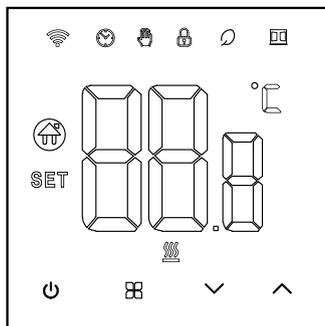# terneo

Technical data sheet,
installation and operation manual

Wi-Fi thermostat terneo nx, terneo nx black
is used for electric heating, works with Tuya App

APPLICATION

Please read this document in its entirety before installing and using the thermostat. This will help you to avoid possible hazards, errors, and misunderstandings.

The ambient temperature during installation should be within –5...+45 °C. When installing in a bathroom, toilet, kitchen, or pool, place the thermostat in a location not exposed to accidental splashes. Minimize the risk of moisture and liquids entering the installation area.

Recommendations for connecting loads more then 10 A

The terneo thermostat may not handle a current of 16 A and could overheat in the presence of unfavorable factors such as poor heat dissipation from the socket, high ambient temperature, or poor installation quality. We guarantee stable operation of the thermostat with a current up to 10 A. If the current exceeds 10 A, we recommend connecting the heating cable through a contactor (magnetic starter) rated for the required current. To protect against short circuits, install an automatic circuit breaker (CB) with a rating of up to 16 A in the phase wire break before the thermostat.

The terminals of the thermostat are designed for wires with a cross-section of no more than 2.5 mm². It is recommended to use soft copper wire, which can be tightened in the terminals using a screwdriver with a blade width not exceeding 3 mm and a torque of 0.5 N·m. The use of aluminum is not desirable. A screwdriver with a blade width greater than 3 mm may cause mechanical damage to the terminals, which can result in the loss of warranty service rights.

IN THE BOX

Thermostat	1 piece
Technical data sheet and installation and operation manual and warranty card	1 piece
Temperature sensor with connected wire	1 piece
Screws	1 piece

TECHNICAL DATA

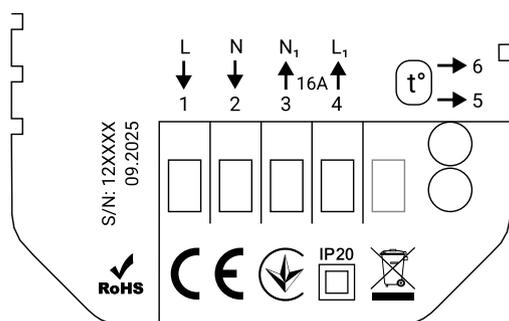|	
Temperature setting range	15...95 °C
Floor temperature limit range	25...95 °C
Temperature sensor	NTC 10 kOhm
Temperature hysteresis	0,5...10 °C
Working environment	–5...50 °C
Self-consumption power	<1 W
Load current	16 A
Input voltage	230 V ~ 50/60 Hz
Weight in the complete set	0,23 kg ±10 %
Overall dimensions (w x h x d)	103 x 96 x 66 mm

ELECTRICAL CONNECTION DIAGRAM

The supply voltage (AC 100–240 V, 50 Hz) is connected to terminals 1 (L) та 2 (N). The line (L) is connected to terminals 1, the neutral (N) — to terminals 2.

Load (max 16A) is connected to terminals 3 (N, neutral) and 4 (L, line).

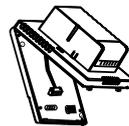The temperature sensor (NTC) is connected to terminals 5 and 6. Wire colors do not matter during connection.
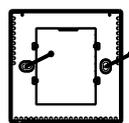
INSTALLATION

1. Make a hole in the wall with a diameter of 60 mm and 45 mm deep for the mounting box and channels for power supply and sensor wires.
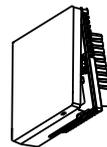2. Bring the heating system power and sensor wires to the mounting box.

