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INSTRUCTION MANUAL
PCE-TG200

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- ESC

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- Backlight Switch

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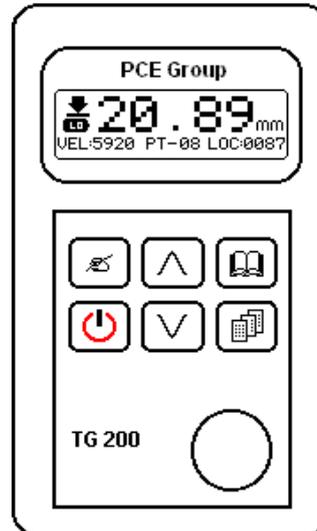
1. Switch on

Press ⏻ key to turn on the gauge. The gauge will consecutively display
- Logo
- Serial No. and software version then the gauge will enter into measuring mode and display
- 0.0mm/0.00mm(0.00IN/0.000IN depending on the last used)
- Velocity rate and selected probe
- Location Lumber

2. Backlight on / off

Press ∧ key, the backlight is on. Press ∧ key again, the backlight is off.

3. Measurement

There are three ways to go into measuring mode:
- Switch on the gauge;

- Press power key ⏻ escape from MENU;
- Measurement.

4. Calibration

When initially switch on the gauge or get an error value instead of 4.00mm (when velocity rate is 5920 m/s) if take measurement of test block attached on the gauge (which correct value should be 4.00mm) or other

standard test block, the gauge needs to be calibrated simply by pressing ∨ key. The gauge will display same information and operate according to this information, then the gauge will automatically calibrate.

5. Set-up

Press ▤ key, the gauge will display:
1. Measurement
2. Velocity Rate
3. Probe Setting
4. Resolution
5. Memory
6. Limitation
7. Average Measurement

8. Print Out
9. Default

a. Measurement
- No Contents

b. Velocity Rate

b-1. Setting velocity

- Press [⊞] key into " Setting velocity "state

- Press [∧] or [∨] to change velocity rate

- Press [⊞] to enter/confirm

b-2. Velocity measurement

- Measuring the sample which thickness is known

- Press [⊞] key into " Velocity measurement "state

- Press [∧] or [∨] to up and down the value of velocity to determine the thickness as the same as the value of sample that is measured

- Press [⊞] key again, the gauge will store the velocity rate automatically.

c. Probe Setting
The gauge provides three types of probe for user.

- Press [⊞] key into "Probe selecting" state

- Press [∧] or [∨] to select probe.
1= normal probe (PT-08)
2= small diameter probe (PT-06)
3= low frequency probe (ZT-12)
4= High Temperature probe (GT-13)

- Press [⊞] key to enter/confirm

d. Resolution
- Press [⊞] key into "Resolution" state

- Press [∧] or [∨] to select resolution and unite.
1= 0.1 mm
2= 0.01 mm
3= 0.01 IN
4= 0.001 IN

- Press [⊞] key to enter/confirm

e. Memory

e-1. Location
The gauge has a memory capacity of 4000 measurements which location can be from 0000 to 3999. After taking every measurement, press [icon] key to store the value with a location number. You can also select an initial number for beginning to store the value and the next number will be followed automatically by following measurements.

- Press [icon] key into" Location "state

- Press [∧] or [∨] to select desired number as initial location

- Press [icon] key to enter/confirm
If you want to read the stored value in memory,

Press [icon] key to read one by one data according to the above procedure, select desired initial number. Then the desired group of value can be readable beginning from this initial number.

e-2. Delete Memory

Delete the data in memory which locations are selected.

f. Limitation
- Press [icon] key into" Limitation "state

- Press [∧] or [∨] to select desired low limitation and high limitation

- Press [icon] key to enter/confirm
  When the measuring value is lower or higher than the limit value a sign "L" or "H" will appear on the right top of LCD.

g. Average Measurement
You can get mean values by 2 to 9 times on TG 200 thickness gauge

- Press [icon] key into " Average "state

- Press [∧] to select desired average times (2 to 9)

- Press [icon] key to enter/confirm
When complete measuring once, you must wait about 3 seconds, the gauge will calculate measuring data and average times will decrease 1 appearing on the right top of LCD. When average times is zero, the gauge will show the averaged value on LCD.

h. Print Out
If you want to print the stored values, you must determent the initial location number and the end location number,

- Press [icon] key into "Print" state

- Press [∧] or [∨] to select desired initial and end location number.

- Press [icon] key to enter / confirm
The gauge will print the stored value in memory from initial location number to end location number automatically.

i. Default

When you select "Default" state, the gauge will recover the default parameter.

6. Data print-out (optional)

This procedure is almost like "Print", but mini-printer replaced by PC.

- Press [ ] key into "Print" state

- Press [∧] or [∨] to select desired initial and end location number.

- Press [ ] key to enter / confirm

The stored value in memory will transfer into PC.

7. Technical data

Display unite: 128×32 LCD with backlight
Measuring rate: 2Hz
Velocity rate: 1000 ~ 9999 m/s
0.0393 ~ 0.3936 inch/µs
Measuring range: 0.65 ~ 250.0 mm
0.026 ~ 9.843 inches
Resolution: 0.1 mm 0.01 mm or 0.01 inch 0.001 inch
Tolerance: 0.65 ~ 9.99 mm±0.04 mm
10 ~ 99.99 mm ±(0.1%+0.04) mm
100 ~ 250 mm ±0.3%
Power supply: two 1.5V AAA dry cells
Size: 61×108×28 mm³ (w×h×d)
Weight: 150g with batteries
Operating temperature: -10 ºC to +50 ºC
Storage temperature: -20 ºC to +60 ºC

Probe types and measuring rang:

Standard probe: PT-08 5.0MHz measuring rang: 0.8 - 200 mm
Miniature probe: PT-06 7.5MHz measuring rang: 0.7 - 50 mm
Lowe frequency probe: ZT-12 2.0MHz measuring rang: 2.0 - 250 mm
High temperature probe: GT-13 5.0MHz measuring rang: 3.0 – 100 mm

8. Appendix
Velocity rate of various materials

Material	V (m/s)	V (in/us)
Aluminium	6400	0.252
Brass	4700	0.185
Copper	5010	0.197
Glass	5260-6120	0.207-0.241
Lucite	2680	0.105
Nickel	6040	0.237
Nylon	2730	0.103
Polyethylene	1950	0.070
Polystyrene	2350	0.092
Steel	5920	0.233
Stainless Steel	5740	0.226
Titanium	5990	0.237
Water	1490	0.059
Zinc	4210	0.165

In this direction will find a vision of the measurement technique:
http://www.industrial-needs.com/measuring-instruments.htm

NOTE: "This instrument doesn't have ATEX protection, so it should not be used in potentially explosive atmospheres (powder, flammable gases)."