

lococube®
PeopleCounter PC-10

MANUAL (EN)

TABLE OF CONTENT

SAFETY INSTRUCTIONS 1

DESTINATED USE 1

DISCLAIMER 1

1 Product Features 2

2 Get Started 2

3 Get Running 2

3.1 For models with S/N 00953321 or lower 2

3.2 For models with S/N 00953322 to S/N 00955711 3

3.3 For models with S/N 00955712 or higher 5

4 Get Support 6

5 Appendix 7

5.1 Specifications 7

5.1.1 General 7

5.1.2 Power supply 7

5.1.3 Interfaces 7

5.1.4 Electrical connection 7

5.1.5 Environmental conditions 7

5.1.6 Weight and dimensions 7

5.1.7 Certifications & Approvals 7

5.1.8 Ordering information 7

5.2 Disposal 7

5.3 Conformity declaration 7

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

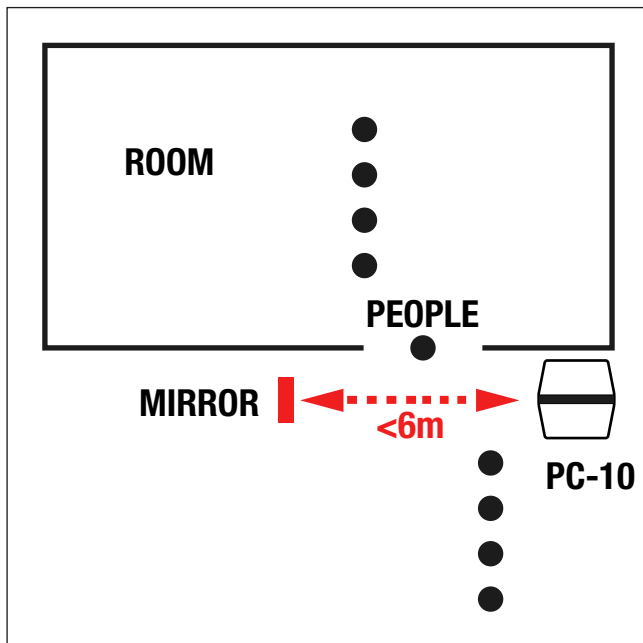
2 Get Started



The PeopleCounter is designed for counting persons in one row, using one area for entrance and exit. Separated entrance and exit applications are supported by using two or more PeopleCounter and the VK-42 Connection Cable.



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



3 Get Running

Before resume installing the Peoplecounter please have a look at the serial number of your PC-10. Resume reading this manual in:

- Chapter 3.1 for S/N 00953321 or lower
- Chapter 3.2 for S/N 00953322-00955711
- Chapter 3.3 for S/N 00955712 or higher

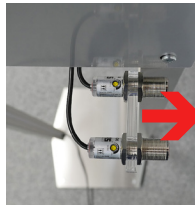
3.1 For models with S/N 00953321 or lower

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. Take care the people to be counted keep a minimum distance of 1m to the mirror!

3



DC Connection

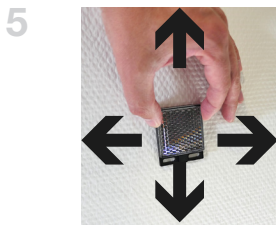
Connect the DC power supply connector of the PeopleCounter to the 12V AC/DC Adaptor.

4



Power Supply

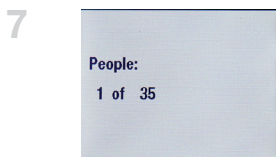
Plug-In the 12V Adaptor and power-up the PeopleCounter. After connection you should hear the buzzer. The signal tone indicates power-up state with need of setup the PeopleCounter.



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. Aviod 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 confmrng with ,OK'.



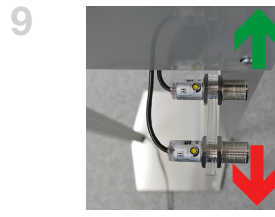
7 Operation
After successful setup the PeoplyCounter is ready to operate and the buzzer shuts down. The Touch-LCD shows the current number of people in the room and also the preset maximum value.



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.

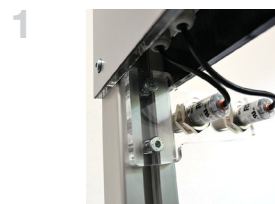


8 Repowering
If the PeopleCounter is reconnected to the mains (after power supply interruption or shut-down) the people limit has to be set again. Automatic restoring the value is not provided due to the unknown number of people in the room after shut-down.

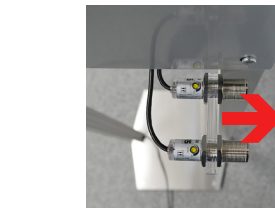


9 People count correction
To manually correct the number of people in the room (in case of counting errors or setup failures) simply move you hand in direction of the red arrow to increase the number of people or in direction of the green arrow to decrease the number of people.

3.2 For models with S/N 00953322 to S/N 0095711



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 PeopleCounter. Tighten the two screws using a 4mm hex key. The red arrow shows the direction of the light beam.



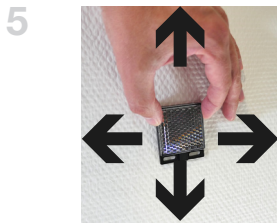
2 Install the PeopleCounter
Place the PeopleCounter on the right hand side in front of the room on a plane surface, taking care to not exceed the light beam maximum distance of 6m (PeopleCounter to mirror). Ensure that light beams points right-angled to the place where the mirror will be mounted. Take care the people to be counted keep a minimum distance of 1m to the mirror!



