

JBC

www.jbctools.com

INSTRUCTION MANUAL



TID

Digital Thermometer

This manual corresponds to the following reference:

TID-B

Packing List

The following items are included:



TID Console 1 unit



TID Sensor 1 unit



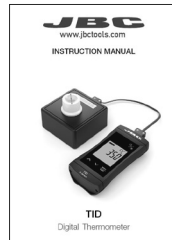
Thermocouple Cable 1 unit
Ref. 0014848

includes:
TID Thermocouple Sensor Type K
Ref. STD-A

TID Sensor Stand
Ref. 0014847



Case 1 unit
Ref. 0014853



Manual 1 unit
Ref. 0028993

Features and Connections

TID Digital Thermometer comes with a handy case. The case is designed to be used with TID inside. There is no need to take the console and the sensor out to work with, but it is possible if desired.



Alternatively:

PH218*

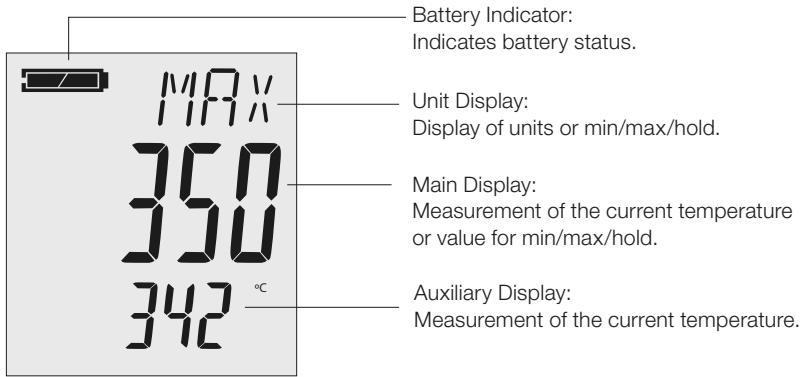
Thermocouple Type K

(Reads temperature on a specific point of the PCB)



* Not included, sold separately

LCD Display



Operating Buttons

On / Off Button

One-click: Switch on the device or activate / deactivate lighting

Long press: Switch off the device

Up / Down Buttons

One-click: Display of the min/max value

Long press: Reset the min/max value of the current measurement




Both simultaneously: Rotate display, overhead display

Function Button

One-click: "Hold measurement" function

Long press, 2s: Open configuration menu (ONF appears in the display)

Configuration Menu

Press  for 2 seconds to open the configuration menu; when “ConF” appears in the display, release the menu button. Use  and  to modify the parameter values.

Parameter	Description	Details
PoFF	Shut-off time	No automatic shut-off; indicated by “oFF”. Automatic shut-off after a selected time in hours:minutes, during which no buttons have been pressed. For example 1:15 (1 hour, 15 minutes).
LitE	Backlight	Backlight deactivated; indicated by “oFF”. Automatic shut-off of the backlight after a selected time in minutes:seconds, during which no buttons have been pressed. For example 0:30 (0 minutes, 30 seconds). No automatic shut off of the backlight; enter value “on”.
Unit	Display unit	Temperature display in °C; enter value “°C”. Temperature display in °F; enter value “°F”.
Init	Factory settings	Use current configuration; enter value “no”. Reset device to factory settings; enter value “YES”. After confirming with the menu button, the display shows: “Init done”.

Measuring Input Adjustment

It is possible to adjust the temperature input through a zero point correction and a gradient/slope correction. To do so, follow these steps:

Adjustment process:

Required additional equipment: Thermocouple signal simulator (TSS) (not supplied by JBC)

Temperature unit = °C

The adjustment process is carried out in 2 separate steps:

- 1. Zero point adjustment: At 0 °C*
- 2. Gradient/Slope adjustment: At measurable reference temperature*

Setup:

1. Switch on the TID console accessing the Adjustment menu: press and hold the Down button and press briefly the On/Off button.
2. Set the values of **t.oF** and **t.SL** to "0.0".
3. Exit the Adjustment menu.
4. Connect the TSS to the TID console.

Zero point adjustment:

1. Source a temperature signal of 0 °C on the TSS.
2. Enter the Adjustment menu and set the value of **t.oF** at 0 °C
3. Press Menu/Enter to exit the Adjustment menu.

The device should now display "0.0 °C".

Gradient/Slope adjustment:

1. Switch on the device normally.
2. Source a reference temperature signal different from 0 °C (for example, 50 °C) on the TSS.

