



ADA INSTRUMENTS TemPro 550 Infrared Thermometer User Manual

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ADA INSTRUMENTS TemPro 550 Infrared Thermometer

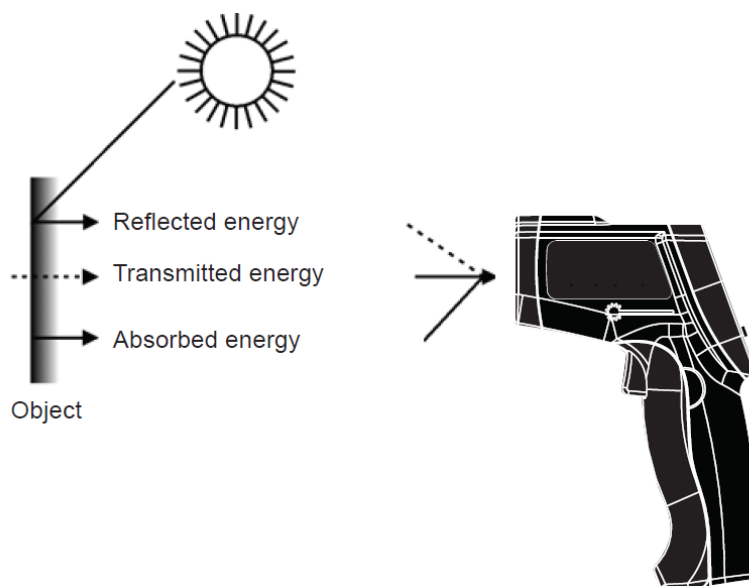


Review

TemPro 550 is IR Thermometer for non-contact temperature measurements at the touch of button. The built-in laser pointer increases target accuracy while the backlight LCD and handy push-buttons combine for convenient, ergonomic operation. TemPro 550 can be used to measure the temperature of objects' surface that is improper to be measured by traditional (contact) thermometer (such as moving object, the surface with electricity current or the objects which are uneasy to be touched).

Measurement considerations

Holding the meter by its handle, point the IR Sensor toward the object whose temperature is to be measured. The meter automatically compensates for temperature deviations from ambient temperature. Infrared thermometers measure the surface temperature of an object. The unit's optics sense emitted, reflected, and transmitted energy, which is collected and focused onto detector. The unit's electronics translate the information into a temperature reading, which is displayed on the unit. The laser is used for aiming purposes only.



Complete set

- Thermometer TemPro 550 Battery 9V
- Plastic blister
- Operating manual

Technical data

Functions

- Rapid detection function
- Precise non-contact measurements
- Built-in laser sighting
- Unique flat surface, modern housing design Automatic Data Hold
- Backlight LCD display
- Low battery indicator

Specifications

IR temperature range	-50°C to +550°C
Optical resolution, D:S	12:1
Resolution	0.1°C
Accuracy	±1,5°C at 0<t≤550°C ±3°C at t≤0°C

Response time	0.5 sec.
Spectral response, um	8 ~ 14
Emissivity	0.95
Backlight	yes
Data hold	yes

Working temperature/relative humidity	0..40°C / 10-95% at 30°C
Power supply	9V (krona)
Dimensions, mm	175x100x49
Weight, gr	130

