DOSTMANN electronic

EC Declaration of Conformity

It is herewith confirmed that the product designated below:

P700-EX-Series
(P700-EX, P705-EX, P710-EX, P715-EX, P750-EX, P755-EX, P755-LOG-EX)

EC type-examination certificate: TÜV 13 ATEX 117115 X
TÜV NORD CERT GmbH & Co. KG
Am TÜV 1, 30519 Hannover
Ident.Nr. 0044

conforms to the essential protection requirements as defined in the directive of the council for harmonising the statutory regulations of the member countries for EMC Directive 2004/108/EG, ATEX Directive 94/9/EG.

This declaration is valid for all individual devices manufactured according to the attached manufacturing documents, which belong to and are part of this declaration.

The following standard specifications have been applied for assessing the products:

Tested according to: EMC:	**EN 61326-1:2006**
Tested according to: Safety:	**EN 61010-2010**
Tested according to: ATEX	**EN 60079-0 2013-04**
	EN 60079-11 2013-06

This declaration is made in responsibility for the manufacturer / importer

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issued by

Wolfgang Dostmann

Managing Director

Reicholzheim, date: 30.01.2014

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Version 30/01/2014

DOSTMANN electronic

Precision Measuring Instrument
P700-EX/P705-EX/P750-EX/P755-EX/P755-LOG-EX

Operation manual

Manual

PEWA
Messtechnik GmbH

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List of Contents

I. Safety Advice

The following operating instructions contain and precautionary advice which for the described conditions, must be taken into consideration to guarantee safe operation.

For Operation in explosion-prone areas

1.) Test centre: TÜV Nord Cert GmbH

2.) By operating the instrument in explosion-prone areas all standards must be kept:

A) Only use batteries which are approved by the manufacturer.

B) It is not allowed to use a power pack.

C) It is not allowed to use the USB port.

D) Within the hazardous area the instrument may only be operated provided it is fitted with the specified accompanying leather case.

E) It is only allowed to use Pt100-probes which are supplied from the manufacturer for use in hazardous areas.

F) If there is any reason to suspect that the safety of the equipment has been affected then it must be immediately withdrawn from use and precautionary measures taken in order to prevent any further use of the equipment in hazardous area until such time that all necessary checks and repairs have been carried out.

G) It is not allowed to open the instrument in hazardous areas.

H) The battery must not be changed within the hazardous area.

I) The following temperatures depending on the temperature class are admissible at the measuring point (measuring probe).

temperature class	temperature of test point
T4	135°C
T3	185°C
T2	280°C
T1	430°C

By operating in non explosion-prone areas the valid temperature range is according to instrument's range of the manual. The maximum ambient temperature for the instrument is 40°C.

II. Handling

1. Setting to work

Before switching on the instrument connect the probe/s to the instrument.

2. On/off button

By operating the ON/OFF-key the instrument switched on or off. After switching on the instrument indicates a full segment test for 1,5 sec., afterwards the display shows for appr. 1,0 sec. the setup of the calibration menu(Coff or hex-code of the sensor). Then starts operating in measurement mode indicating the actual measurement category (for example: temperature). All instruments display the measurement value of channel 1 on the top display line(big display line). Directly below you will see the tendency bargraph. The second channel our 2-channel instruments you will see on the bottom line(small display line).

3. Changing units from °C to °F

To change the measuring unit push [ENTER/MENUE]. Use the up and down keys [↑↓] to select **Unit**. Push again [ENTER/MENUE]. On the left corner of the display appears a small **1**, which indicates the selected channel. For changing the channel use the up and down keys [↑↓]. Push [ENTER/MENUE] to confirm. On the right corner of the display appears **°C** or **°F**, or **%rH**, **td** or **gm³**(depending on the selected probe). Use the up and down keys [↑↓] again to adjust the requested measuring unit and push [ENTER/MENUE] to confirm. Push [ESC] to be back in the measuring mode.

4. Speicherabfrage

After pushing first time the key [HOLD MAX MIN AVE] the actual value will be hold on the top display line(big display). Pushing again the key [HOLD MAX MIN AVE], the saved maximum-, minimum and average value will be displayed in the bottom display line(small display).