3. Calculate the gradient/slope correction:

$$t.SL = \left(\frac{\text{reference temperature}}{\text{displayed value}} - 1 \right) \times 100$$

4. Access the Adjustment menu and enter the calculated value for **t.SL**.
5. Exit the adjustment menu.

The device should now display the reference temperature.

Formula used:

- Temperature unit = °C

$$\text{Displayed value} = (\text{measured value} - \text{t.oF}) * (1 + \text{t.SL} / 100)$$

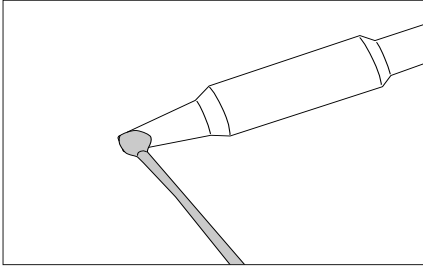
- Temperature unit = °F

$$\text{Displayed value} = (\text{measured value} - 32 \text{ °F} - \text{t.oF}) * (1 + \text{t.SL} / 100) + 32 \text{ °F}$$

Parameter	Description	Adjustment
t.oF	Zero point correction	<ul style="list-style-type: none"> - Set the value to "0.0" for no zero point correction. - Set a different value ranging from "-5.0" to "5.0" as the zero point correction in °C (from "-9.0" to "9.0" °F).
t.SL	Gradient/Slope correction	<ul style="list-style-type: none"> - Set the value to "0.0" for no gradient/slope correction of the temperature. - Set a different value ranging from "-5.00" to "5.00" for the gradient/slope correction in percentage.

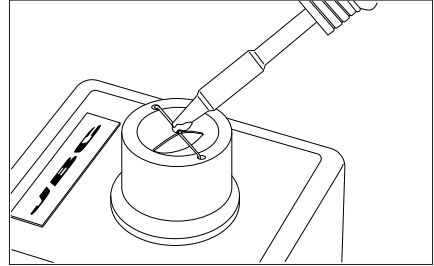
Operation

Solder Application



The soldering tip must be properly tinned before taking a measurement.

Measure Tip Temperature



1. Place the soldering tip in the centre of the sensor as when soldering.
2. Wait until the temperature measurement stabilizes.

Battery

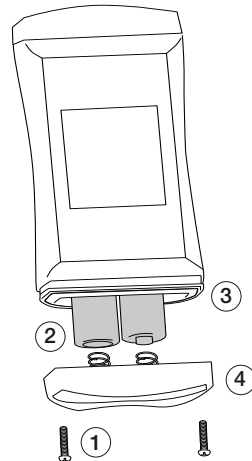
Battery Indicator

If the empty battery sign blinks in the display, the batteries must be replaced. However, the device will still operate for a certain time.

If the BAT display text appears in the main display, the battery voltage is no longer adequate for device operation. The battery has to be changed to use the device.

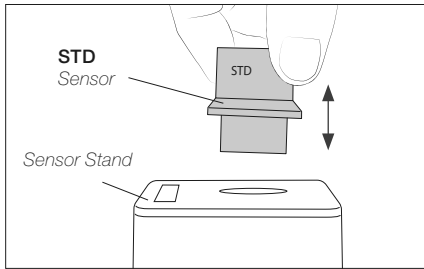
Changing the Batteries

1. Unscrews the Phillips screws and remove the cover.
2. Replace the two AA batteries. Make sure that the polarity is correct. It must be possible to insert the batteries in the correct position without using force.
3. Ensure the O-ring is undamaged, clean and positioned at the intended depth.
4. Fit the cover on evenly. The O-ring must remain at the intended depth.
5. Re-tighten the Phillips screws.



Note: If TID is not used for an extended period of time, the batteries must be removed. This will prevent the batteries from leaking.

Changing the Sensor



The STD sensor might become worn and need replacing.

1. Pull the STD sensor vertically out of its stand.
2. Replace the worn sensor with a new one.
3. Assemble the new sensor to the sensor stand by pressing it down into the stand.

Error Messages

Display	Meaning	Possible Causes	Remedy
bAt	Battery empty.	Battery empty.	Replace battery.
Err.1	Measuring range exceeded.	Measurement too high.	Stay within allowable measurement range.
		Incorrect measuring probe connected.	Check TC type.
		Measuring probe or device defect.	Contact with technical service.
Err.2	Measuring range is undercut.	Measurement too low.	Stay within allowable measurement range.
		Incorrect measuring probe connected.	Check TC type.
		Measuring probe or device defect.	Contact with technical service.
SYS Err	System error.	Error in the device.	Switch device on/off. Replace batteries and restart the device.

