PCE Instruments PCE-WSAC 50 Wind Speed Alarm Controller User Manual

User Manual
PCE-WSAC 50 Anemometer

User manuals in various languages can be downloaded here: www.pce-instruments.com

www.pce-instruments.com
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Thank you for purchasing a wind speed alarm controller from PCE Instruments.

Contents

Safety notes

Please read this manual carefully and completely before you use the device for the first time. The device may only be used by qualified personnel and repaired by PCE Instruments personnel. Damage or injuries caused by non-observance of the manual are excluded from our liability and not covered by our warranty.

- The device must only be used as described in this instruction manual. If used otherwise, this can cause dangerous situations for the user and damage to the meter.
- The instrument may only be used if the environmental conditions (temperature, relative humidity, …) are within the ranges stated in the technical specifications. Do not expose the device to extreme temperatures, direct sunlight, extreme humidity or moisture.
- Do not expose the device to shocks or strong vibrations.
- The case should only be opened by qualified PCE Instruments personnel.
- Never use the instrument when your hands are wet.
- You must not make any technical changes to the device.
- The appliance should only be cleaned with a damp cloth. Use only pH-neutral cleaner, no abrasives or solvents.
- The device must only be used with accessories from PCE Instruments or equivalent.
- Before each use, inspect the case for visible damage. If any damage is visible, do not use the device.
- Do not use the instrument in explosive atmospheres.
- The measurement range as stated in the specifications must not be exceeded under any circumstances.

- Non-observance of the safety notes can cause damage to the device and injuries to the user.

We do not assume liability for printing errors or any other mistakes in this manual.
We expressly point to our general guarantee terms which can be found in our general terms of business.
If you have any questions please contact PCE Instruments. The contact details can be found at the end of this manual.

Safety symbols

Safety-related instructions the non-observance of which can cause damage to the device or personal injury carry a safety symbol.

Symbol	Designation / description
	**Warning: hazardous area** Non-observance can cause damage to the device and injuries to the user.
	**Warning: electrical voltage** Non-observance can cause electric shock.

Specifications

2.1 Technical specifications

Power supply	115 V AC 230 V AC 24 V DC
Supply voltage for sensors (output)	24 V DC / 150 mA
Measurement range	0 … 50 m/s
Resolution	0.1 m/s
Accuracy	±0.2 m/s
Signal input (selectable)	4 … 20 mA 0 … 10 V
Alarm relay	2 x changeover contact 250 V AC / 10 A AC 30 V DC / 10 A DC
Interface (optional)	RS 485
Operating temperature	-20 … 60 °C
Dimensions	191 mm x 125 mm

2.2 Delivery contents

1 x wind speed alarm controller PCE-WSAC 50
1 x user manual

2.3 Order code

PCE-WSAC 50-ABC

Parameter	*A*	*B*	*C*
Power supply			
230 V AC	1		
115 V AC	2		
24 V DC	3		
Signal input			
4 … 20 mA		1	
0 … 10 V		2	
Communication			
W/o			0
RS-485			1

