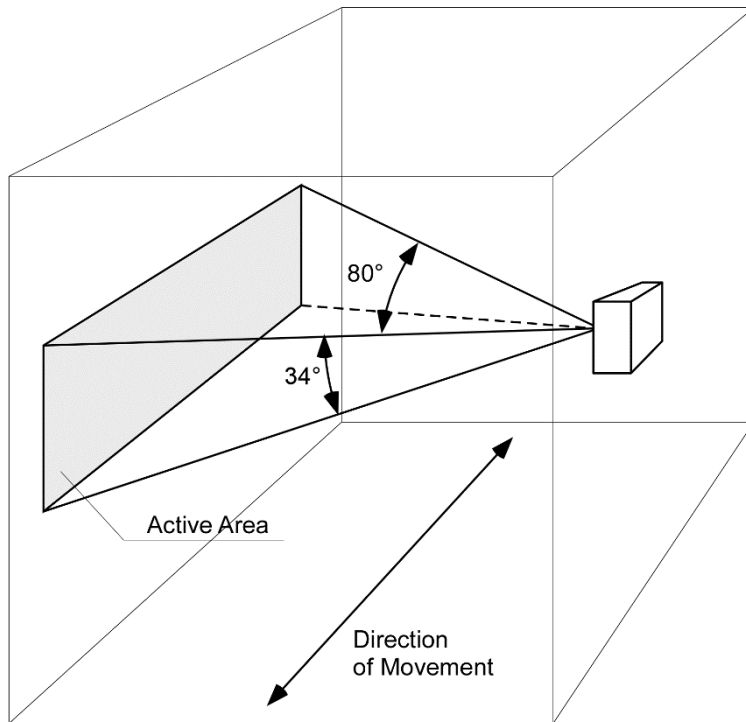


Ensure that the cable gland is fully tightened. Open the hatches on the front of the casing and drill two screws into the wall.

Field of view and optimal placement

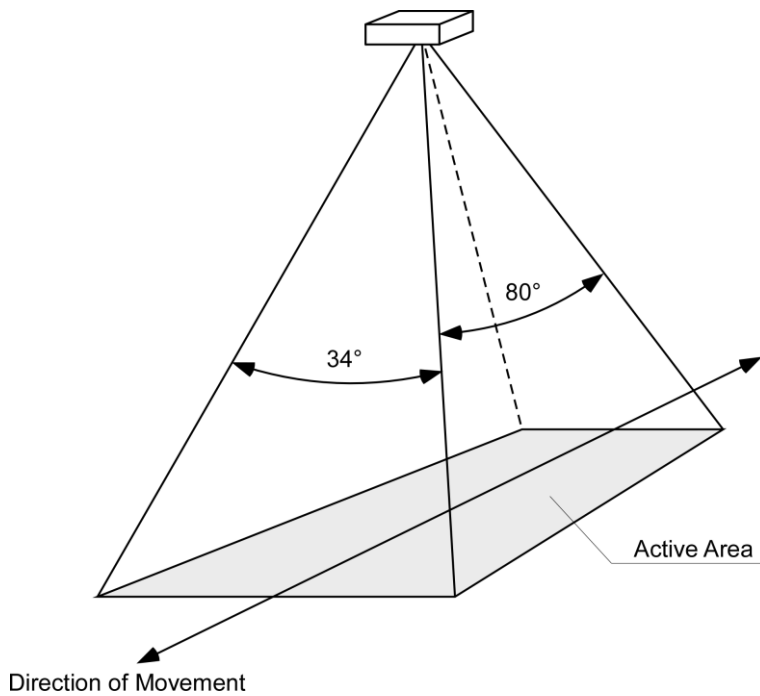
PCR2-XIO are 1D sensors measuring Peopleflow walking along a virtual line. The device can be mounted on walls, door frames or over-head.

Wall mounting (recommended)



Installation height:	1.2...1.4m (4...5 feet) above floor
Installation direction:	Device surface parallel to peopleflow
Detection range:	6...10m depending on object size
Separation angle:	40° (Distance between persons)
Avoid:	<ul style="list-style-type: none">- Side-by-side walking- Groups- Too close to each other

Ceiling mounting



- Installation height: 0.5...4m above peoples heads
- Installation direction: Heading down, LEDs in line with direction of movement
- Separation angle: 40° (Distance between persons)
- Avoid:
- Side-by-side walking
 - Groups
 - Too close to each other
 - Too wide entries (detection angle is 34°)

