Ravendal 4
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Terheijden

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IBAN : NL07.INGB.0008.4048.47
KvK : 539.07.620
BTW : NL.0998.25.806.B.02

RGB Technology

RGB Technology Sp. z o.o. is the leading Polish manufacturer of LED displays. The seat of the company and its production plant are situated in Tymień (Zachodniopomorskie Voivodeship).

The company was founded in 2005 as a response to the market demand connected with the development of LED technology for outdoor applications. Nowadays, the company employs more than 50 people.

Signage displays produced in Tymień are purchased by customers in all Europe (almost 50% of the production is exported). RGB Technology brand products are present on the markets of more than 30 countries (EU and non-EU).
As a manufacturer, we ensure fast delivery, full after-sales and post-warranty service along with the long-term

You are welcome to visit our webpage:
www.VanBragtTime.nl

ISO 9001:2008
ISO 14001:2004

CLOCKS, CLOCKS SYSTEMS, THERMOMETERS

We offer the devices of different **digit heights: 5, 10, 15, 20, 27 and 40cm.** Such diversity of the glowing digit sizes enables adjusting the device to the mounting location and to the user's needs. .

APPLICATION

- inside buildings: production halls, receptions, swimming pools, workplaces, halls, corridors, waiting rooms, schools
- outside: over building entrances (as an element of the facade raising the prestige), open sports facilities
- stations, platforms, airports, passenger information, logistics centres
- inside public transport vehicles
- in pylons, welcome signs and advertising totems

ADVANTAGES OF THE DEVICES

(the equipment of the devices depends on the selected option)


GPS time synchronization


Resistant to adverse weather conditions(IP66)


Function MASTER Clock


Built-in operational relay


Automatic brightness control


IR remote control Or Web browser software


NTP time synchronization


Function CLOCK

Function CALENDAR


Easy to keep clean


Function THERMOMETER

Readability In bright sunlight

SERIES COMPARISON

The devices of all series offer identical functionality, but differ in the time presentation format and the housing making technology.

Parameter / Clock version	PrestigeLine	Built-in	Steel Case	Large digits
Available height of digits	5, 10, 15, 20 cm	10, 15, 20 cm	10 and 20 cm	27 and 40 cm
Format HH:MM (4 digits)	Yes, ZA version	Yes, ZAH version	Yes, ZAM version	Yes, ZA version
Format HH:MM:SS (6 digits)	Yes, ZB version	Only ZBH10	Unavailable	Yes, ZB version
Resistance to weather conditions	IP66	IP66	IP65	IP67
Front	Polycarbonate	Anti-reflection surface	Polycarbonate / glass	Anti-reflection surface

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AVAILABLE MODELS / HOUSING TECHNOLOGIES

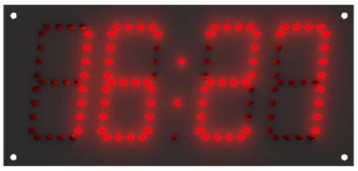
The comparison of the device housing technologies is shown below. The mechanical differences between the housing technologies enable the choice of an option appropriate for the mounting location and the method of installation.

PRESTIGELINE

PrestigeLine clocks have 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 theIP66 tightness requirements.
Available height of digits: 5, 10, 15 and 20 cm,
Available ZA version (4 digits), and ZB version (6 digits),

BUILT-IN VERSION

Thanks to hermetic technology used , ZAH10 is resistant to UV radiation, has a high mechanical strength and when properly assembled, meets the IP66 tightness requirements.
The clock has no housing, it is very thin by what it can be built into
various types of pylons, totems, etc.
Available height of digits: 10, 15 and 20 cm,
Available ZA version (4 digits), ZB version (6 digits) only with 10 cm digits

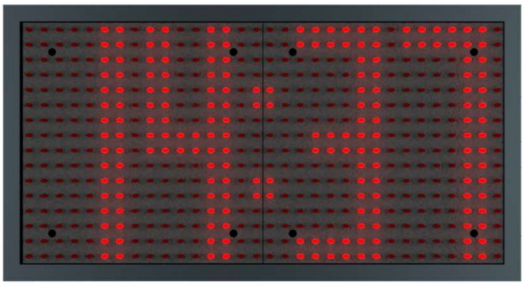


STEEL CASE

STEEL clocks are cased in a powder-coated steel housing. The properly installed device meets the IP65 tightness requirements.
It is possible to make a stainless steel version.
Available height of digits: 10 and 20 cm,
Available only ZA versions (4 digits),

