RGB Technology®
MODERN TECHNOLOGIES

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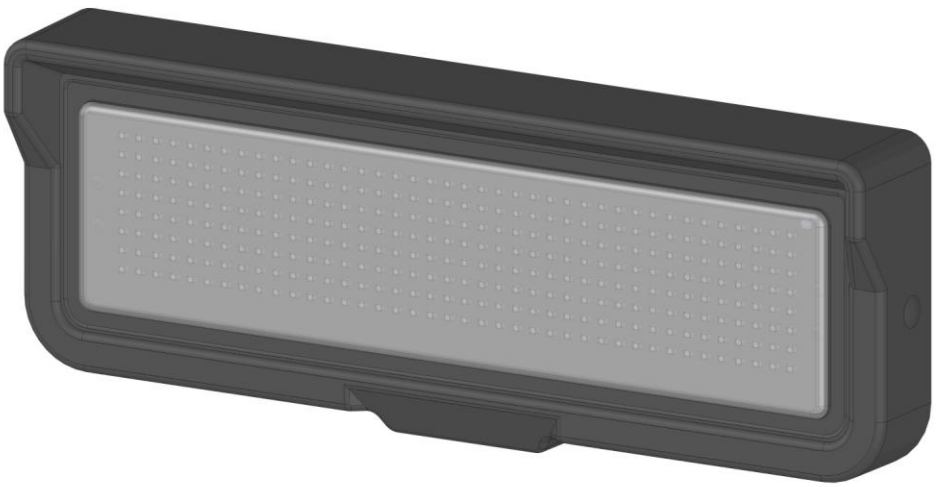
OPERATION AND MAINTENANCE MANUAL

WA-1 MINI

Product code:

304-01-01



*Explanatory figure

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1. Manufacturer

RGB Technology Sp. z o. o.
Tymień 18
76-035 Tymień
POLAND

2. Specifications

The display for weighing scales WA-1 MINI

Dimensions: [1][mm]:	404 x 151 x 40
Digit height [mm]:	60
Permissible input voltage range (long-term):	100 ÷ 240 VAC
Permissible input voltage range (short-term):	85 ÷ 264 VAC
Acceptable input voltage frequency range:	47 ÷ 63 Hz
Device operation temperature (ambient):	-25°C ÷ 45°C
Device operation temperature (device surface):	-25°C ÷ 60°C
Average power consumption:	5W
Casing tightness rating[2] IP:	66
Device weight:	1.5kg

3. Transport and storage

Care should be taken to properly protect the devices so as to eliminate any damage during transport. It is forbidden to transport the devices in a collective package without adequate amortisation - each device must be packed separately and cannot have freedom of movement during transportation.

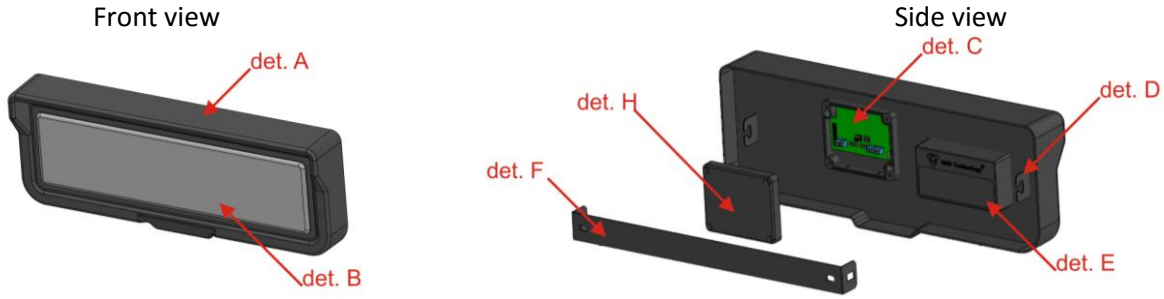
Due to the protective packing the module should be stored in the temperature not lower than -20°C and not higher than +60°C at the humidity below 99%RH.

4. Device construction

WA-1 MINI has a housing made of polycarbonate, which is resistant to UV radiation and has a high mechanical strength. By using the thermo-moulded housing and a rear sealing layer, the device, when properly assembled, meets the IP66 tightness requirements. The display can also operate at the temperatures from -20°C to + 60°C.

