INSTRUCTION MANUAL FOR WEATHER STATION
MODEL **GARNI 520**

GARNI® technology

GARNI 520

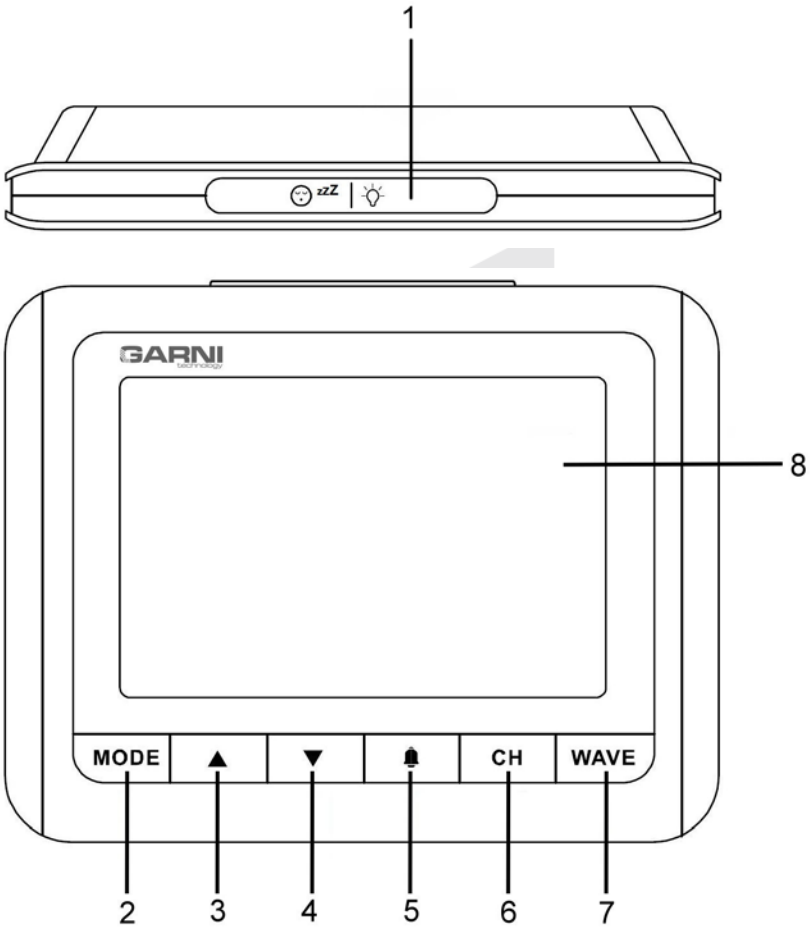
PACKAGE CONTENTS

Main unit (receiver)
Wireless sensor GARNI 045H
Power adaptor
Manual

DESCRIPTION

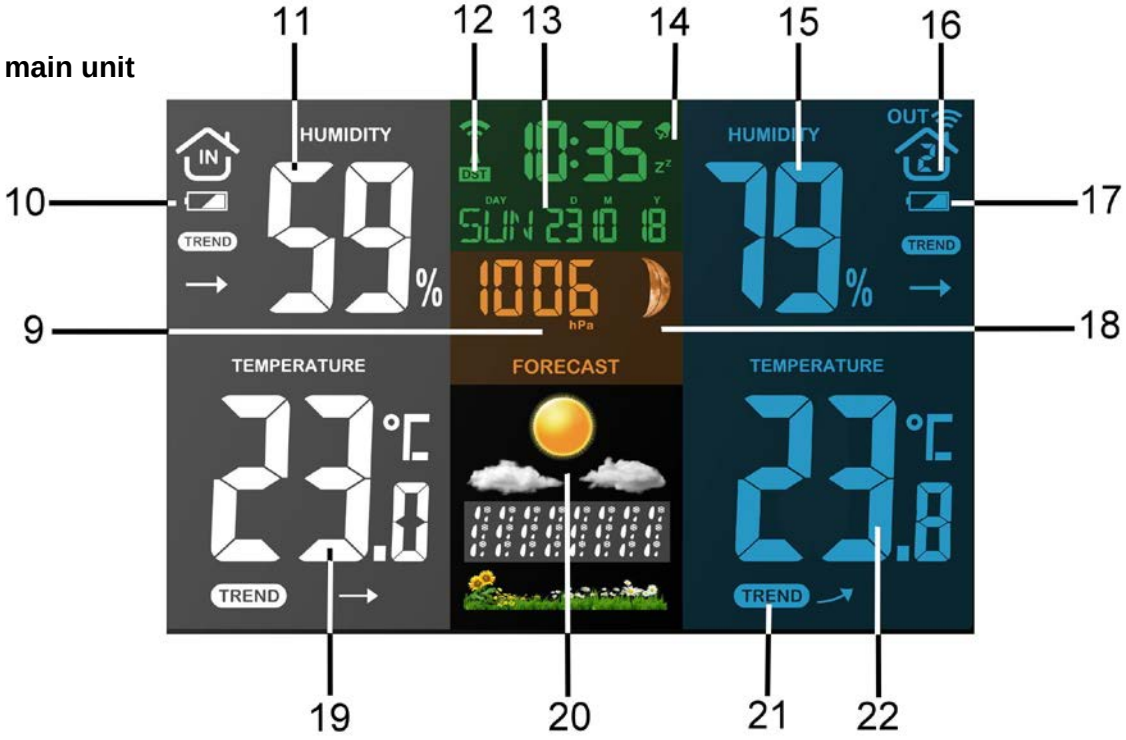
- measurement of indoor and outdoor temperature and relative humidity (%)
- measurement of indoor and outdoor temperature (°C or °F)
- possibility to connect up to 3 wireless sensors for measurement of temperature and relative humidity at different spots
- weather forecast icons based on monitoring of changes in barometric pressure
- absolute barometric pressure display
