

**lococube®**  
**PeopleCounter PC-10**  
  
**MANUAL**

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## SAFETY INSTRUCTIONS

This manual contains notices which you should observe to ensure your own personal safety, as well as to protect the product and the connected equipment. These notices are highlighted in the manual by a warning symbol and are marked as follows according to the level of danger:



**Only qualified personnel should be allowed to install and work on this equipment. Qualified persons are defined as persons who are authorized to commission, to ground and to tag circuits, equipment and systems in accordance with established safety practices and standards.**



**Take care to avoid capsizing! This can cause harmful injury to children and adults!**



**Turn off the power supply before performing any wiring operations! Short circuits can be harmful, critical and can cause explosions and serious burns!**



**Please read this manual carefully and observe all safety instructions!**

## DESTINATED USE

The People Counter PC-10 is designed for 'Social Distancing' applications, counting and limiting the number of people in a room using a simple traffic light system combined with a buzzer.

## DISCLAIMER

**BARTH® assumes no liability for usage and functionality of the PeopleCounter PC-10 in case of disregarding this manual. The strict accordance of this manual is important since the installation methods, peripheral connections, usage and maintenance can not be controlled by BARTH®. Therefore BARTH® assumes no liability for any claim.**

## 1 Product Features

- People Counter with traffic light display and buzzer
- ‚Social Distancing‘ as ‚Plug and Count‘ solution“
- Access monitoring to protect customers and employees
- Ideal for retail, catering, pharmacies & service providers
- Easy control about current and maximum people traffic
- Maximum limit of people can be easily set via Touch HMI
- High quality aluminum stele with stainless steel base
- Fast and easy setup in less than 5 minutes
- No internet or WiFi required
- Mains socket (90-230VAC) is sufficient for operation
- Dimensions (LxWxH): 350x360x1180mm
- Weight: 12kg

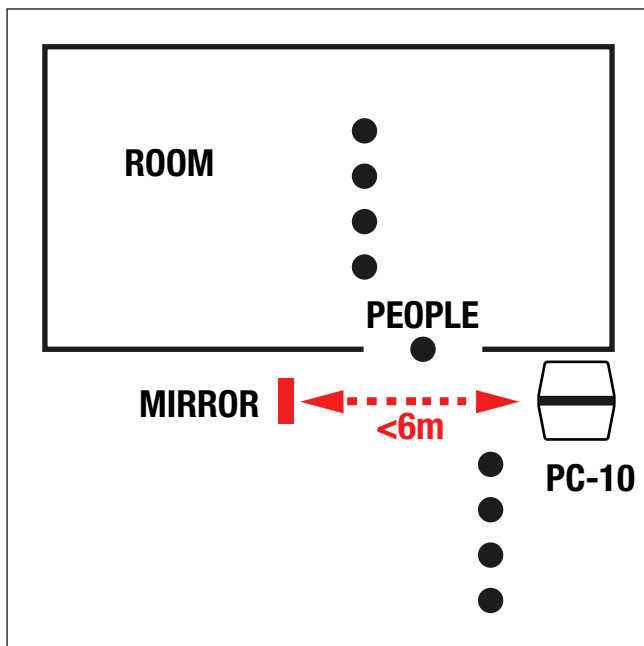
## 2 Get Started



The PeopleCounter is designed for counting persons in one row, using one area for entrance and exit. Separated entrance and exit applications are not supported.



Passing more than on person the People-Counters light beam will cause counting errors!



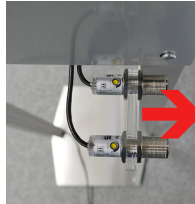
## 3 Get Running

1



### Mounting light beam

Unpack the PeopleCounter and mount the light beam bracket on the left aluminium strut profile showing to the backside of the People-Counter. Tighten the two screws using a 4mm hex key. The red arrow shows the direction of the light beam.



2



### Install the PeopleCounter

Place the PeopleCounter on the right hand side in front of the room on a plane surface, taking care to not exceed the light beam maximum distance of 6m (PeopleCounter to mirror). Ensure that light beams points right-angled to the place where the mirror will be mounted.

3



### DC Connection

Connect the DC power supply connector of the PeopleCounter to the 12V AC/DC Adaptor.

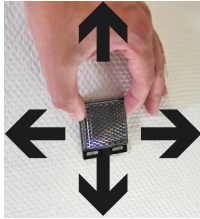
4



### Power Supply

Plug-In the 12V Adaptor and power-up the PeopleCounter. After connection you should hear the buzzer. The signal tone indicates power-up state with need of setup the PeopleCounter.

5

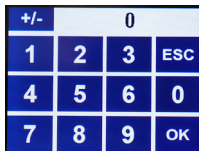


#### Mirror Setup

Ensure that light beams points right-angled to the place where the mirror will be mounted. Take the mirror and move it with a maximum distance of 6m in the light beam direction and observe ,STOP' and ,GO' traffic lights. Only if both traffic lights are off, the correct setup has been reached and the mirror is placed properly. Move the mirror twice to find safe operation area and then fix it to the wall. AVOID moving the PeopleCounter now which would cause malfunction and the need of a new setup.



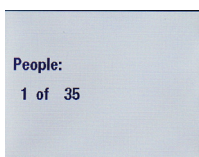
6



#### Setup people limit

To setup the maximum allowed number of people in the room, simply type in the desired value, clearing with ,ESC' and confirming with ,OK'.