4.1 WA-1 MINI construction

The figure shows display for weighing scales WA-1 MINI[3].



det. A – Prestige line housing; det. B – display; det. C – mini extender plate; det. D – mounting the bracket holder; det. E – power supply unit; det. F – mounting bracket

Fig. 1

4.1.1 List of display cables

1. Five-metre power cord (2 x 0.5mm², core markings: blue, brown), terminated with WAGO 222-412 connectors on each core,
2. Five-metre signal cable (2 x 0.5mm², RS232 interface; core markings: white -> RA, green -> RK),

[1] Integrated roof 55mm.
[2] Specified on the basis of EN 60529.
[3] Explanatory figure.

4.2 WA-1 MINI dimensions

All dimensions shown in the drawings are given in [mm].

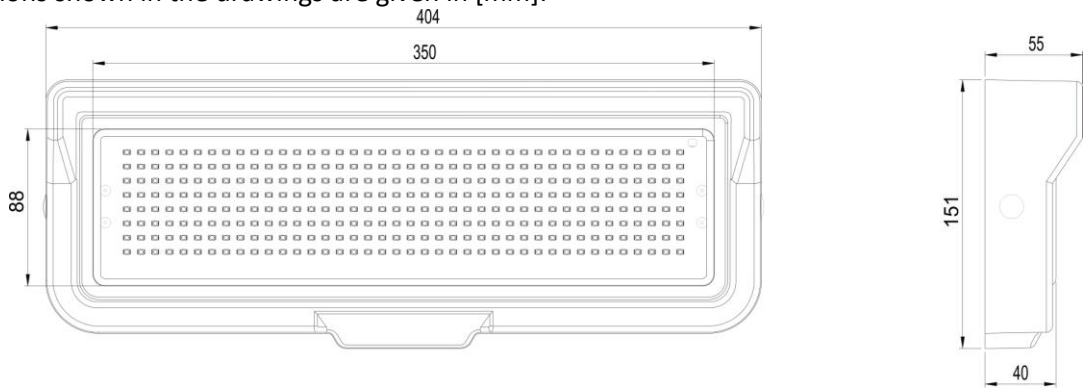


Fig. 2

4.3 Mounting the display for weighing scales

4.3.1 Mounting bracket

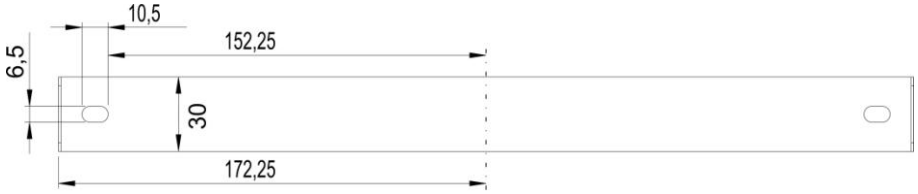


Fig. 3

5. Mounting the device

Correct mounting consists in installing the device on a flat surface with wires facing down. Only the proper mounting of the device ensures its proper operation and the maintenance of the device parameters, like, among others, the housing tightness rating to satisfy the IP code.

NOTICE!

Before any installation or maintenance operations refer to the manual supplied by the manufacturer. Improper connection to the mains power supply, incautious device installation, or improper use may cause the property damage, loss of health or death from electrical shock! In addition, any failure to follow the manufacturer's instructions may void your warranty.

NOTICE!

Keep in mind that the device should be mounted with the wires facing down.

NOTICE!

It is forbidden to make any additional mounting points or any holes in the device assembly components and in the device itself.

5.1 WA-1 MINI device

The device is designed to display the measurement results transmitted by weighing terminals. For the proper operation of the device, it is necessary to pre-configure it using the RGB WagSet 2 software available at RGBtechnology.pl/soft or through the user menu embedded in the device.

