Operating Manual
Infrared Calibrator
DX-500

Infrared calibrator
Iran Tehran
Tel.: +982166151325
Mobile:+989935429232
Fax: +982166151325
www.dkdlab.ir

INDEX

WARNING

Hazardous voltages are present in this electrical equipment during operation.
Non-observance of the safety instruction can result in severe personal injury or propertydamage.
Only qualified personnel should work on or around this equipment after becoming familiar with all warnings, safety notices, and maintenance procedures contained herein.
Only qualified personnel or our personnel should work on this equipment for maintenanceoperation.
The successful and safe operation of this equipment is dependant on proper handing,operation and maintenance

1 - INTRODUCTION

1.1 - Purpose and summary of instructions

This manual contains the use and maintenance instructions valid for the following equipment:
Portable Temperature Calibrator model: **DX-500**
The instructions reported in this manual, for the above-mentioned equipment, are those relevant to:

- Start-up preparation
- Operation description
- Using of the equipment
- Re-calibration procedure
- Preventive maintenance
- Typical faults and their remedies

Users must observe all the usual safety rules out in this manual for own security and to avoid equipment failure.

2 - SCOPE OF SUPPLY

2.1 - Name:

Portable Temperature Calibrator **DX-500**

2.2 - Technical data:

Operative range : Environment ÷ +500°C.

- Stability : ±0.1°C a 500°C **.
- Display resolution : 0.1°C
- Reading accuracy : ±0.1°C ±0.1 digit a 500°C.
- Target Emissivity : 0.95
- Target size : 2.25'' (57mm)
- Probe : Tc
- Maximum ascent rate : (22 minutes from ambient to 500°C)
- Maximum descent rate : (50 minutes from 500°C to 100°C)
- Power supply : 220AC
- Power : 300W

• Size : 180mm*114mm*233mm

• Package size : 200x140xh250mm

• Weight of calibrator : 2.5Kg

• Weight with package : 4 kg

NOTE: The data marked with ** has been recorded at an ambient temperature of 20°C±3, power
supply 220V±10%, with Tc type K ø 3mm inserted in the block.
The technical dates are valid one year after the emission of the test report; after this period proceed to calibration of the over.

2.3 - Service (function):

The portable temperature calibrator **DX-500** has been designed for:

• Control and calibration of temperature sensors, in the laboratory

2.4 - Quantity:

1 piece.

2.5 - Constructor:

Danesh kian daghigh (Dkd) Iran Tehran. www.dkdlab.com

3 - GENERAL RECOMMENDATIONS

contact our technical office.
Don’t change these parameters to avoid malfunction or breaking of the calibrator with risks
of serious personal injury.

4 - SAFETY INSTRUCTIONS

ATTENTION:

• Due to the fact that the calibrator is a portable instrument to be used in the field, it is very important to ensure that the socket has been earthen correctly when connecting it to the electricity supply.

• Carry out the maintenance and repair operation only with the equipment at ambient temperature and disconnect the electrical cable

• During the use of the calibrator, the upper protection grid may overheat.

• Don't touch the probe to calibrate when it's in the block.

• After using wait for the stabilisation at ambient temperature before returning the calibrator to its carrying case. Don't switch off the calibrator when it works at high temperature because the protection grid and the carpentry may overheat

• Never put any type of liquid inside the block.

• Don't change absolutely the configuration parameters.

• Don't put anything on the top of the calibrator.

• Don't put fuel object near the calibrator.

..... use common sense any time.

5 - PREPARATION OF OPERATION

• Remove the calibrator from the packaging and place it on a flat surface.

• Make sure that the instrument has been correctly earthen.

• Supply the oven with line 220V AC

• Before start the calibration read with attention the instruction manual, specially the paragraph 3: - General recommendation

5.1 – Installation

5.1.1 - Removal of packaging

The calibrator is equipped with packaging suitable for transport and traditional shipping systems.
Any damage caused during transport must be notified immediately to the carrier and a claim must be made.