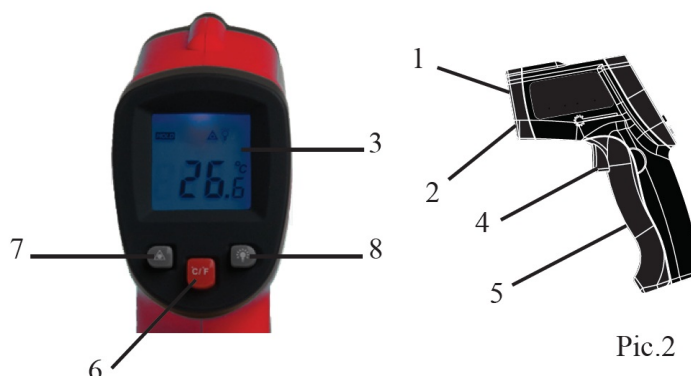
Safety requirements

Inaccurate readings will result from measuring shiny or polished metal surfaces (stainless steel, aluminum, etc.). To compensate, cover the measuring surface with masking tape or flat black paint. Allow time for the tape to reach the same temperature as the material under it. Measure the temperature of the tape or painted surface. The unit cannot measure through transparent surfaces such as glass. It will measure the surface temperature of the glass instead. Steam, dust, smoke, etc., can prevent accurate measurement by obstructing the unit's optics. Make sure that the target is larger than the unit's spot size. The smaller the target, the closer you should be to it. When accuracy is critical, make sure the target is at least twice as large as the spot size.

DESCRIPTION OF THE INSTRUMENT

Features (Pic.2)

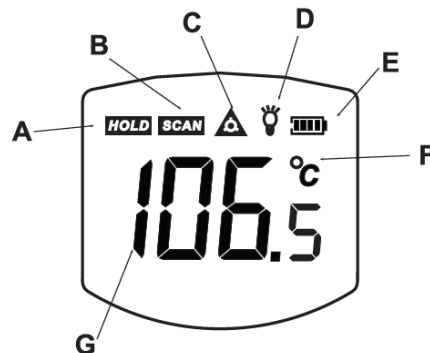
- Laser pointer
- IR sensor
- LCD display MEASUREMENT trigger Battery compartment
- °C/°F button
- Laser pointer On/Off button Backlight On/Off button



Pic.2

LCD display (Pic.3)

1. Data hold icon (HOLD) B – Scanning icon (SCAN) C – Laser “ON” icon
2. Backlight ON icon
3. Low power symbol
4. °C/°F symbol
5. Current temperature value



Pic.3

Operation

• Preparation before operation

- Read the operating manual before use the instrument.
- Take the instrument out of case.
- Open battery cover and put 9V battery.

• Thermometer On/Off

Pull and hold the trigger (4) to turn the meter on and begin testing. The display will light if the battery is good. Replace the battery if the display does not light. The meter will automatically power down after approximately 20 seconds after the trigger is released.

• °C/°F

To choose the measuring unit press button (6).

• EMS adjustment

The emissivity (EMS) – 0.95. To obtain more accurate values see appendix 1.

• Laser pointer

Laser pointer is on when you turn on the unit. To turn off the laser pointer, press button (7) LASER.

• Backlight

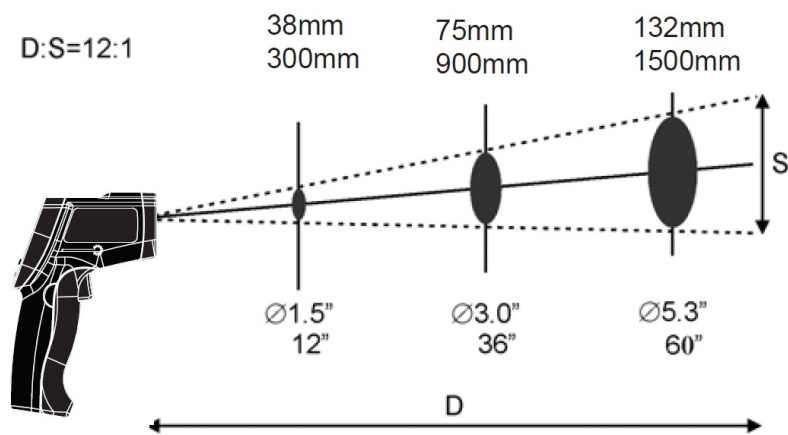
Backlight is on when you turn on the unit. To turn off the backlight, press button (8) BACKLIT.

• Measurement operation

Hold the meter by its handle grip and point it towards the surface to be measured. Pull and hold the trigger (4) to turn the meter on and begin testing. Release the trigger (4) and HOLD display icon will appear on display indicating that the reading is being held.