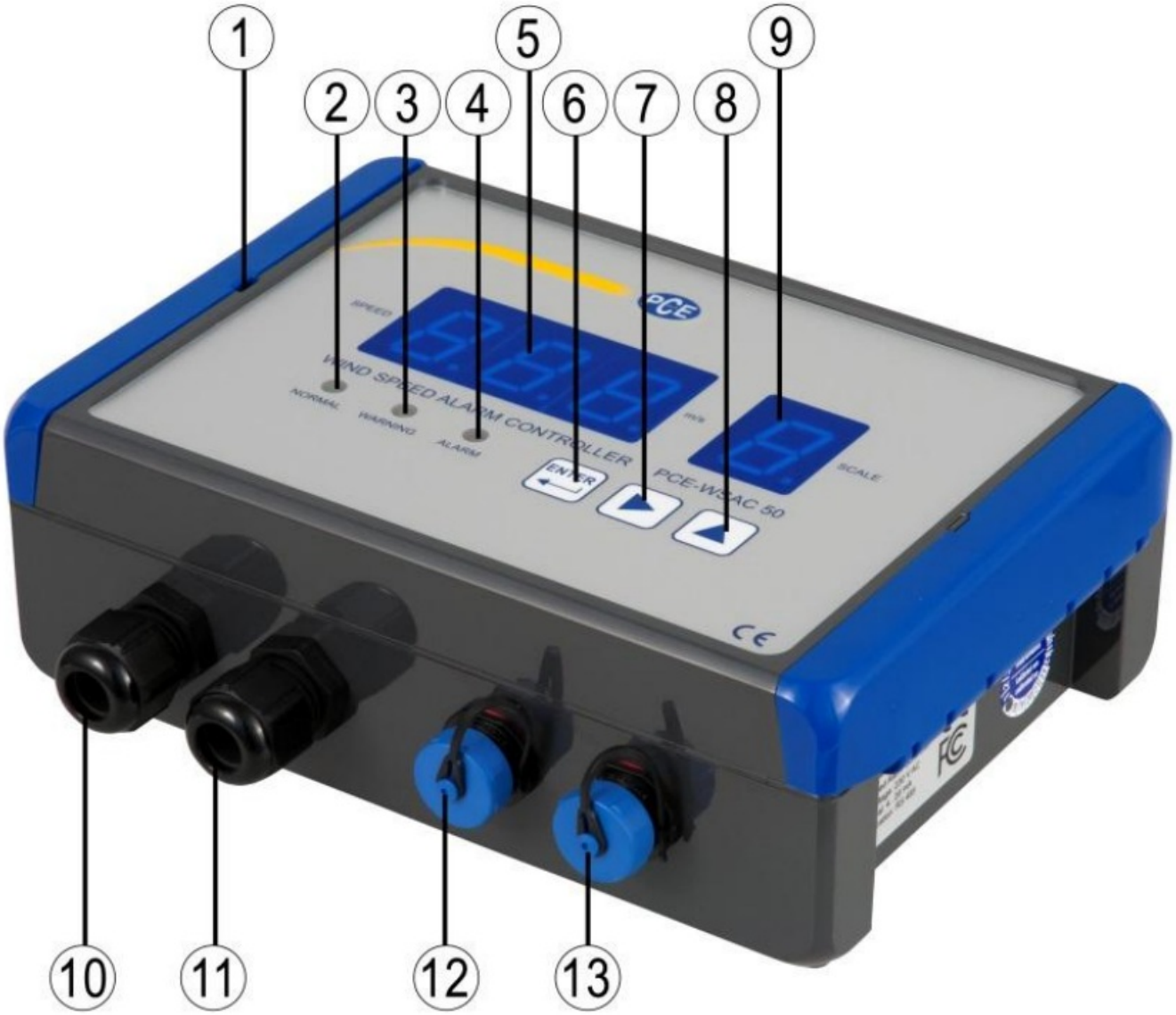
Example: PCE-WSAC 50-111

Power supply	230 V AC
Signal input	4… 20 mA
Communication	RS-485 interface

2.4 Accessories
PCE-WSAC 50-A1C:
PCE-FST-200-201-I Wind speed sensor 0 … 50 m/s / Output 4…20 mA
PCE-WSAC 50-A2C:
PCE-FST-200-201-U Wind speed sensor 0 … 50 m/s / Output 0…10 V