- memory for maximum and minimum measured values of temperature and rel. humidity
- time and date controlled by DCF-77 radio signal with manual setting option
- 12 or 24-hour time display format
- date
- alarm clock
- Moon phase
- 5 minute snooze function
- permanent display backlight option when on mains power. 2 brightness backlight off
- the main unit and the wireless sensor can be suspended or stand
- the wireless sensor is included in the delivery

Main unit



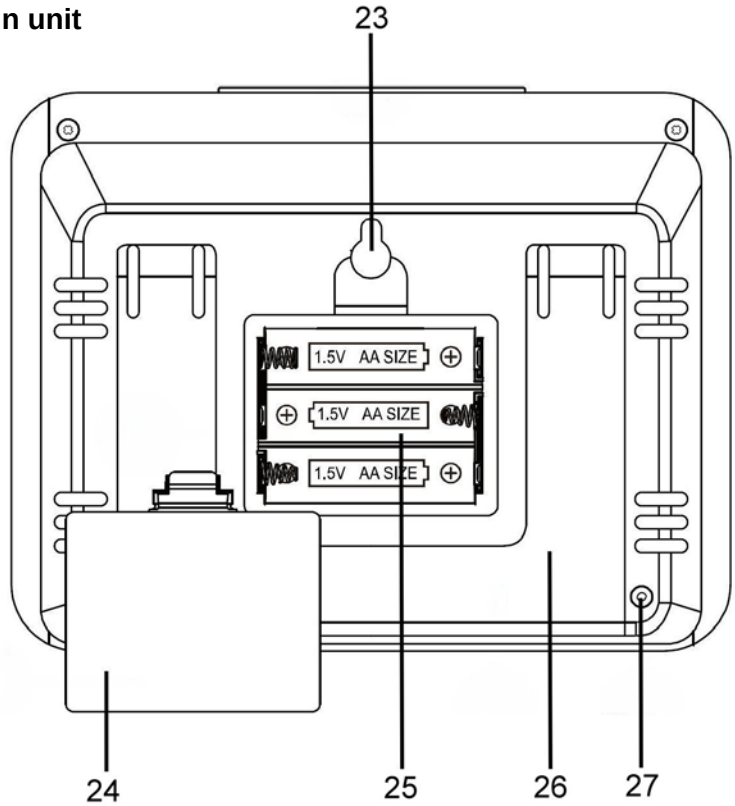
1) Button zzZ | (Snooze / backlight)
2) Button **MODE** (setting)
3) Button ▲ (up)
4) Button ▼ (down)
5) Button (alarm clock)
6) Button **CH** (channel)
7) Button **WAVE** (DCF-77 signal reception)
8) Display