• Distance to spot size

When take measurement, pay attention to the Distance to Spot Size. As the Distance (D) from the target surface increases, the spot size (S) of the area measured by the unit becomes larger. The Distance to Spot size of the unit is 12:1. This unit is equipped with a laser, which is used for aiming.



Pic.4

Maintenance

The maintenance of the thermometer includes the replacement of power supply, cleaning the unit with dry cloth and also debugging. Periodically, one time per year it is necessary to check settings in authorized service center.

Specific reasons of instrument malfunctions

Malfunction	Possible reason of malfunction	Way of debugging
After pressing and holding the button MEASUREMENT (5) the instrument doesn't turn on.	<ol style="list-style-type: none"> 1. Fully discharged battery 2. Bad contact of battery and jack of the thermometer 3. Broken jack wire in battery compartment 	Change battery Recover contacts Recover power lead

Contact with authorized service center if you have another malfunctions.

Storage and transportation

- Storage and transportation of the instrument should be only in case.
- Take out the battery if you are not going to use the instrument for a long time.
- Don't expose the instrument to mechanical effects (heating, hits, strong vibrations, humidity, dust).
- Store the instrument in normal conditions (temperature/humidity).

WARRANTY

- This product is warranted by the manufacturer to the original purchaser to be free from defects in material and workmanship under normal use for a period of two (2) years from the date of purchase.
- During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or similar model at manufacturer's option), without charge for either parts or labor.
In case of a defect please contact the dealer where you originally purchased this product. The warranty will not apply to this product if it has been misused, abused or altered.
- Without limiting the foregoing, leakage of the battery, bending or dropping the unit are presumed to be defects

resulting from misuse or abuse.

EXCEPTIONS FROM RESPONSIBILITY

- The user of this product is expected to follow the instructions given in operators' manual.
- Although all instruments left our warehouse in perfect condition and adjustment the user is expected to carry out periodic checks of the product's accuracy and general performance.
- The manufacturer, or its representatives, assumes no responsibility of results of a faulty or intentional usage or misuse including any direct, indirect, consequential damage, and loss of profits.
- The manufacturer, or its representatives, assumes no responsibility for consequential damage, and loss of profits by any disaster (earthquake, storm, flood ...), fire, accident, or an act of a third party and/or a usage in other than usual conditions.
- The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits due to a change of data, loss of data and interruption of business etc., caused by using the product or an unusable product.
- The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage other than explained in the users' manual.
- The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement or action due to connecting with other products.

WARRANTY CARD

- Name and model of the product
- Serial number
- date of sale
- Name of commercial organization
- stamp of commercial organization

Warranty period for the instrument exploration is 24 months after the date of original retail purchase. It extends to the equipment, imported on the RF territory by official importer.

During this warranty period the owner of the product has the right for free repair of his instrument in case of manufacturing defects. Warranty is valid only with original warranty card, fully and clear filled (stamp or mark of thru seller is obligatory). Technical examination of instruments for fault identification which is under the warranty, is made only in the authorized service center. In no event shall manufacturer be liable before the client for direct or consequential damages, loss of profit or any other damage which occur in the result of the instrument outage. The product is received in the state of operability, without any visible damages, in full completeness. It is tested in my presence. I have no complaints to the product quality. I am familiar with the conditions of warranty service and i agree.

- purchaser signature

Before operating you should read service instruction!

If you have any questions about the warranty service and technical support contact seller of this product

WARRANTY DOESN'T EXTEND TO FOLLOWING CASES:

- If the standard or serial product number will be changed, erased, removed or will be unreadable.

- Periodic maintenance, repair or changing parts as a result of their normal runout.
- All adaptations and modifications with the purpose of improvement and expansion of normal sphere of product application, mentioned in the service instruction, without tentative written agreement of the expert provider.
- Service by anyone other than an authorized service center.
- Damage to products or parts caused by misuse, including, without limitation, misapplication or negligence of the terms of service instruction.
- Power supply units, chargers, accessories, wearing parts.
- Products, damaged from mishandling, faulty adjustment, maintenance with low-quality and non-standard materials, presence of any liquids and foreign objects inside the product.
- Acts of God and/or actions of third persons.
- In case of unwarranted repair till the end of warranty period because of damages during the operation of the product, it's transportation and storing, warranty doesn't resume.