Note:

If problem is not solved, contact with JBC's Technical Support at: www.jbctools.com/contact-us

Maintenance

- Before carrying out maintenance or storage, always allow the equipment to cool down.
- Check periodically that the sensor is clean.
- Use a damp cloth when cleaning. Alcohol can only be used to clean the metal parts.
- Unnecessary unscrewing endangers the protection against moisture and should therefore be avoided.
- Replace any defective or damaged parts. Use original JBC spare parts only.
- Repairs should only be performed by a JBC authorized technical service.

Batteries

- If the device is not used for a long period of time, the batteries must be removed to avoid leaking.
- If the batteries have different charge levels, they may leak and damage the device.
- Do not use different types of batteries.
- Only use high-quality and suitable alkaline batteries.
- Remove depleted batteries immediately and dispose of them at a suitable collection
- Using damaged or unsuitable batteries can generate heat, which can cause the batteries to crack and possibly explode. ⚠ Danger of explosion!

Safety



It is imperative to follow safety guidelines to prevent electric shock, injury, fire or explosion.

This device has been designed and tested in accordance with the safety regulations for electronic devices.

However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advice in this manual is complied with during use.

- Trouble-free operation and reliability of the device can only be guaranteed if it is not subjected to any other climatic conditions than those stated under "Specification".
If the device is transported from a cold to a warm environment, condensation may result in failure. Should this occur, make sure the temperature of the device has readjusted to the ambient temperature before trying a new start-up.
- If the digital thermometer is connected to other devices, the circuitry must be carefully designed. Internal connection to other apparatus (e.g. connection GND/earth) may result in high voltages which will damage the device(s).
- If there is any risk during use, the device must be switched off immediately and marked accordingly to avoid being used again.
- Operator safety may be at risk if there is visible damage to the device, the device is not working as specified or the device has been stored under unsuitable conditions for a long time.
If in doubt, please return the device to the manufacturer for repair or maintenance.
- For professional use. Only used by authorised personnel.

Warning

- Do not use this product as a safety or emergency stop device, or in any other application where failure of the product could result in personal injury or material damage.
- Do not use the units for any purpose other than measuring cartridge tip temperature.

Working recommendations

- Use a "non residue" classified flux and avoid contact with skin or eyes to prevent irritation.
- Be careful with the remains of liquid tin. In contact with skin, it can cause burns.
- Be careful with the fumes produced when melting soldering.
- Keep your workplace clean and tidy. Wear appropriate protection glasses and gloves when working to avoid personal harm.

Specifications

TID

Digital Thermometer

Ref. TID-B

- Measuring
 - Measuring Range: -65 to +1200 °C / -85 to +2192 °F
 - Accuracy: ± 0.1 % of measuring value ± 0.1 % full scale
 - Cold Junction Compensation: ± 0.3 °C
 - Temperature Drift: ± 0.01 % of measuring value/K
 ± 0.025 °C/K
 - Measuring Frequency: 3 measurings per second
- Sensor Connection: Thermocouple Type K
- Operating Conditions: -25 to 50 °C / -13 to 122 °F
0 to 80 %RH (non-condensing)
- Storage Temperature: -25 to 70 °C / -13 to 158 °F
- Power Supply
 - Batteries: 2x AA
 - Power Requirements: approx. 1mA, approx. 3mA with backlight
 - Battery Life: Service life > 2500h with alkaline batteries
(without backlight)
 - Battery Indicator: 4-stage battery status indicator
Replacement indicator "BAT"
- Console Dimensions / Weight: 125 g / 0.28 lb (incl. batteries)
(L x W x H) 108 x 54 x 28 mm / 4.25 x 2.13 x 1.10 in
- Total Net Weight: 766 g / 1.69 lb
- Package Dimensions / Weight: 1276 g / 2.81 lb
(L x W x H) 280 x 280 x 164 mm / 11.02 x 11.02 x 6.46 in

JBC

Warranty

JBC's 2 year warranty covers this equipment against all manufacturing defects, including the replacement of defective parts and labor.

Warranty does not cover product wear or misuse.

In order for the warranty to be valid, equipment must be returned, postage paid, to the dealer where it was purchased.



This product should not be thrown in the garbage.

In accordance with the European directive 2012/19/EU, electronic equipment at the end of its life must be collected and returned to an authorized recycling facility.



www.jbctools.com

00288993-021225