LARGE DIGITS VERSION

The clock is made from LED modules mounted in a dedicated, powder-painted steel casing. It is corrosion resistant and characterised by increased strength. When properly installed, the meets the IP67 tightness requirements.
Available height of digits: 27 and 40 cm,
Available ZA version (4 digits), and ZB version (6 digits),



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TIME SYNCHRONIZATION, CLOCKS SYSTEMS

Time in the clocks can be set manually by the user or using the function of automatic time synchronisation – available in two options:

1. **GPS Time Synchronisation**

Although the GPS has been created for positioning (i.e. defining the location), it can be also used for other purposes. In the received GPS signal there is embedded information about the current time and date. This time is very accurate, because it is determined on the basis of atomic standards. It may be slow or fast by just one millionth of a second per month. For the proper operation, it is required to place the receiver in the location providing the "visibility" of heaven.

Advantages of the GPS synchronisation:
- provides precise time synchronisation from the GPS satellites,
- does not require any configuration,
- does not require any connection to the Internet,
- operates in every location on the Earth,
- the LED signalling proper signal reception is embedded in the receiver.

To take advantage of the satellite time synchronisation, you should equip the clock with the optional **GPS Receiver.**

2. **NTP time server client**

NTP (Network Time Protocol) – is a communication protocol supporting precise, stable and safe synchronisation of clocks with any time server through the computer network. A great advantage of this solution is possibility of simultaneous synchronisation of a large number of devices. The synchronisation may be executed:

- from your own local time server – the Internet access is not required
- from a public remote time server – the Internet access is required

Every clock can be configured as a local NTP time server – as described below.

The advantages of the NTP synchronisation:
- provides precise time synchronisation with the NTP servers
- possibility of simultaneous synchronisation of many clocks from the same server
- operation of five different time servers (1 primary and 4 alternative) provides reliable synchronisation
- changing the time server from the primary to an alternative one is carried out automatically when a failure is detected.

The NTP time synchronisation is carried out via the Ethernet (the interface is included in the standard equipment of every clock).

Function of the local NTP time server

Every clock of ZA/ZB series may be a central clock (MASTER) which, in the LAN, will provide the time source for other clocks (Slave). In consequence, it is easy to create a clock system in which the central clock can receive time from different sources, such as: a GPS receiver, a public NTP server or its own internal clock.
Providing synchronised time to all clocks guarantees that everybody uses the same time source. It is extremely important for workplaces, production halls, schools, stations, platforms, etc.

WIRELESS TIME SYNCHRONIZATION

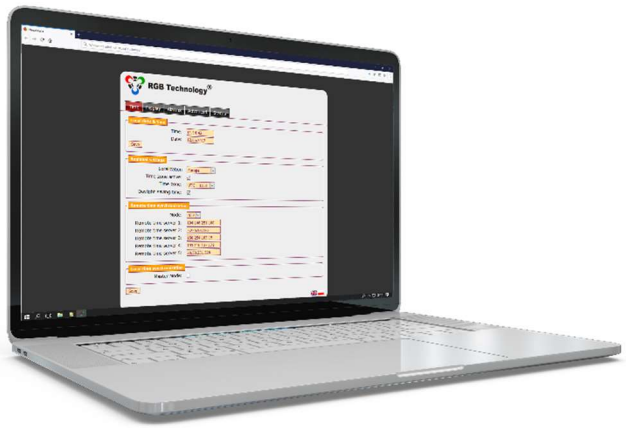
The wireless radio system is based on a transmitter that sends the time signal (868 MHz) to the clocks which must be equipped with a special radio receiver module. The radio transmitter is synchronized by a GPS receiver directly.

Advantages:

- Flexibility in clock installation and realization of clock systems,
- No cabling due to wireless synchronization,
- Distribution over large distances (up to 200 m, depending on building structure),

SETTINGS MANAGEMENT – WEB PANEL

Every LAN device has a built-in **WEB PANEL**, which is available through the computer network in the Internet browser. The management through the **WEB PANEL** may be carried out using a computer, a tablet, a smartphone or another device providing the Internet browser.