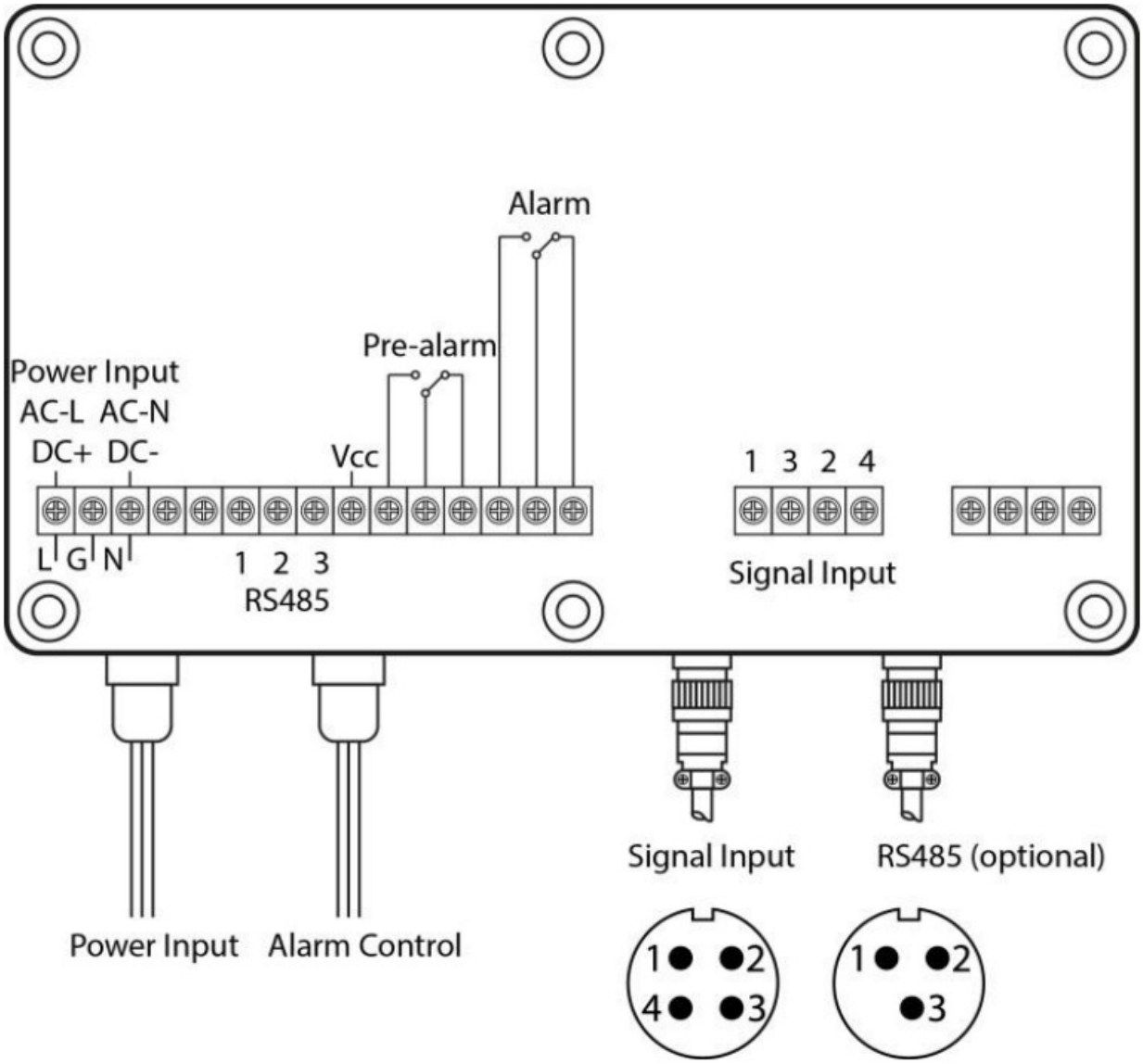
System description

3.1 Device description

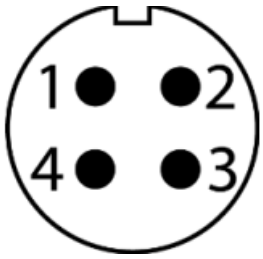


1	Opening groove	8	Arrow up key
2	LED „normal“	9	Display wind scale (wind force)
3	LED „pre-alarm“	10	Cable gland power supply
4	LED „alarm“	11	Cable gland relay / wind sensor
5	Display measured value	12	Connection wind sensor
6	Enter key	13	RS-485 interface (optional)
7	Arrow right key		