Display of the main unit



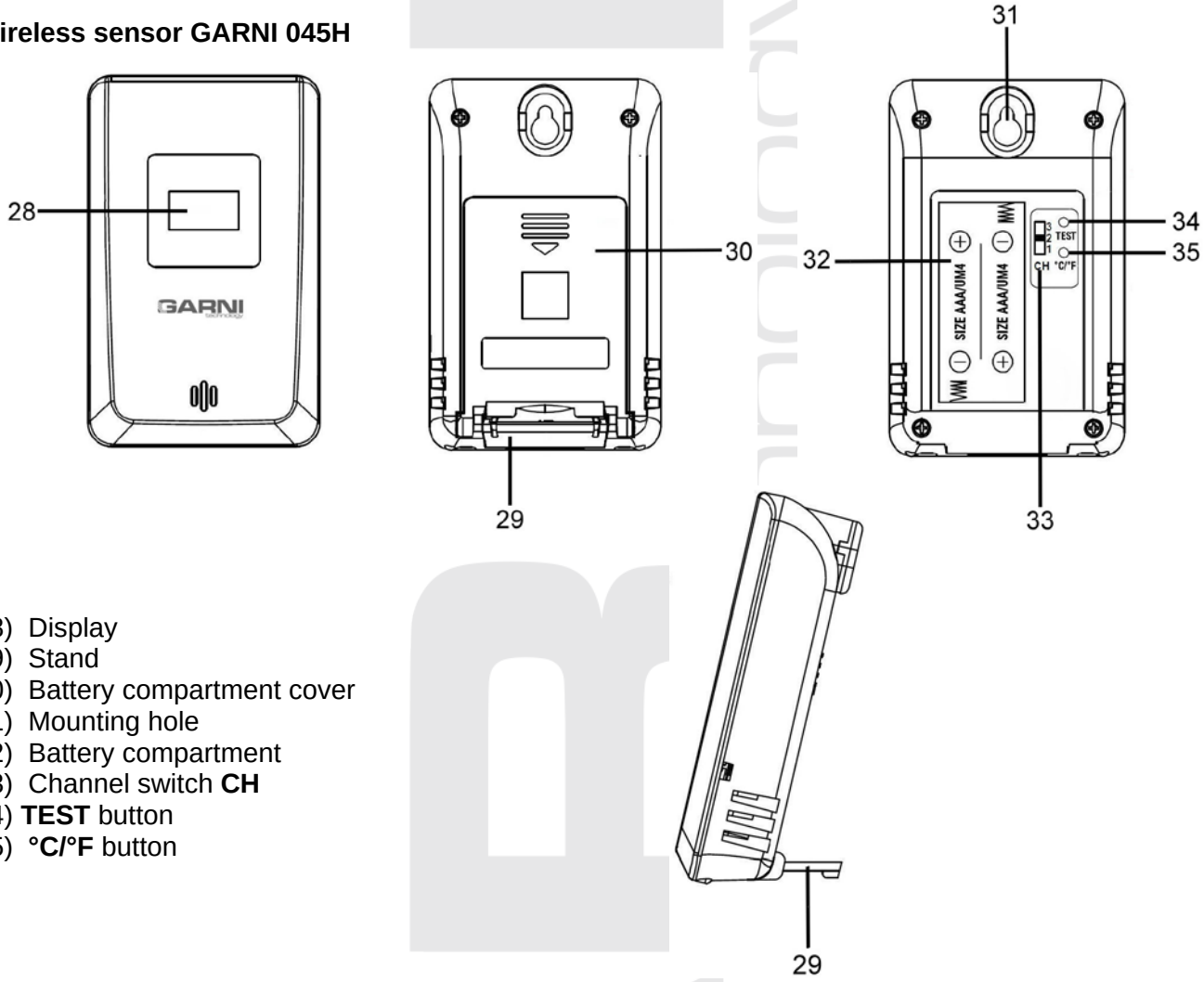
9) Absolute barometric pressure
10) Main unit low battery icon
11) Indoor relative humidity
12) DCF-77 signal reception icon
13) Time and date
14) Alarm-clock on icon
15) Indoor relative humidity
16) Channel number and signal reception icon for the wireless sensor
17) Wireless sensor low battery icon
18) Moon phase
19) Indoor temperature
20) Weather forecast icons
21) Trend arrow
22) Outdoor temperature