The advantages of the solution:

- embedded functionality
- clear and tabular preview of the settings (the website)
- possibility of managing many devices from one place through the computer network
- possibility of remote management through the Internet – from every location in the Word

SETTINGS MANAGEMENT – IR REMOTE CONTROL

To mangage the devices you may use the IR remote control. Every remote control has a unique code preventing unauthorised individuals from making any changes in it. The remote control is assigned to one or more clocks. It is also possible to assign many remote controls to one clock.

The advantages of this solution:

- operation without a computer
- no need of installing a computer network
- direct verification of the applied changes on the device display

NOTICE:

- For the L (lan) clocks, the IR remote control is an optional accessory – see the table
- Some functions or settings may be unavailable

STOPWATCH FUNCTION

In addition to displaying the time, date and temperature, the clocks support counting time. There are 3 available modes:

a) Stopwatch
b) Timer Up - timer counting up from 0 to the preset value
c) Timer Down – timer counting down from the preset value to 0

NOTICE:
Managing of the Stopwatch function is only possible by IR Remote.

OPERATIONAL RELAY

The clocks have an embedded operational relay which can signal up to 30 alarms. The duration of each alarm is set independently within the range of 1 second – 59 seconds. There is a possibility of setting the alarms in a weekly mode. The examples of the apllication:

- activating an industrial buzzer signalling e.g. breaks or changes at the workplace
- activating a school bell
- giving a time signal for another device /system

DAYLIGHT SAVING TIME / STANDARD TIME - DST

The clock supports the activation of the automatic time change from the standard time to the daylight saving time and from the daylight saving time to the standard time (DST – Daylight Saving Time). The change is made for Europe, USA, Canada, Australia and Israel.

AUTOMATIC BRIGHTNESS CONTROL - SENSOR

Only the automatic brightness control based on the measurement of ambient light by the sensor ensures real adjustment of the display brightness to the current lightning conditions of the surroundings. Current measurement by the sensor is always up-to-date, because it takes into account changes of the position of the Sun in relation to the display, changes of cloud cover during a day, and also shortening and lengthening of a day during a year.
In addition to the automatic brightness control based on the sensor, there is a possibility to manually select and block one of 10 brightness levels.

PRESTIGELINE

MOEL	CONTROLL	DIGIT HEIGHT	HEIGHT	WIDTH	THICKNES	WEIGHT	POWER CONS.
ZA5-R	IR Remote	50 mm	141 mm	298 mm	42 mm	1 kg	10W
ZA5-L	LAN, WWW	50 mm	141 mm	298 mm	42 mm	1 kg	10W
ZA5-L POE+	LAN, WWW	50 mm	141 mm	298 mm	42 mm	1 kg	10W
ZB5-R	IR Remote	50 mm	141 mm	408 mm	42 mm	1,5 kg	14W
ZB5-L	LAN, WWW	50 mm	141 mm	408 mm	42 mm	1,5 kg	14W
ZB5-L POE+	LAN, WWW	50 mm	141 mm	408 mm	42 mm	1,5 kg	14W
ZA10-R	IR Remote	100 mm	186 mm	349 mm	45 mm	1,5 kg	10W
ZA10-L	LAN, WWW	100 mm	186 mm	349 mm	45 mm	1,5 kg	10W
ZA10-L POE+	LAN, WWW	100 mm	186 mm	349 mm	45 mm	1,5 kg	10W
ZB10-R	IR Remote	100 mm	186 mm	512 mm	45 mm	2,0 kg	15W
ZB10-L	LAN, WWW	100 mm	186 mm	512 mm	45 mm	2,0 kg	15W
ZB10-L POE+	LAN, WWW	100 mm	186 mm	512 mm	45 mm	2,0 kg	15W
ZA15-L	LAN, WWW	150 mm	237 mm	500 mm	45 mm	2,5 kg	12W
ZA15-L POE+	LAN, WWW	150 mm	237 mm	500 mm	45 mm	2,5 kg	12W
ZA20-R	IR Remote	200 mm	288 mm	616 mm	45 mm	3,0 kg	14W
ZA20-L	LAN, WWW	200 mm	288 mm	616 mm	45 mm	3,0 kg	14W
ZA20-L POE+	LAN, WWW	200 mm	288 mm	616 mm	45 mm	3,0 kg	14W
ZB20-R	IR Remote	200 mm	288 mm	900 mm	45 mm	4,0 kg	20W
ZB20-L	LAN, WWW	200 mm	288 mm	900 mm	45 mm	4,0 kg	20W
ZB20-L POE+	LAN, WWW	200 mm	288 mm	900 mm	45 mm	4,0 kg	20W