5.2 WA-1 MINI configuration

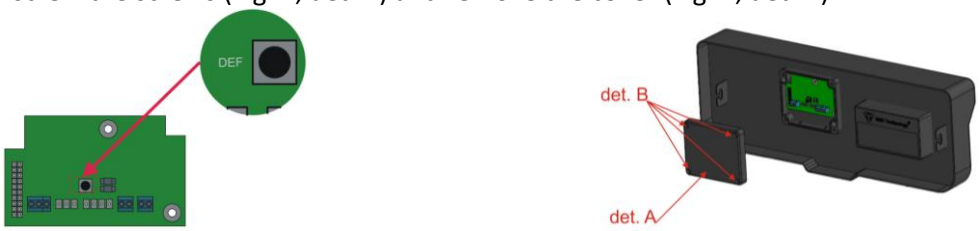
The configuration of the device using RGB WagSet 2 enables, among others:

1) Precise defining the communication protocol with any weighing terminal,
2) Defining the reaction to the events reported by the weighing terminal (eg. overloading, underloading, instability, etc.),
3) Entering advertising text.

5.2.1 Defining communication protocols

5.2.1.1 Embedded user menu (micro switch)

The user menu embedded in the device allows you to select the communication protocol, display the information about the software version, reset the device to the default settings. The micro switch, used to operate the menu, is located inside the display housing. It is described as "DEF" (Fig. 4). Before you start the configuration process, it is necessary to unscrew the screws (Fig. 4, det. B) and remove the cover (Fig. 4, det. A).



det. A – extender cover; det. B – screws fixing the cover

Fig. 4

NOTICE!

The disassembly of the housing must be made with the disconnected power supply. When doing this, take special caution because of the possibility of electric shock.

The user menu is called up by pressing and holding the "DEF" micro switch and releasing it when the desired option is displayed. Regardless of the option, you can exit the user menu by pressing the micro switch and releasing it when switching between the options (when switching between the options, the display does not display any information).

The user menu has the following options:

1) info – This option enables displaying the software version. For the displays with the Ethernet interface, additionally the network layer settings are given (the IP address, the network mask, the communication port for the RGB WagSet 2 program, and the communication port for the weighing terminal). The info option is exited automatically after displaying information.
2) proto – This option allows you to select the display communication protocol for the cooperation with the weighing terminals pre-loaded into the device memory . The amendments to the protocol are introduced by pressing the micro switch. You can approve the protocol by holding the micro switch for a long time (until the inscription "Saved" appears). The "proto" option is left after 30 seconds of the user inactivity.
3) custm –The "custm" option allows you to choose a dedicated display communication protocol for the cooperation with the weighing terminals of the selected customers. The protocols have special nonstandard settings meeting the needs of a given customer. Setting the protocol is done in the same way as for the "proto" option – you can approve the selected protocol by holding the micro switch for a long time (until the inscription "Saved" appears), while leaving the "custm" option is done automatically after 30 seconds of the user inactivity.
4) reset – This option allows you to restore the default protocol of the display for weighing scales. In addition, in the devices with the Ethernet interface, it allows you to restore the default settings of the network layer (IP address: 192.168.0.11, network mask: 255.255.255.0, communication port for the WagSet2 software: 2102, and the communication port for the weighing terminal). To restore the default settings, you should, during the normal operation of the device, press the micro switch and hold it until you see the inscription "reset". Hold the micro switch until the inscription "reset" starts blinking and do not release it until you see the inscription "default". Releasing the switch before displaying the inscription "default" will stop restoring the default settings and the display will continue to operate with the previously set parameters. Uploading new network settings is possible only by using the RGB WagSet 2 software available at RGBtechnology.pl/soft.

5.2.1.2 Interface transmission parameters and communication speed

Interface	Transmission parameters	Communication speed
RS232, RS485, RS422, CL	Data bits: 7, Parity: Odd, Even Data bits: 8, Parity: None, Odd, Even Stop bits: 1	300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, 76800, 115200, 230400

Table 1

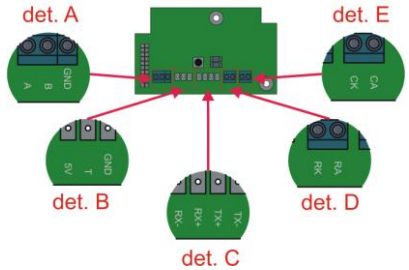
5.2.1.3 RGB WagSet 2 software

Using the WagSet 2 software, you can perform the advanced configuration of the device. The program allows you to change, among others: the parameters of displaying a weighing result, entering and editing advertising text, the display response to special situations such as: exceeded measurement range, etc. The detailed information on the configuration from your computer can be found in the manual supplied with the RGB WagSet 2 program.