Rear panel of the main unit



23) Mounting hole
24) Battery compartment cover
25) Battery compartment
26) Stand
27) Power supply socket

Wireless sensor GARNI 045H



28) Display
29) Stand
30) Battery compartment cover
31) Mounting hole
32) Battery compartment
33) Channel switch **CH**
34) **TEST** button
35) **°C/°F** button

COMMISSIONING

Main unit

1) The main unit can be powered by batteries (short-time display backlight for 10 seconds) or by an AC adapter (permanent display backlight possible, 2 brightness levels, or off).
2) Remove the battery compartment cover on the rear side of the main unit and insert 3 pcs of AA batteries. Observe the correct battery polarity. Or connect the power adaptor plug into the socket at the rear panel. The display lights up and all display segments are briefly displayed.
3) Close the battery compartment
4) The bars at indoor temperature and relative humidity start flashing, together with the icon

Note: *Observe the correct battery polarity to prevent damage to the weather station. Use only high quality alkaline batteries for the main unit*

Wireless sensor

1) Remove the battery compartment cover on the rear side of the wireless sensor.
2) Set the required channel using the **CH** switch
3) Insert 2 pcs AAA batteries – observe the correct battery polarity
4) After the batteries are inserted, a signal is sent to the main unit. The signal can also be sent manually, using the **TEST** button in the battery compartment of the wireless sensor
5) Close the battery compartment.

When the signal is received successfully, the measured values are shown on the display on the selected channel. Use the **°C/°F** button to change the temperature unit displayed on the wireless sensor.
If the wireless sensor signal is lost, hold down the **CH** button on the main unit for 3 seconds. The main unit will re-commence searching for the wireless sensor signal. Now press the **TEST** button in the battery compartment of the wireless sensor.

Note: *For the wireless sensor, lithium batteries are recommended due to their better resistance to frost. Do not use rechargeable batteries.*

Using multiple wireless sensors

If you want to use multiple wireless sensors, select a different channel for each wireless sensor.
Then proceed same as when establishing a connection with one wireless sensor.
The connection establishment process must be repeated after each battery replacement.

Switching between wireless sensor channels

If there are multiple wireless sensors paired with the main unit, press the **CH** button on the main unit to display the measured temperature and relative humidity readings of each wireless sensor. For automatic switching of channels to which the wireless sensors are registered, press the button repeatedly until the display shows icon ↻ next to the channel number. The channels will change every 5 seconds. To terminate the automatic switching, press the **CH** button again.

Placement

Placement of the wireless sensor
Place the wireless sensor away from direct sunlight not to compromise the measurement. Placement outdoors, at the northern wall is recommended. Obstacles such as walls, concrete, metal structures and large objects reduce the signal range. Position the wireless sensor vertically for optimum signal transmission.
The signal range may be affected by obstacles (walls, trees) and other electrical devices (TVs, monitors, etc.).
You may suspend the wireless sensor from the mounting hole or stand it.

Placement of the main unit
Select the location of the main unit that is free from direct sunlight. Test the connection to the wireless sensor before final installation. If there is a problem with the signal reception, select another location. There is a mounting hole for suspension on the rear of the main unit. You may also put the main unit on a flat surface.

SETUP OF THE WEATHER STATION

To enter the settings mode press and hold the **MODE** button in the main screen mode for 3 seconds. For settings, use the ▲ a ▼ buttons. To save, press the **MODE** button once.

1) Press the **MODE** button and hold for 3 seconds. Hour will flash. Use button ▲ or ▼ to set the hour and confirm with **MODE**
2) Continue to set minutes, year, month, day, day shortcut language (GER, ENG, FRE, ITA, SPA), time zone (ZON, from -12 to +12 hours, for the Czech and Slovak Republic leave 00), and cease the setting by pressing **MODE**
3) After setting is done, you can change the time display in 12 or 24 hour format by pressing **MODE** shortly. To change the temperature display to °C or °F, press shortly

Note: *hold the button ▲ or ▼ when setting the value to increase or decrease this value faster. If no button is pressed for 20 seconds, the last set value is saved and the setting mode exits.*