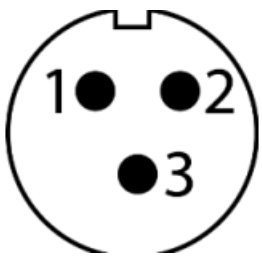
3.2 Electrical wiring



3.3 Pin assignment of „Signal Input“ plug

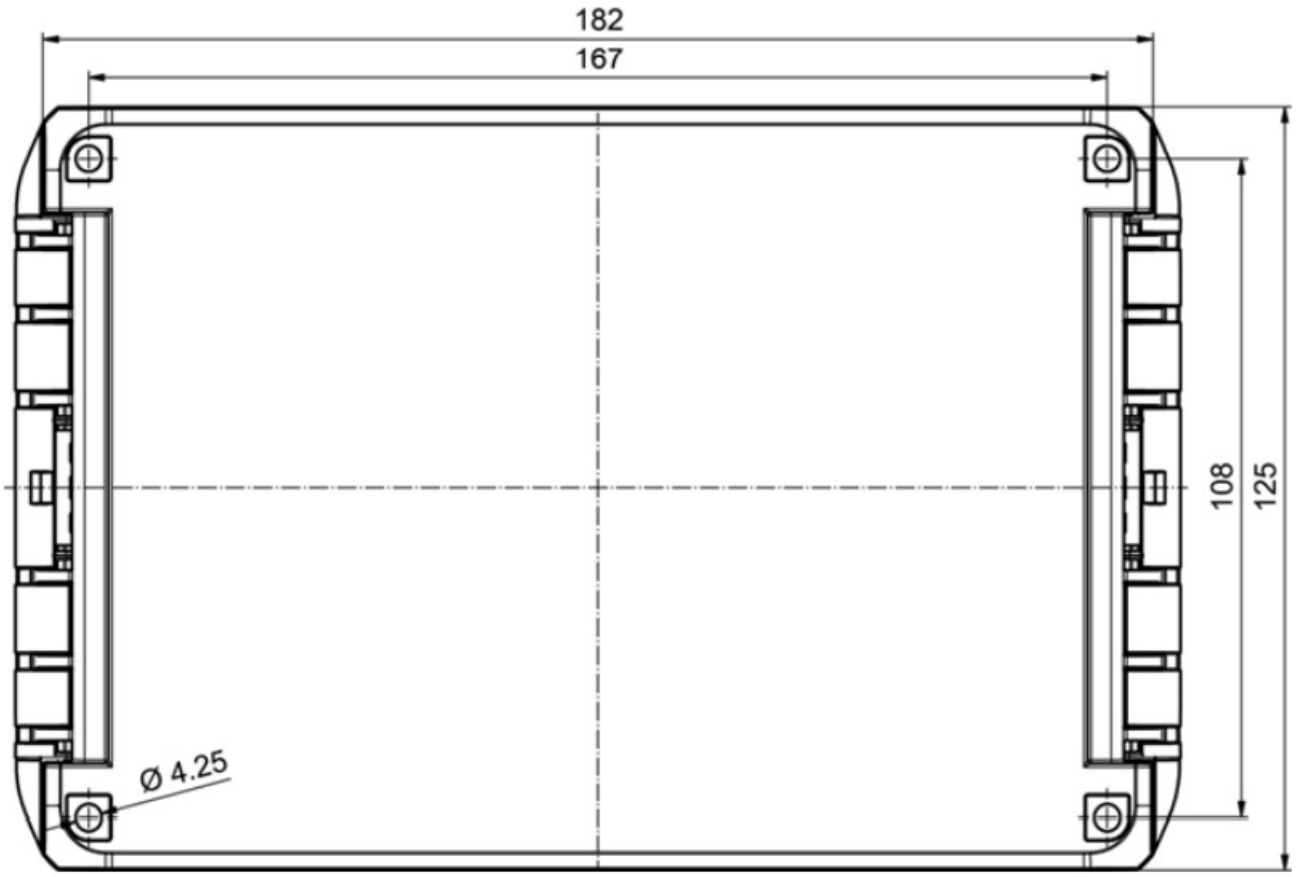
1	Vcc power supply output	
2	GND	
3	Signal	
4	Protective earth conductor	

3.4 Pin assignment RS485 interface plug

1	B	
2	A	
3	GND	

Getting started

4.1 Assembly
Attach the wind speed alarm controller where desired. The dimensions can be taken from the assembly drawing below.