Appendix 1

Emessivity table (ET) Material

Aluminum: Temperature °C Radiation ET

- Aluminum: 220...520 0,008-0,062
 - oxidized 87...520 0,02-0,33
 - foil 100...30 0,04...0,03
- Asbestos paper 40...370 0.93...0.95
- Asbestos board 25...30 0.94...0.96
- Slate 20 0.96
- Asphalt 25...30 0.95
- Paper:
 - white 20 0.70...0.90
 - yellow 0.72
 - red 0.76
 - green 0.85
 - blue 0.84
 - black 0.90
 - covered with black lacquer 0.93
 - black dull 0.94
 - thin, stocked on the metals 19 0.924
- Dressed birch 25...30 0.92
- Concrete 20 0.92
- Bronze:
 - aluminum 177...1000 0,03-0,06
 - oxidized 177...1000 0,08-0,16
- Paper cardboard different kinds 25...30 0.89...0.93
- Tungsten: 120-500- 0,039-0,081-
- 1700-3100 0,249-0,345

- 920-1500- 0,116-0,201 -2000-2700 0,247-0,312
- Gypsum 20 0.8...0.9
- Alumina 25...30 0.96
- Porcelain 70 0.91
- Graphite 900-2900 0,77-0,83
- Wood : – white, raw 20 0.7...0.8
 - dressed 20 0.8...0.9
 - ground 0.5...0.7
- Saw dust of conifers 25...30 0.96
- Duralumin D 16220-620 0,016-0,03
- Lime 0.3...0.4
- Silica sand 25...30 0.93
- Kerosene 25...30 0,96
- Brick :
 - fireproof, weak radiant 500...1000 0.65...0.75
 - fireproof, strong radiant 500...1000 0.8...0.9
 - chamotte brick, glazed 20 0.85
 - the same (55 % SiO , 41 % Al O) 1100 0.75
 - the same (55 % SiO , 41 % Al O) 1230 0.59
 - silica, fireproof 1000 0.66
 - Unglazed, rough 1000 0.80
 - Glazed, rough 1100 0.85
 - red, rough 20 0.88...0.93
 - fibrolite (33%SiO, 64%Al O) 1500 0.29
 - fireproof, corundum 1000 0.46
 - fireproof, magnesite 1000...1300 0.38
 - the same (80% MgO, 9% Al O) 1500 0.39
 - silicate (95% SiO) 1230 0.66
- Plastered brickwork 20 0.94
- Human skin 36 0.98
- Tanned skin 0.75...0.80
- Paint :
 - oil, different colors 100 0.92...0.96
 - cobalt, blue 0.70...0.80
 - cadmium, yellow 0.28...0.33
 - chrome, green 0.65...0.70
 - aluminum, after heating 150...315 0.35
- Lacquer:
 - black, dull 40...95 0.96...0.98
 - black, bright, on metal 25 0.88
 - white 40...100 0.80...0.95
 - white, enamel on metal 23 0.906
 - Bakelite 80 0.93