LED Signalisation



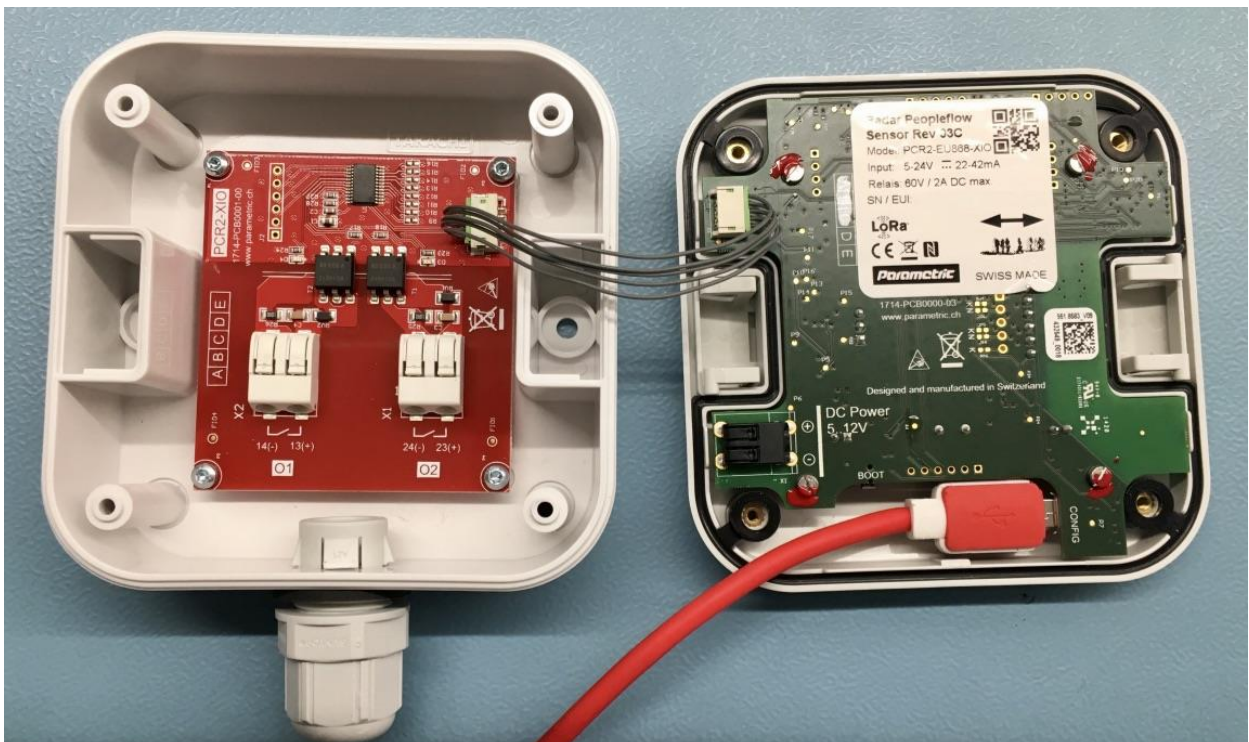
Configuration

Opening the Enclosure



Remove the four screws from the casing to gain access to the device.

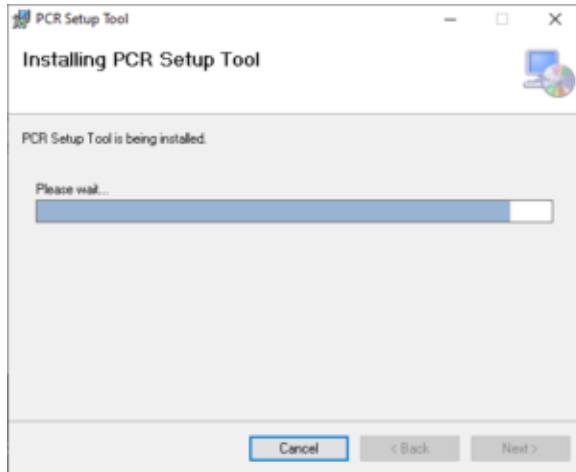
Connecting the Programming Cable



Connect the sensor to your Computer using a USB Cable.

Install PCR Setup Tool

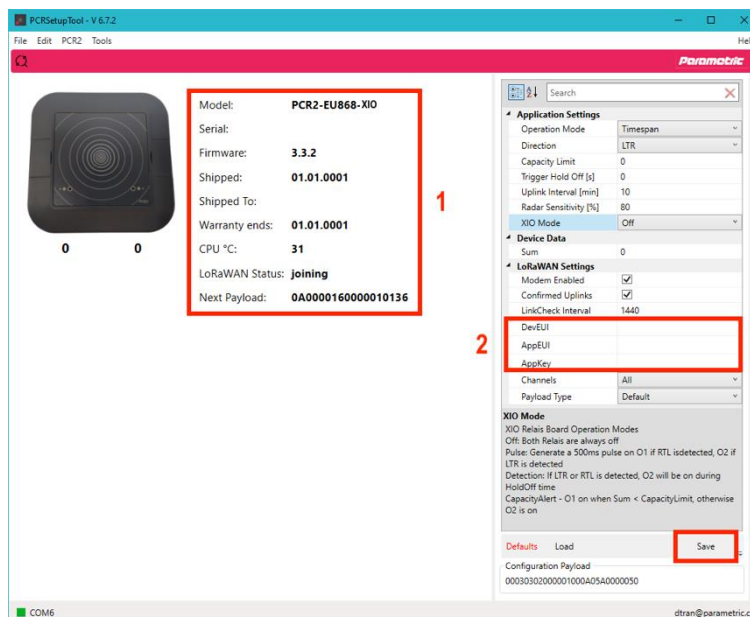
Download the free PCR Setup Tool by opening the following URL:
<https://www.parametric.ch/downloads/>



Download PCRSetupTool_Setup.exe and follow the instructions of the installer. Ignore all security warnings.