4.2 Power supply
Establish power supply by means of the relevant connections and set up the connection of the relay outputs to your system or signalling device (see 3.2). Make sure that the polarity and the power supply is correct.

ATTENTION: Excessive voltage can destroy the device! Ensure zero voltage when establishing the connection!
The device will power on immediately when connected to the power supply. The current reading will be displayed when a sensor has been connected. If no sensor has been attached, the display will show “00,0“ if you have one of the PCE-WSAC 50-A2C versions (signal input 0…10 V) or. “Err“ if you have a PCE-WSAC 50-A1C version (Signal input 4…20 mA).

4.3 Connecting the sensors
Connect the sensor (not included in the standard package) and the (optional) interface, using the plugs as described in 3.3 and 3.4. Make sure that the polarity and the power supply are correct.

ATTENTION: Non-observance of the polarity can destroy the wind speed alarm controller and the sensor.

Operation

5.1 Measurement
The device measures continuously as long as it is connected to the power supply. The factory default setting for the pre-alarm (S1) is from 8 m/s and for the alarm (S2), the default setting is from 10.8 m/s.
The pre-alarm will make the pre-alarm relay switch, a yellow LED will glow and a beep sound will be emitted in intervals.
In case of an alarm, the alarm relay will switch, the red LED will glow and a continuous beep sound will be activated.

5.2 Settings
To get to the setup menu, press the ENTER key (6) until the first digit flashes. Then enter “888“.
With the Arrow right key (7), you can navigate through the digits and change the value of the digit with the Arrow

up key (8). Confirm with ENTER (6).
The following options can be selected using the Arrow up key (8):

Display	Meaning	Description
Ext	Exit	Back to normal measuring mode
S1	Pre-alarm	Enter the desired value (max. 50 m/s). You can move the cursor with the A rrow right key (7) and change the value of the digits with the Arrow up key (8). Confirm with ENTER (6). **Please note:** **The pre-alarm value must not be higher than the alarm value and the alarm value must not be lower than the prealarm value.**
S2	Alarm	Enter the desired value (max. 50 m/s). You can move the cursor with the A rrow right key (7) and change the value of the digits with the Arrow up key (8). Confirm with ENTER (6). **Please note:** **The pre-alarm value must not be higher than the alarm value and the alarm value must not be lower than the prealarm value.**
Flt	Filter	You can use the Arrow right key (7) to navigate through the digits and the Arrow up key (8) to change the value of the digits. Confirm with ENTER (6) . The following options can be selected: “000“ Current wind speed Change i nterval of display: 200 ms Change interval of relay: 200 ms“002“ 2-m inute average value Change interval of display: 120 s Change interval of relay: 120 s“005“ 5-minute average value Change interval of display: 300 s Change interval of relay: 300 s
Str	Factory settings	Resets all parameters to factory settings

To enter the relevant menu, select the menu with the Arrow up key (8) and confirm with ENTER (6).
You can leave the menu by selecting “Ext“ and confirming with the ENTER (6) key. If no key is pressed for 60 seconds, the device enters normal measuring mode automatically.

RS-485 interface (optional)

The communication with the wind speed alarm controller PCE-WSAC 50 is enabled by the MODBUS RTU protocol and the serial RS-485 port. This allows different registers containing the measured wind speed, the wind scale and other information to be read.

6.1 Communication protocol

- The registers can be read by means of the Modbus function 03 (03 hex) and written into by the function 06 (06

hex).