Day name abbreviations

	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**
GER	MON	DIE	MIT	DON	FRE	SAM	SON
ENG	MON	TUE	WED	THU	FRI	SAT	SUN
FRE	LUN	MAR	MER	JEU	VEN	SAM	DIM
ITA	LUN	MAR	MER	GIO	VEN	SAB	DOM
SPA	LUN	MAR	MIE	JUE	VIE	SAB	DOM

TREND ARROWS

The main unit display shows arrows next to the measured values. These arrows show the trends of the measured values

increase steady state decrease

SETTING OF UNITS

°C and °F

In the basic display mode, press ▼ shortly to switch the displayed measured temperature units to °C or °F

mb/hPa and **inHg**

In the basic display mode, press ▼ and hold it for 2 seconds to switch the displayed measured barometric pressure units to mb/hPa or inHg

TIME AND DATE CONTROLED BY THE DCF-77 RADIO SIGNAL

The weather station is equipped with the DCF-77 time/date control signal receiver. The DCF-77 is broadcast by a transmitter from Frankfurt am Main, Germany, with a range of about 1500 km. The time and date is adjusted every day. In case of poor reception conditions time and date can be adjusted manually. After time and date have been adjusted manually, they will be readjusted upon reception of the DCF-77 signal.

When the batteries are inserted into the main unit and the wireless sensor and the connection is established, the main unit will start to receive the DCF-77 signal. If the signal is not received, the DCF-77 signal reception icon will not be shown on the display. Upon successful reception the reception icon will be displayed on the display, if the signal is not received, icon will be displayed . The DCF-77 signal is receiver every day at 2:03; if date/time are not adjusted then also at 3:03, 4:03 and 5:03.
Reception of the DCF-77 signal can be started manually by pressing and holding the **WAVE** button for 3 seconds

Note: *Receiving and adjusting time can take up to 10 minutes.*

MEMORY FOR MAX AND MIN MEASURED VALUES

The main unit is equipped with memory for maximum and minimum measured values. Press button ▲ repeatedly to display the maximum and minimum measured values of the indoor and outdoor temperature and relative humidity. MAX or MIN is displayed. Press and hold ▲ for 3 seconds to erase the memory.
The memory is also automatically erased at 00:00 every day

ALARM CLOCK

Setting of alarm time

The weather station allows setting of the wake-up time. In the basic display mode, press the button and hold for 3 seconds. The alarm time will be displayed at the time spot and the hour will flash. Use button ▲ or ▼ to set the required wake-up hour and press shortly. Minutes will flash. Use button ▲ or ▼ to set the required wake-up minute. Press again to save the setting.

Enabling the alarm clock

In the basic display mode, press and hold button . Press again to enable the alarm clock, and press again to

disable it. The display indicates the enabled alarm clock with icon . Return to the basic current time display mode by short press of the **MODE** button. If no button is pressed for 30 seconds, the current time will be displayed automatically.

Turning off alarm signal, Snooze

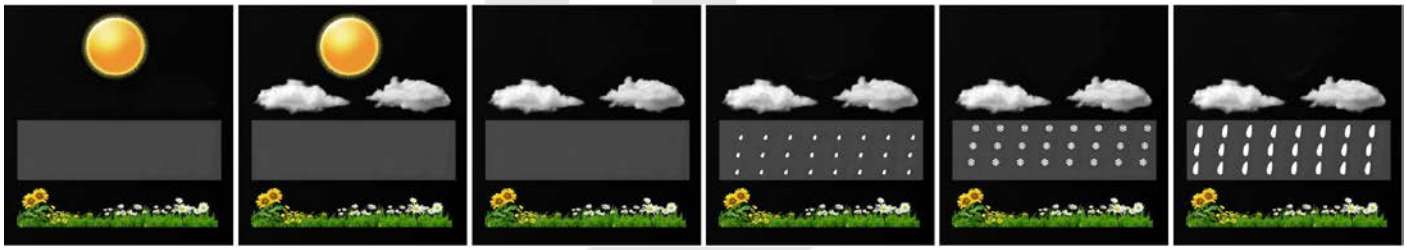
As soon as the alarm signal is activated at the preset time, icon starts flashing. Press the button to move the alarm time by 5 minutes (Snooze). The alarm signal will be terminated and reactivated in 5 minutes. The icon and **Z^{Z}** will flash on the display. This function can be terminated at any time by pressing any button except . If you do not want the Snooze function, press the any button except to disable the alarm signal. Icon stops flashing and the next alarm will be activated in 24 hours.