6. MINI extender

The extender module is a component of the display for weighing scales, which enables the communication with peripheral devices.

6.1 Extender Connectors

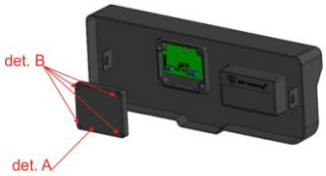


det. A – RS-485/RS-422; det. B – temperature probe; det. C – LAN; det. D – RS-232; det. E – 0/20mA digital current loop

Fig. 5

6.2 List of extender connectors in the WA-1 MINI display for weighing scales

Table 2 presents an overview of the extender connectors in the WA-1 MINI display for weighing scales. These connectors are available after removing the cover (Fig. 6)



det. A – extender cover, det. B – cover fixing screws

Fig. 6

NOTICE!

The disassembly of the housing must be made with the disconnected power supply. When doing this, take special caution because of the possibility of electric shock

	Interface / Function	Connector symbols	Notes
STANDRAD[4]	RS-232	RA	RDX line of the RS-232 interface. The line should be connected with the weighing terminal output.
		RK	GND line of the RS-232 interface
	0/20 mA (CL) digital current loop	CA	CL line of the current loop. The line should be connected with the weighing terminal TDX output
		CK	GND line of the current loop interface
	RS-485 RS-422	A	RS-485 and RS-422 interface inverting line
		B	RS-485 and RS-422 interface non-inverting line
		GND	GND line of the RS-485 and RS-232 interface for use at risk of a significant difference in the potentials of the display mass and the weighing terminal mass

Table 2

[4] on the Extender PCB there are located all connectors available as standard (RS-232, RS-485, RS-422), 0/ 20mA (CL) digital current loop, however, only the RS-232 interface cable (without a tip) is led out.

6.2.1 RS-232 connector:

For configuration purposes, the user connects with the display for weighing scales via the RS-232 connector (Fig. 5), using the computer with the RGB WagSet 2 software installed.

6.2.2 RS-485 / RS-422 connector:

For configuration purposes, the user connects with the display for weighing scales via the RS-485 or RS-422 connector (Fig. 5), using the computer with the RGB WagSet 2 software installed.

6.2.3 0/20mA digital current loop:

For communication purposes, the user connects with the display for weighing scales via the digital current loop connector (Fig. 5), using the computer with the RGB WagSet 2 software installed.

7. Automatic brightness control of the display for weighing scales

7.1 Lighting sensor

In the standard version, the display for weighing scales has a lighting sensor included, which is placed on the LED panel. The device, in response to the intensity of daylight, adjusts the brightness of the display for weighing scales.

8. Initial start-up

Step 1: Make sure that all cables are properly connected,
Step 2: Make sure that all components have been installed in the correct orientation **(wires down)**,
Step 3: Connect the device to the mains power source,
Step 4: If properly connected, the system will display moving arrows (<<<<), followed by the symbol of a hard space (_) shown in the bottom right corner, which means that the user has 7 seconds to send the configuration to the display for weighing scales. If the user does not enter the configuration, the display for weighing scales will start running a demo, that is, a moving text (user text).

9. Additional options

9.1 Temperature probe

The temperature probe (Fig. 7) is available with two versions of a signal cable length 0.5m and 2m.
The probe enables measuring and displaying temperature only in °C (Celsius). The detailed description of the temperature probe is available in the DTR documentation according to the catalogue index number.

Fig. 7

10. Disposal and recycling

10.1 Recycling of packing materials

The packaging materials must be segregated , then recycled in accordance with local regulations for waste disposal regulations.

10.2 Disposal of the device

The device can not be disposed with regular household waste!
According to Directive 2002 / 96 / EC (WEEE) , when repair is not economically reasonable, user is obligated to hand over damaged or destroyed device to an appropriate disposal facility .

11. Most common errors during the installation

1 Incorrect configuration uploaded to the display for weighing scales.
2 Drilling additional mounting holes.