- aluminum 20 0.39
- fireproof 100 0.92
- Brass :
 - polished 0.05
 - polished, very good 220-330 0,02
 - in composition – 73.2% Cu, 26.7% Zn 245...355 0.028..0.031
 - in composition – 73.2% Cu, 26.7% Zn 200 0.03
 - sheet, rolled 22-100
 - sheet, finished with emery 22 0.20
- Tin: 30-90 H 0,05
 - bright 25 N 0.043...0.064
- Perm alloy oxidized 20 N 0.11...0.03
- Foam plastic 20 N 0.60...0.05
- Plastic 20 N 0.68...0.02
- Bank sand clean 25...30 N 0.95
- Plexiglass 25...30 N 0.95
- Rubber soft, grey, rough 24 N 0,86
- Mercury clean 0-100 N 0,09-0,12
- Ruberoid 20 N 0.93
- Granulated sugar 25...30 N 0.97
- Lead : 30-260 H 0,04-0,08
 - bright 250 N 0.08
 - grey, oxidized 0-200 H 0.28
 - oxidized at heating 200 H 0,63
- Silver: 170-830 H 0,012-0,046
 - clean polished 225...625 N 0.0198-0.0324
- Mica :
 - thick layer N 0.72
 - in powder, agglomerated N 0.81...0.85 in silicate
- Resin N 0.79...0.84
- Ice -10 0.80...0.85
- Carbon steel: 170-1130 H 0,06-0,31
 - rolled 50 N 0.56
 - ground 940...1100 N 0.52...0.61
 - with rough surface 50 N 0.95...0.98
 - rusty, red 20 N 0.59
 - zincd 20 N 0.28
 - alloy (8% Ni ; 18% Cr) 500 N 0.35
- Stainless steel:
 - polished 25...30 N 0.13
 - after sandblast 700 N 0.70
 - after rolling 700 N 0.45
 - oxidized at 600°C 200...600 N 0.79

- oxidized, rough 40...370 N 0.94...0.97
- Glass window 25...30 N 0.91
- 22...100 N 0.94...0.91
- Glass 250...1000 N 0.87...0.72
- 1100...1500 N 0.70...0.67
- Opal glass 20 N 0.96
- Table salt technical 25...30 N 0.96
- ethyl alcohol 25...30 N 0.89
- Broadcloth 20 N 0.98
- Text Olite 20 N 0.93 0.02
- 200 N 0.15
- Titanium polished 500 N 0.20
- 1000 N 0.36
- 200 N 0.40
- Titanium, oxidized 500 N 0.50
- 1000 N 0.60
- Fabric :
 - asbestos N 0.78
- White china, bright N 0.70...0.75
- Glazed china 22 N 0.92
- Fiber 25...30 N 0.93
- Fluoroplastic 20 N 0.95 0.02
- Raw cotton different humidity 25...30 N 0.93...0.96
- Unpolished chrome 38...538 N 0.08...0.26
- Polished chrome 50 N 0.08...0.10
- Polished chrome 500...1000 N 0.28...0.38
- Chromium-nickel 52...1035 N 0.64...0.76
- Cement 25...30 N 0.93
- Zink: 30-260 N 0,02-0,06
- oxidized 30-200-530 N 0,28-0,14-0,11
- Cast iron :
 - turned 830...990 N 0.60...0.70
 - oxidized at heating 200...600 N 0.64...0.78
 - rough, oxidized 40...250 N 0.95
- Iron casting 50 N 0.81
- Pig iron 1000 N 0.95
- Black shellac, bright on metal 21 N 0.82
- 0...100 N 0.97...0.93
- Cinder 200...300 N 0.89...0.78
- 600...1200 N 0.76...0.70
- 1400...1800 N 0.69...0.67
- Plaster rough,
- lime 10...90 N 0.91

- Ebonite N 0.89
- Enamel white 20 N 0.90
- Barley, millet, maize 25...30 N 0.95


Note:

1. N – radiation towards в направлении normal.
2. H – radiation in the range of hemisphere.
3. Linear interpolation between points is rather accurate.
4. Source: reference books

Certificate of acceptance and sale

		No
name and model of the instrument		
Corresponds to		
designation of standard and technical requirements		
Data of issue		
Stamp of quality control department		
Price		
Sold	Date of sale	
name of commercial establishment		

Documents / Resources

	<p>ADA INSTRUMENTS TemPro 550 Infrared Thermometer [pdf] User Manual TemPro 550, Infrared Thermometer, TemPro 550 Infrared Thermometer</p>
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References

-  [ADA Instruments](#)
-  [ADA Instruments](#)