Supported baud rates	1200, 2400, 4800, 9600, 14400, 19200, 38400, 56000, 57600, 115200
Data bits	8
Parity bit	None
Stop bits	1 or 2
Data type of registers	16-bit unsigned integer

6.2 Standard setting

Baud rate	9600
Parity	None
Stop bit	1
Address	123

6.3 Excerpt from register addresses

Register address (dec)	Register address (hex)	Description	R/W
0000	0000	Current wind speed in m/s	R
0001	0001	Current wind scale	R
0034	0022	Pre-alarm	R/W
0035	0023	Alarm	R/W
0080	0050	Modbus address	R/W
0081	0051	Baud rate (12 = 1200 baud, 24 = 2400 baud, etc.)	R/W
0084	0054	Stop bits (1 or 2)	R/W

Warranty

You can read our warranty terms in our General Business Terms which you can find here: **https://www.pce-instruments.com/english/agb**.

Disposal

For the disposal of batteries in the EU, the 2006/66/EC directive of the European Parliament applies. Due to the contained pollutants, batteries must not be disposed of as household waste.
They must be given to collection points designed for that purpose.
In order to comply with the EU directive 2012/19/EU we take our devices back. We either re-use them or give them to a recycling company which disposes of the devices in line with law.
For countries outside the EU, batteries and devices should be disposed of in accordance with your local waste regulations.

If you have any questions, please contact PCE Instruments.

www.pce-instruments.com

PCE Instruments contact information

Germany PCE Deutschland GmbH Im Langel 4 D-59872 Meschede Deutschland Tel.: +49 (0) 2903 976 99 0 Fax: +49 (0) 2903 976 99 29 info@pce-instruments.com www.pce-instruments.com/deutsch	United States of America PCE Americas Inc. 711 Commerce Way suite 8 Jupiter / Palm Beach 33458 FL USA Tel: +1 (561) 320-9162 Fax: +1 (561) 320-9176 info@pce-americas.com www.pce-instruments.com/us	United Kingdom PCE Instruments UK Ltd Units 12/13 Southpoint Business Park Ensign Way, Southampton Hampshire United Kingdom, SO31 4RF Tel: +44 (0) 2380 98703 0 Fax: +44 (0) 2380 98703 9 info@industrial-needs.com www.pce-instruments.com/english
Italy PCE Italia s.r.l. Via Pesciatina 878 / B-Interno 6 55010 LOC. GRAGNANO CAPANNORI (LUCCA) Italia Telefono: +39 0583 975 114 Fax: +39 0583 974 824 info@pce-italia.it www.pce-instruments.com/italiano	The Netherlands PCE Brookhuis B.V. Institutenweg 15 7521 PH Enschede Nederland Telefoon: +31 (0) 900 1200 003 Fax: +31 53 430 36 46 info@pcebenelux.nl www.pce-instruments.com/dutch	China Pingce (Shenzhen) Technology Ltd. West 5H1,5th Floor,1st Building Shenhua Industrial Park, Meihua Road,Futian District Shenzhen City China Tel: +86 0755-32978297 lko@pce-instruments.cn www.pce-instruments.cn

Documents / Resources

	PCE Instruments PCE-WSAC 50 Wind Speed Alarm Controller [pdf] User Manual PCE-WSAC 50 Wind Speed Alarm Controller, PCE-WSAC 50, Wind Speed Alarm Controller, Speed Alarm Controller, Alarm Controller
	PCE Instruments PCE-WSAC 50 Wind Speed Alarm Controller [pdf] User Manual PCE-WSAC 50, PCE-WSAC 50-111, PCE-WSAC 50-A1C, PCE-WSAC 50-A2C, PCE-WSAC 50 Wind Speed Alarm Controller, Wind Speed Alarm Controller, Speed Alarm Controller, Alarm Controller, Controller

References

- France.fr : Actualités, destinations et infos du tourisme en France
- iberica.es
- Computer Instruments | Home
- Discover Italy: Official Tourism Website - Italia.it
- N.E.E.D.S., (Nutritional Ecological Environmental Delivery System) specializes in providing products, information, and education
- PCEï¼ˆåŒ—äº¬ï¼‰ç§‘æŠ€æœ‰é™å…¬å¸
- Industrial Measurement Products and Solutions | PCE Instruments
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