7



#### Operation

After successful setup the PeopleCounter is ready to operate and the buzzer shuts down. The Touch-LCD shows the current number of people in the room and also the preset maximum value.



During normal operation the green ,GO' is lighted. If the maximum number of people is reached, the red ,STOP' light appears. If a person enters the room during red ,STOP' light, the buzzer sounds and indicates prohibited access.

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#### Repowering

If the PeopleCounter is reconnected to the mains (after power supply interruption or shut-down) the people limit has to be set again. Automatic restoring the value is not provided due to the unknown number of people in the room after shut-down.

## 4 Get Support



Detailed product support is available on:

<https://barth-elektronik.com/support>

## 5 Appendix

### 5.1 Specifications

#### 5.1.1 General

<b>Hardware design and construction</b>	Heavy duty strut profile based construction (BOSCH Rexroth® System).
<b>Controller and HMI</b>	Internal lococube® mini-PLC STG-800 with CAN bus and 5 I/Os DMA-15 Touch HMI 2,4" color
<b>Sensor</b>	Two SICK® visible light barrier beam sensors connected to mini-PLC
<b>Signal lights</b>	5x Power LED modules 12V/3W directly driven by mini-PLC

#### 5.1.2 Power supply

<b>Operating voltage</b>	external: 100..240VAC/50/60Hz 0.7A  internal: 12VDC 2.08A Adaptor Art. No. 0043-0041
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#### 5.1.3 Interfaces

<b>CAN (internal)</b>	CAN 2.0A/B: 11/29 bit ID, base frame format Baud rates: 50, 100, 125, 250, 500 kbit, 1Mbit
<b>TTL232 (internal)</b>	3.3V TTL level, config: 8N1 Baud rates: 2400 to 115.2 kbit/s

#### 5.1.4 Security features

<b>Security Features</b>	System and independent WD Fail safe oscillator Power on/down reset Supply voltage supervisor
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#### 5.1.5 Program and data memory

<b>Memory</b>	Flash program memory: 256 kB SRAM: 32 kB EEPROM: 8kB, >1M write cycles
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#### 5.1.6 Electrical connection

<b>Electrical connection</b>	DC connector 2.1/5.5mm
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### 5.1.7 Electromagnetic compatibility (EMC)

<b>Electrostatic discharge (ESD) on IN1 to IN5</b>	20 kV air discharge 30 kV contact discharge (IEC/EN 61 000-4-2, level 3)
<b>Electrostatic discharge (ESD) on OUT1 to OUT5</b>	8 kV (human body model) (MIL-STD883D)
<b>Electromagnetic fields</b>	Field strength 10 V/m (IEC/EN 61000-4-3)
<b>CAN bus terminals (CANH, CANL to GND)</b>	IEC 61000-4-2: Unpowered Contact Discharge ±15000 V
	IEC 61000-4-2: Powered Contact Discharge ±8000 V





### 5.1.8 Environmental conditions

<b>Operation temperature</b>	-10 to +50 °C (IEC 60068-2-1/2)
<b>Storage temperature</b>	-10 to +50 °C (IEC 60068-2-1/2)
<b>Relative humidity</b>	5 to 90% non-condensing (IEC 60068-2-30)
<b>Air pressure (in operation)</b>	500 to 1500 hPa
<b>Degree of protection</b>	IP 20 (not evaluated by UL) (EN 50178, IEC 60529)

### 5.1.9 Weight and dimensions

<b>Weight</b>	12 kg
<b>Dimensions</b>	350 x 360 x 1180 mm (LxWxH)


### 5.1.10 Certifications & Approvals

	PeopleCounter PC-10: 2004/108/EG 2004/108/EC 2014/30/EU
	lococube® mini-PLC: File No. E489238 UL 61010-1, 3rd Edition, May 11, 2012, Revised April 29 2016, CAN/CSA-C22.2 No. 61010- 1-12, 3rd Edition, Revision dated April 2016
	File No. E489238 UL 61010-2-201 Ed.1 January 24, 2014, Revision dated February 20, 2017 CAN/CSA C22.2 No. 61010-2- 201:14 Ed.1, February 2014
	CANopen® Vendor ID: 46Ah
	lococube® mini-PLC: Cert. No. E1-10R-058717 ECE R 10, Rev. 5 (for nominal 12V automotive applications)

### 5.1.11 Ordering information

<b>Ordering information</b>	lococube® PeopleCounter PC-10 Art. No. 0059-0010 GTIN 4251329406066
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### 5.2 Disposal



**If you wish to finally dispose of the product, ask your local recycling centre or dealer for details about how to do this in accordance with the applicable disposal regulations.**

### 5.3 Conformity declaration

For the following designated product it is hereby confirmed, that the construction in that technical design brought by us in traffic corresponds to the standards specified below. In the event of any alternation which has not been approved by us being made to any device as designated below, this statement shall thereby be made invalid.

<b>Description</b>	lococube® PeopleCounter
<b>Type / Art. No.</b>	PC-10
<b>Directive CE 2004/108/EG relating to electromagnetic compatibility (EMC)</b>	Applied norms: 2004/108/EG 2004/108/EC 2014/30/EU
<b>RoHS Directive 2011/65EU</b>	We hereby declare that our product is compliant to the RoHS Directive on restriction of the use of certain hazardous substances in electrical and electronic appliances.

BARTH® Elektronik GmbH  
Lengerich, 05.06.2020

*D. Barth*

Dipl.-Ing. (FH) D. Barth, CEO