5.1.2 - Positioning the calibrator

Position the calibrator in a safe clean place; leave enough space around the calibrator to allow the
air to circulate well.
****DANGER**: The calibrator is suitable for operating at high temperatures with the consequent danger of fire. Keep it away from any type of inflammable materials and never put
any type of liquid inside the block (reference to paragraph 4).
* **WARNING**: To avoid any smell in the room it is better to switch on the calibrator outside the room for the first time

5.1.3 – Supply: 220V AC

6 - OPERATION PROCEDURE

6.1 - Operation description

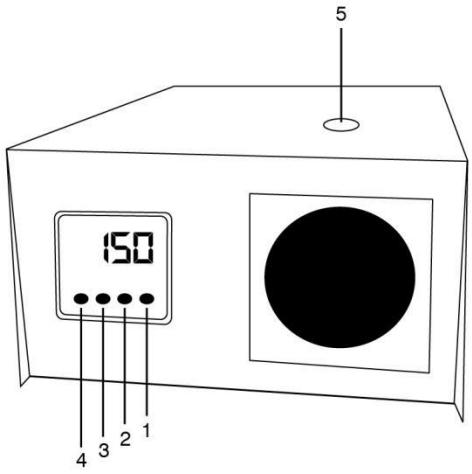
The **DX-500** calibrator consist of a metal dry the
inserts available for almost any sensor size to be calibrated, are inserted.
A heater element heats the block and an electronic μcontroller with static relay output check sandregulates the temperature.
A fan mounted in the central side generates a constant airflow that reduces the temperature of the case

6.2 - Description of instrument

The thermo regulator, which can be set from 0 to 500°C. The display
indicates the temperature and the Set point

•Display: Displays the measured temperature on the block, the selected setpoint and the set parameters.

6.2.1 - Thermo regulator



COMMANDS LIST

POS DESCRIPTION

1 Press the ▲ key to increment the set point value.

2 Press the ▼ key to decrement the set point value.

3 Press the « to select the digit to change.

4 Press once to go to next parameter

5 Sensor location for calibration

Keys

Key	Name	Overview	Description
	Level Key	Selects the setting level. The next setting level depends on how long the key is pressed.	• In Operation Level ◦ Press once for less than 1 second to go to Adjustment Level. ◦ Press for at least 3 seconds to go to Initial Setting Level. • In Adjustment Level ◦ Press once for less than 1 second to go to Operation Level. ◦ Press for at least 3 seconds to go to Initial Setting Level. • In Initial Setting Level ◦ Press for at least 1 second to go to Operation Level. ◦ Display *AMoV* (Move to Advanced Function Setting Level) and then enter –169 to go to Advanced Function Setting Level.
	Mode Key	Changes the parameter that is displayed within a setting level.	• Press once to go to the next parameter. • Hold to go to the previous parameter.
	Down Key and Up Key	Set the value.	• Hold the key to increment or decrement the value quickly. • Any changes in settings are applied at the following times: ◦ After 3 seconds elapse ◦ When the Key is pressed ◦ When the level is changed with the Key
	Shift Key (PF Key)	Operates as a user-defined function key.	• Press the to select the digit to change. You can change the PF Setting parameter to assign any of the following functions. • Press the Key for at least 1 second and then specify one of the following functions: RUN/STOP, automanual, autotuning, or canceling an alarm latch The PF Key operates as a Digit Shift Key by default. Example: If you set the PF Setting parameter to STOP, operation will stop when you press the PF Key for at least 1 second.

6.2.2 - Heating resistance

The resistance is stainless steel made; the max. power is 300W. and it can reach temperatures approaching 500°C.

Bear in mind, however, that constant use at extreme temperatures reduces the life of the resistance itself. Limit the number of hours at which the resistance is used at maximum temperatures to the time required by the calibrator in order to prolong the life of the resistance.

www.dkdlab.com