Note: This is a .Net Application. You may need to install additional software from Microsoft.

Set LoRaWAN Keys



Start the PCR Configurator tool. After some seconds you will see the device information (1).

Enter your LoRaWAN Keys (2).

Re-Power the device to start the Join procedure. After a successful connection the sensor LED will stop blinking.

Always press 'Save' after changing settings.

Set TX Interval

Application Settings	
Operation Mode	Timespan
Payload Type	Default
Uplink Interval [min]	10
Trigger Hold Off [s]	30
Radar Sensitivity [%]	80

Uplink Interval [min]

Set the sending interval in minutes (1...1440 minutes). During this time, all persons will be counted and sums are transferred. After transfer counters will be reset.

Overview of Application Settings

Application Settings	
Operation Mode	Timespan
Payload Type	Default
Uplink Interval [min]	10
Trigger Hold Off [s]	30
Radar Sensitivity [%]	80

Operation Mode

Timespan - count objects and send sum after interval.
 NotZero - Same as Timespan but does not send if counters are 0 (zero)
 Trigger - Send on every detection. Use Hold Off Time to prevent sending on every event
 CapacityAlert - Set limit on how many people may enter a shop (see CapacityLimit)

Payload Type

Choose between Parametric and Cayenne LPP compatible payload formats

Trigger Hold Off [s]

Time to re-arm trigger
 0...600s (0 = no suppression)

Radar Sensitivity [%]

You can set the radar module from 10% (fairly sensitive) to 100% (very sensitive)

XIO Modes

XIO Mode	CapacityLimit
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XIO Mode

XIO Relais Board Operation Modes
 Off: Both Relais are always off
 RC: Remote Controlled by Downlink
 Pulse: Generate a 500ms pulse on O1 if RTL is detected, O2 if LTR is detected
 Detection: If LTR or RTL is detected, O2 will be on during HoldOff time
 CapacityAlert - O1 on when Sum < CapacityLimit, otherwise O2 is on

Overview of LoRaWAN Settings

LoRaWAN Settings	
Modem Enabled	<input checked="" type="checkbox"/>
Confirmed Uplinks	<input checked="" type="checkbox"/>
LinkCheck Interval	1440
DevEUI	3434333568375F17
AppEUI	3434333568375F17
AppKey	3434333568375F17343433356
Channels	All
Payload Type	Default

Confirmed Uplinks

Send uplinks with ACK requests

LinkCheck Interval

After this interval send LinkCheckReq with next uplink.
 Set to zero for disabling LinkCheck completely

EU Declaration of Conformity



Parametric GmbH declares that the following equipment is compliant to the RoHS (2015/863/EU) and Radio Equipment Directive (2014/53/EU)

Model: PCR2

Product Description: LoRaWAN™ Radar People Counter bidirectional

Conformity is assured by compliance to the following Standards:

EN 60950-1: 2006+A11: 2009+A1:2010+A12:2011+A2:2013 (2014-01-02)
EN 55032:2012+AC:2013 (2017-03-05); CISPR32:2012 (2012-1-30) AS/NZS CISPR32:2013 (2013-6-20)
EN 61000-3-2: 2014 (2015-03-30)
EN 61000-3-3: 2013 (2014-3-18)
EN 55024:2010 (2011-09-01)
IEC 61000-4-2:2008 (2008-12-09)
IEC 61000-4-3:2006+A1:2007+A2:2010 (2010-04-27)
IEC 61000-4-4:2012 (2012-04-30)
IEC 61000-4-5:2014 (2014-05-15)
IEC 61000-4-6:2013 (2013-10-23)
IEC 61000-4-8:2009 (2013-10-23)
IEC 61000-4-11:2004 (2004-03-24)
EN 301 489-1 V2.2.1 (2017- 02)
EN 301 489-17 V2.2.1 (2017-02)
EN 300 328 V2.1.1 (2016-11)

Signature:

A handwritten signature in black ink, appearing to read 'A. Koschak', written over a light blue horizontal line.

Andreas Koschak, CEO

Disclaimer

In the interest of continuous further development of our equipment, we have to make changes to the scope of delivery in form, technology and equipment reserved.

We also ask for your understanding that no claim can be derived from data and illustrations of this manual.



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