Notes

VIII. Ex-data

Certificate of Conformity	TÜV 13 ATEX 117115 X
Certification	Ex II 2 G Ex ib IIB T4 Gb
CE-Conformity	CE 0044

IX. Technical data

Measuring channel 1-2	Pt100 4-wire
Temperature range	-200°C .. 800°C
Resolution (P750/P755) (P755Log)	0,01°C from –200°C ... +199,99°C 0,1°C from +200°C ... +800°C
P700-/P715)	0,1°C complete range
Accuracy(P750/ P755, P755Log)	±0,03°C from-50°C ... 199,99°C, ±0,05°C from –200°C ... –50°C otherwise ±0,05% of reading
(P700/P705)	±0,1°C from -100°C..200°C ±0,1% remaining range
(P710/P175)	±0,2°C from -40°C..200°C ±0,5°C from 201°C..1000°C ±1,0°C remaining range
Working temperature	0°C ... 40°C
Display	2-line LCD
Housing	ABS
Dimensions (LxWxH)	200 x 93 x 44 mm
Weight	390 g
Power supply	9 V Alcaline batteries according IEC 6LR61 Typ (6LR61) 3V Litihum CR 2032
Approved batteries 9V	Varta High Energy 4922 (Varta) Varta Industrial 4022 (Varta) Duracell Plus Power (Duracell)
Approved batteries 3V	Varta Professionell Electronic CR 2032 (Varta) Camelion CR 2032 (Camelion) Duracell CR 2032 (Duracell) Arcas CR 2032 (Arcas)

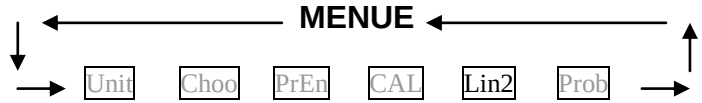
Note for 2-channel instruments: First the MAX-MIN-AVE-values of channel 1 will be displayed – afterwards the values of the channel 2 will be displayed. Is there only one probe on a 2-channel instrument we suggest to deactivate the channel without probe(menu CHoo).

5. Clearing the memory (MAX MIN AVE)

Press [CLEAR] key once to erase the stored maximum, minimum and average from memory. On the display appears **Clr**. – After erasing the memory the instrument automatically switches back to measuring mode indicating the actual measured value again.

6. Difference temperature [T1 – T2]

To display the difference temperature push [ENTER/MENUE]. Use the up and down keys [↑↓] to select **Lin2**. Push again [ENTER/MENUE]. On the right corner of the display appears a **T_1-T_2**. Use the up and down keys [↑↓] to adjust the requested selection. Push [ENTER/MENUE] to confirm. Push [ESC] to be back in the measuring mode.



7. AUTO OFF - function

EAoF = Enable Auto-off
dAoF = Disable Auto-off

Press [ESC/AUTO-OFF] key once. On the display appears **EAoF**. Now the instrument switch off automatically after appr. 30 minutes. Press [ESC/AUTO-OFF] key again. On the display appears **dAoF**. Now the Auto-Off-function is deactivated.

Note: After switching off and on the instrument, the Auto-Off function is automatically activated.

8. Memory setup(Lo6)

Push [ENTER/MENUE] and use the up and down keys [↑↓] to select **Lo6**. Push [ENTER/MENUE] to confirm. Use the up and down keys [↑↓] again to start **[on]** or Stop **[off]** the logger. Push [ENTER/MENUE] to confirm. Use the up and down keys [↑↓] again to select between automatic storage **[Auto]** or manually operated storage **[SPot]**. Push [ENTER/MENUE] to confirm]. Use the up and down keys [↑↓] again to select between to add on data **[Add]** and creating a new file**[nLo6]**. Push [ENTER/MENUE] to confirm]. By selected automatic storage at the end you have to select the time interval:

1 S 1 second
5 S 5 seconds
10 S 10 seconds
20 S 20 seconds
30 S 30 seconds
1 M 1 minute
2 M 2 minutes
5 M 5 minutes
10 M 10 minutes
20 M 20 minutes

By selected manually operated storage you are able to save the measurement by pressing ESC by each time.

Push [ENTER/MENUE] to confirm. Push [ESC] to revert back to the measuring mode.

V. Error codes

By displaying the following error codes the instrument support the operation of the instrument.

Error	Meaning
Open	no probe or wrong probe is connected
Hex R	environment temperature below working temperature

VI. Maintenance

- For cleaning the instrument please do not use aggressive cleanser, but use mild cleanser and afterwards wipe the instrument by a dry or wet piece of cloth.
- Please store the measuring instrument in a dry and clean place.
- Avoid any force like shocks or pressure to the instrument.
- Do not use force to stick the probe or interface plugs in. The interface plug is different from the probe plug.

VII. Guarantee

With regular use guarantee lasts 12 months for the instruments and 6 months for the probes and sensors. Opening of the instruments leads to expiration of guarantee.