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.



Mirror Setup

After power-on you see the Screen ‚Setup Light Barrier‘. 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.



Repowering

Disconnect the DC power supply connector for at least 10 seconds and reconnect it. Wait for the following screen.



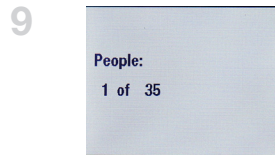
Setup people limit

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



Auto Reset Time

This parameter allows auto reset (person number ‚0‘) within certain time period (minutes) with no person passing the light barriers. This function eliminates counting errors during longer time periods. To setup the Auto Reset Time, simply type in the desired value (minutes), clearing with ‚ESC‘ and confirming with ‚OK‘.



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.

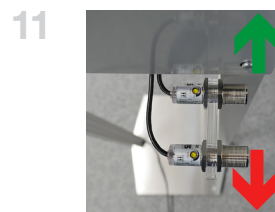


During normal operation the green ‚GO‘ is lighted. If the maximum number of people is reached, the red ‚STOP‘ light appears. If a person enters the room during red ‚STOP‘ light, the buzzer sounds and indicates prohibited access.



Repowering


If the PeopleCounter is reconnected to the mains (after power supply interruption or shut-down) the people limit has NOT to be set again.





People count correction


To manually correct the number of people in the room (in case of counting errors or setup failures) simply move you hand in direction of the red arrow to increase the number of people or in direction of the green arrow to decrease the number of people.


3.3 For models with S/N 00955712 or higher


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. Take care the people to be counted keep a minimum distance of 1m to the mirror!

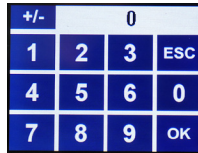
3  **Connection Cable VK-42**
To interface two or more PeopleCounter for separate entrance and exit applications simply use the optional available VK-42 Connection Cable.
Please ensure to terminate the first and last People-Counter with one Dummy Connector (picture).

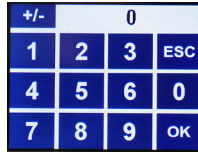
4  **DC Connection**
Connect the DC power supply connector of the PeopleCounter to the 12V AC/DC Adaptor.

5  **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.

6  **Mirror Setup**
After power-on you see the Screen ‚Setup Light Barrier‘. 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.

7  **Repowering**
Disconnect the DC power supply connector for at least 10 seconds and reconnect it. Wait for the following screen. Please also remove the VK-42 Connection Cable for the following steps.

8  **Setup Master/Slave**
To setup the operating mode of the PeopleCounter(s) simply enter the value of ‚1000‘ to define the device as Master (only one Master device is allowed).
For Slave device(s) type in a unique value between ‚1001‘ and ‚2009‘ to define one or more slave devices. Clearing ensures with ‚ESC‘ and confirming with ‚OK‘.

9  **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‘.

10



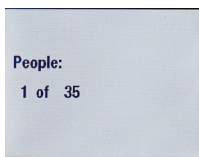
Auto Reset Time

This parameter allows auto reset (person number ,0') within certain time period (minutes) with no person passing the light barriers.

This function eliminates counting errors during longer time periods.

To setup the Auto Reset Time, simply type in the desired value (minutes), clearing with ,ESC' and confirming with ,OK'.

11



Operation

Now please reconnect the PeopleCounter using the VK-42 cConnection Cable. 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.

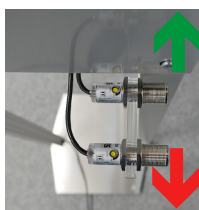
12



Repowering

If the PeopleCounter is reconnected to the mains (after power supply interruption or shut-down) the people limit has NOT to be set again.

13



People count correction

To manually correct the number of people in the room (in case of counting errors or setup failures) simply move you hand in direction of the red arrow to increase the number of people or in direction of the green arrow to decrease the number of people.

4 Get Support



Detailed product support is available on:

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

5 Appendix

5.1 Specifications

5.1.1 General

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

5.1.2 Power supply

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

CAN	CAN 2.0A/B: 11/29 bit ID, base frame format
TTL232 (internal)	3.3V TTL level, config: 8N1 Baud rates: 2400 to 115.2 kbit/s

5.1.4 Electrical connection

Electrical connection	DC connector 2.1/5.5mm
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5.1.5 Environmental conditions



Operation temperature	-10 to +50 °C (IEC 60068-2-1/2)
Storage temperature	-10 to +50 °C (IEC 60068-2-1/2)
Relative humidity	5 to 90% non-condensing (IEC 60068-2-30)
Air pressure (in operation)	500 to 1500 hPa
Degree of protection	IP 20, indoor use only

5.1.6 Weight and dimensions

Weight	12 kg
Dimensions	350 x 360 x 1180 mm (LxWxH)

5.1.7 Certifications & Approvals

	PeopleCounter PC-10: 2004/108/EG, 2004/108/EC 2014/30/EU
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	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 04/16
	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
	lococube [®] mini-PLC: Cert. No. E1-10R-058717 ECE R 10, Rev. 5 (12VDC)

5.1.8 Ordering information

Ordering information	lococube [®] PeopleCounter PC-10 Art. No. 0059-0010 GTIN 4251329406066
	Connection Cable VK-42 Art. No. 0091-0042 GTIN 4251329406080

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.

Description	lococube [®] PeopleCounter
Type / Art. No.	PC-10
Directive CE 2004/108/EG relating to electromagnetic compatibility (EMC)	Applied norms: 2004/108/EG 2004/108/EC 2014/30/EU
RoHS Directive 2011/65EU	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