3. Connect the thermostat according to the connection diagram

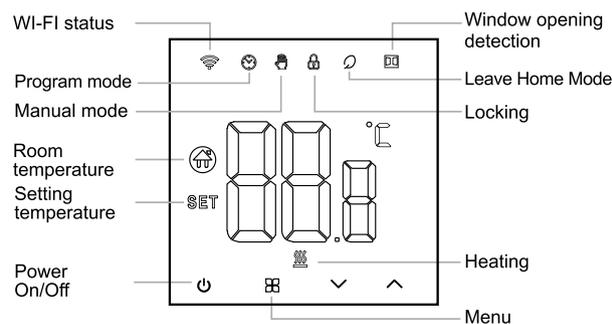4. Disconnect the control panel from the base by pressing the two bottom clips with a screwdriver

5. Secure the thermostat in the mounting box using screws

6. Attach the upper part of the panel to the base and secure until it clicks into place

EXPLOITATION

WI-FI status
Program mode
Manual mode
Room temperature
Setting temperature
Power On/Off

Window opening detection
Leave Home Mode
Locking
Heating
Menu

1. Power On/Off: Press ⏻.
2. Press ⊞ to switch between modes.
3. Locking: simultaneously press and hold ∨ and ∧ for 5 sec to add or cancel the child lock.
4. Connecting to Wi-Fi: When the thermostat is powered on, press and hold ∧ for 5 sec — the Wi-Fi icon on the thermostat display will start flashing, indicating that the device is connected to the network.

THERMOSTAT SETTINGS MENU

To enter the settings mode on a powered-off device, press and hold ⊞ and ∨ or 5 sec. To move to the next parameter, press ⊞, then use ∧ and ∨ to adjust it. Press ⏻ to exit the settings mode.

01	Temperature calibration	The default value of the calibration room temperature is –2 °C. Press ∧ or ∨ to adjust the range from 9.9 °C to –9.9 °C. This setting allows you to adjust the thermostat readings if they differ from the temperature measured by your accurate reference thermometer.
02	Sensor selection	The temperature sensor selection defaults to IN — Internal Sensor. Press ∧ or ∨ to adjust it respectively as IN — Internal Sensor selection; OUT — External Sensor selection; ALL — Both Sensors selection.
03	External Sensor temperature limit	Temperature value is 60 °C by default. Press ∧ or ∨ to adjust the range from 25 °C to 95 °C.
04	Temperature control switch difference (1 °C by default)	After the set temperature is reached, the thermostat turns off the heating. When the temperature drops by the hysteresis value, it turns the heating back on. Press ∧ or ∨ to adjust the range from 0.5 °C to 10 °C.

05	Frost protection ("OFF" by default)	OFF — Function disabled. ON — Function enabled. To turn on, select ON. If the temperature drops below +5 °C, the heating will turn on and maintain a temperature of +7 °C.
06	Week programming settings	5 — 5 working days + 2 days off; 6 — 6 working days + 1 day off; 7 — 7 working days; OFF — turn off programming.
07	Output main inverse ("OFF" by default)	Press ∧ or ∨ to change the logic: 00 — disabled (heating mode is active); 01 — cooling mode enabled. The relay will close when the temperature is above the setpoint.
08	Backlight brightness	00: Off 01: Low 02: Middle 03: High
09	Air temperature settings	Temperature value is 60 °C by default. Press ∧ or ∨ to adjust the range from 15 °C to 95 °C.
10	Sound	ON: Turn on OFF: Turn off

11	Window opening detection ("ON" by default)	ON – The room temperature drops by 6 °C within 4 min and stop heating. OFF – Room temperature rises by 3 °C / after 48 min / manual (three methods). After the window opening mode is enabled, any one of these three conditions can trigger the exit of the window opening mode.
12	Power outage memory function	0: Memory function 1: Turn on after turning on the power 2: Turn off after turning on the power
13	Reset (the default display is "–")	To reset the device to factory settings: 1. Press and hold ∧ until "---" appears on the screen. 2. Then press and hold ⊞ to confirm the reset.
14	Night mode ("OFF" by default)	Night Mode turns off the thermostat display during the time you choose, so the light does not disturb you in the dark. When you press any button, the screen turns on and then turns off again after 1 minute if you do nothing. You can still control the thermostat through the app at any time.