III. Calibration

Despite high quality manufacturing techniques, each probe is slightly different from specified standards. To eliminate inaccuracies caused by exchanging or ageing of probes, the instrument offer easy calibration functions which guarantee that the system accuracy is always as good as if the instrument was specifically calibrated to the individual probes in our laboratory.

The instruments offer three calibration options:

1) Standard characteristic curve (e.g. Pt100-resistance according DIN IEC 751)
2) Calibration by code (2 x four digit code) is equivalent to a 2-point calibration
   The code is marked clearly by a label on each standard probe.
3) Calibration by physical standard references (1-point, 2-point or 3-point calibration)

1. calibration handling

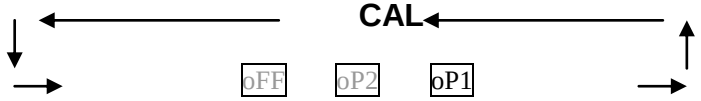
To calibrate the instrument with sensor push [ENTER/MENUE]. Use the up and down keys [↑↓] to select **CAL**. Push again [ENTER/MENUE]. On the left corner of the display appears a small **1**, which indicates the selected channel. For changing the channel use the up and down keys [↑↓]. Push [ENTER/MENUE] to confirm

1.1 Calibration by code / OP1

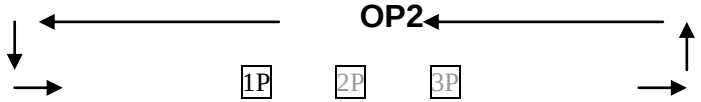
Use the up and down keys [↑↓] to select the requested calibration option. Push [ENTER/MENUE] to confirm.

Use the up and down keys [↑↓] to select **oP1**. Push [ENTER/MENUE] to confirm. On the bottom of the display appears a very small **1**, after this number a four digit number(Hex-Code/0..F) is displayed. For changing the number use the up key [↑]. For stepping to the next number use the down key [↓]. Is the requested number complete push [ENTER/MENUE] to confirm. Now on the bottom of the display appears a very small **2**, after this number a second four digit number is displayed. For changing the number please follow the manual as before. Push [ESC] to be back in the measuring mode.

Note: After confirming **oP1** by pushing [ENTER/MENUE] the function **oP1**(calibration by code) is activated, even though you leave the menu by pressing[ESC].



1.2 Physical calibration
Use the up and down keys [↑↓] to select **oP2**. Push [ENTER/MENUE] to confirm.
On the bottom of the display appears **1 P**. For changing between a 1-Point **1 P**, 2-Point **2 P** or 3-Point **3 P** - calibration use the up and down keys [↑↓].



Example of a 1-Point calibration:
Push [ENTER/MENUE] to confirm. On the display appears **Go**. After the displayed measuring value is stabile push [ENTER/MENUE]. Appr. 2 seconds later in the first display line appears **P1** (measuring value 1), in the second display line appears **dP.** (standing for decimal point).
Use the up and down keys [↑↓] to select the number of digits after decimal point.
dP. = two decimal digits
dP . = one decimal digit (decimal point is jumping one digit to the right)
Push [ENTER/MENUE] to confirm. On the second line of the display appears **Si -**.
Use up and down keys [↑↓] to select the requested sign.
Si _ = reference standard shows a negative measuring value (below 0,00C°)
Si _**I** = reference standard shows a positive measuring value (above 0,00C°)
Push [ENTER/MENUE] to confirm. On the second line of the display appears **Fd 0**.
Use up and down keys[↑↓] to select the requested range:
Fd 0 = below 100,00°C
Fd 1 = above 100,00°C
Push [ENTER/MENUE] to confirm. On the display appears **00.00**. For changing the value use the up key [↑]. For stepping to the next number use the down key [↓]. Is the requested value complete push [ENTER/MENUE] to confirm.
Push [ESC] to be back in the measuring mode.

IV. Battery check and Battery changing

1. Battery check
By showing the „BAT“ segment the instrument indicates, that the battery has to be exchanged. After showing the „BAT“ segment the instrument allows appr. 1 hour of further measuring.

2. Battery changing
The exchange of this maintenance element may only be carried out outside of the hazardous area. Take care and ensure that when changing the battery, that only those in the listed operating instructions are used. The use of any other type of battery is strictly forbidden in that it will invalidate the Ex-data certification. In order to open the battery compartment first remove the screw of the battery case. After exchanging the battery, refit and tighten the screw of the battery case in order to use the equipment in the hazardous area.
Attention: By closing the battery compartment please be attend not to damage the battery cable.