If no button is pressed, the alarm signal will be turned off automatically after 2 minutes.

WEATHER FORECAST

The forecast is based on the change in barometric pressure, generally speaking when the barometric pressure rises, the weather improves and vice versa. The weather forecast is valid for the next 12 to 24 hours within
30 to 50 km with the probability of 70 to 75%

The weather forecast is displayed using 6 icons



Clear	Somewhat cloudy	Cloudy	Precipitation (Rain)	Precipitation (Snow)	Torrential rain

After switching on the station, it is necessary to wait for at least 24 hours to display the correct weather forecast.

MOON PHASES

If the phase icon is not displayed, it is the new Moon.

new Moon — waxing gibbous — first quarter — waxing Moon — full Moon — waning Moon — last quarter — waning crescent

DISPLAY BACKLIGHT

Press the zzZ | button repeatedly if the main unit is powered with the AC Adapter. The backlight has two brightness levels and the possibility of switching off.

On battery power only, pressing zzZ | turns on the backlight for 10 s.

TROUBLESHOOTING

problem	possible cause	solution
time is not adjusted by the DCF-77 signal, time is adjusted incorrectly	incorrectly set timezone DCF-77 signal reception not on DCF-77 signal interference	setting the correct timezone turning the DCF-77 signal reception on place the main unit away from other electrical equipment
the outdoor temperature and rel. humidity are not displayed	the connection between the main unit and the wireless sensor is not established dead batteries in the wireless sensor	place the wireless sensor closer to the main unit replace the batteries
the measured outdoor temperature and rel. humidity are not accurate	wireless sensor measurement is affected by ambient conditions	do not expose the wireless sensor to direct sunlight place the wireless sensor in shade at a dry place

SAFETY PRECAUTIONS

- Do not expose the device to excessive force, shocks, dust, temperature and humidity
- Do not cover the ventilation holes with any objects like newspapers, curtains, etc.
- Never immerse the device in water. If you spill liquid on it, dry it immediately with a soft, lint-free cloth
- Do not clean the device with abrasive or corrosive substances
- Do not handle the internal components of the device, as this will void your warranty
- Use only fresh batteries. Never mix fresh and old batteries
- Do not recharge the batteries. Place the station and its parts outside the reach of children
- Do not throw old batteries to unsorted municipal waste, but use the designated areas
- Dispose of this product in accordance with applicable regulations
- Use only accessories specified by the manufacturer
- Do not interfere with the internal circuits of the device, as this may void the warranty
- The technical specifications are subject to change without notice

SPECIFICATION

Main unit

Power supply:	power adaptor 230 V, 50 Hz, 90 A / 4,5 V, 200 mA, 3 type AA batteries 1.5 V
Temperature measurement range:	0°C to +50°C
Accuracy of measurement:	+/- 1°C
Resolution:	0.1°C
Humidity measurement range:	20% to 99%
Accuracy of measurement:	+/- 5%
Resolution:	1%
Bar. pressure measurement range:	800 to 1100 hPa
Dimensions:	165 x 130 x 29 mm (without stand)

Wireless sensor GARNI 045H

Power supply:	2 pcs AAA 1.5 V batteries type (micro)
Temperature measurement range:	-40°C to +70°C
Accuracy of measurement:	+/- 1°C
Resolution:	0.1°C
Humidity measurement range:	20% to 99%
Accuracy of measurement:	+/- 5%
Resolution:	1%
Transmission frequency:	433 MHz
Maximum RF output:	10 dBm (10 mW)
Data transmission interval:	50 s
Range:	up to 80 m in open space
Dimensions:	59 x 95 x 25 mm (without stand)

GARNI technology a.s. hereby declares that the type of the radio equipment - weather station type GARNI 520 conforms to the Directive 2014/53/EU. The full EU Declaration of Conformity is available on the following website: www.garni-meteo.cz

The manual was prepared for GARNI technology a.s. by Roman Gajda.
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