Before using the thermostat for the first time, you need to set up Wi-Fi and connect via a smartphone or tablet to ensure communication between the devices.

When the thermostat is turned on, press and hold ∧ for 5 sec, the WI-FI icon flashes on the thermostat display — the thermostat will enter the settings mode.

To operate the thermostat, make sure to turn on Bluetooth on your smartphone.

1. Download the **"Tuya Smart" app**
Open the App Store or Google Play on your smartphone, or scan the QR code.
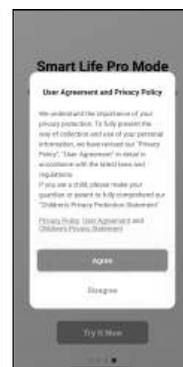
App Store　　　Google Play

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2. Register an account
If you do not have an APP account, you can choose to register or log in via SMS verification code.
• Tap "Create New Account" to enter the privacy policy page of Tuya Smart Platform.
• After that, enter your phone number.

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The system automatically determines the current country/region, or you can manually select the country/region, enter your phone number or email address, and tap "Get the Verification Code".

Enter the received verification code. Then enter the password. Tap "Finish" to register successfully.

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3. Add the device to the Tuya app
Make sure that Bluetooth is turned on on your smartphone and that the thermostat is in pairing mode. If the app has automatically paired with the device, it will immediately offer pairing, as shown in Figure 1. If not, tap "Add Device" or "+" in the upper right corner of the main page of the app (Figure 2).

Figure 1　　　　Figure 2

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Select the device type and follow the prompts (Figure 3). After the app connects to the device and displays it on the screen (Figure 4), go to the device pairing menu by tapping on it and choose the Wi-Fi network (Figure 5).
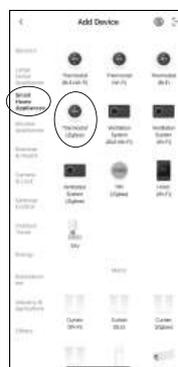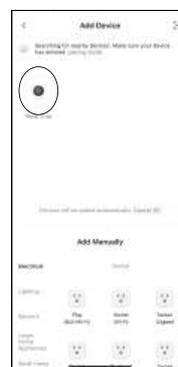
Figure 3　　　Figure 4　　　Figure 5

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Add the device to your account by tapping "Done" (Figure 6). If desired, change the name, location, or add a widget to the home screen by tapping the edit icon (Figure 7).

Figure 6　　　Figure 7

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If the Wi-Fi connection fails, the app will display a page where you can Retry or view the FAQs.

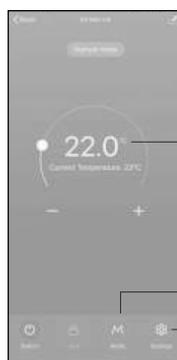Before retrying the connection, first make sure that your thermostat is in pairing mode.

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UNDERFLOOR HEATING CONTROL IN THE APP

Set your own schedule by selecting comfort and energy-saving periods. In the morning and evening, terneo maintains the preferred temperature, while lowering it during the day and night to save electricity. This ensures your home remains comfortable and reduces your energy bills.

You can additionally download voice assistants Google Assistant and Amazon Alexa.

← Temperature adjustment

← Mode selection

← Settings

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WARRANTY TERMS

The warranty for devices is valid for 24 months from the date of sale, provided that the instructions are followed. The warranty period for products without a warranty card is counted from the date of production. For returns, repairs, and warranty service, contact the place of purchase. Warranty and service details are available at ds-electronics.company/support/

terneo

SERVICE CENTER CONTACT
+38 (091) 481-91-81
Viber Whats App Telegram
support@dse.com.ua

WARRANTY CARD　　　　　date of sale:

a seller,
a seal:
　　　　　　　　　　　　　　place of a seal

an owner contact
for a service center:

Manufacturer: DS Electronics LTD. 04136, Ukraine, Kyiv, 1–3 Pivnichno-Syretska str., tel: +38 (091) 481-91-81, www.ds-electronics.company. The product is made in the P.R.C. for DS Electronics LTD
Radio Equipment Directive 2014/53/EU
RoHS Directive 2011/65/EU

CE RoHS