LARGE DIGITS VERSION

MODEL	CONTROLL	DIGIT HEIGHT	HEIGHT	WIDTH	THICKNES	WEIGHT	POWER CONS.
ZA30-L	LAN, WWW	270 mm	328 mm	616 mm	90 mm	7,5 kg	4W
ZB30-L	LAN, WWW	270 mm	328 mm	904 mm	90 mm	9,5 kg	6W
ZA40-L	LAN, WWW	400 mm	427 mm	904 mm	90 mm	11 kg	6W
ZB40-L	LAN, WWW	400 mm	427 mm	1336 mm	90 mm	14 kg	9W

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BUILT-IN VERSION

MODEL	CONTROLL	DIGIT HEIGHT	HEIGHT	WIDTH	THICKNES	WEIGHT	POWER CONS.
ZAH10-R	IR Remote	100 mm	160 mm	330 mm	33 mm	1,5 kg	10W
ZAH10-L	LAN, WWW	100 mm	160 mm	330 mm	33 mm	1,5 kg	10W
ZBH10-R	IR Remote	100 mm	160 mm	490 mm	33 mm	2,0 kg	15W
ZBH10-L	LAN, WWW	100 mm	160 mm	490 mm	33 mm	2,0 kg	15W
ZAH15-L	LAN, WWW	150 mm	210 mm	480 mm	33 mm	2,5 kg	12W
ZAH20-R	IR Remote	200 mm	270 mm	590 mm	33 mm	3,0 kg	14W
ZAH20-L	LAN, WWW	200 mm	270 mm	590 mm	33 mm	3,0 kg	14W

STEEL CASE

MODEL	CONTROLL	DIGIT HEIGHT	HEIGHT	WIDTH	THICKNES	WEIGHT	POWER CONS.
ZA10-R Steel Outdoor	IR Remote	100 mm	180 mm	372 mm	61 mm	2,5 kg	10W
ZA10-L Steel Outdoor	LAN, WWW	100 mm	180 mm	372 mm	61 mm	2,5 kg	10W
ZA10-L POE+ Steel Outdoor	LAN, WWW	100 mm	180 mm	372 mm	61 mm	2,5 kg	10W
ZA20-R Steel Outdoor	IR Remote	200 mm	314 mm	637 mm	61 mm	5,5 kg	14W
ZA20-L Steel Outdoor	LAN, WWW	200 mm	314 mm	637 mm	61 mm	5,5 kg	14W
ZA20-L POE+ Steel Outdoor	LAN, WWW	200 mm	314 mm	637 mm	61 mm	5,5 kg	14W

WIRELESS TIME SYNCHRONIZATION

MODEL	FREQUENCY	TRANSMISSION POWER	RANGE	DIMENSIONS
RADIO TRANSMITER (GPS ANTENA INCLUDED)	868 MHz	100 mW	Up to 200 m	120x80x50 mm
RADIO RECEIVER	-	-	-	64x42x22 mm

ADDITIONAL OPTIONS	DESCRIPTION
GPS time synchronisation (GPS receiver)	The time synchronisation using the worldwide satellite system - GPS. The GPS receiver with a built-in antenna, resistant to adverse weather conditions. The GPS synchronisation supports the time accuracy of one second; it automatically switches the clock from the daylight saving time to the standard time and the other way round.
Additional IR remote control	In standard, each "R" clock has an IR remote control, you can buy and assign additional remote to the "L" clock.
Air temperature probe	The display, in addition to its standard function (clock and calendar), is enriched with the temperature measurement. The temperature is displayed in the LED field of the display alternately with time and date. The range of the measured temperatures: -50°C ÷ +99°C
Water temperature probe (hermetic)	The display, in addition to its standard function (clock and calendar), is enriched with the temperature measurement. The temperature is displayed in the LED field of the display alternately with time and date. The range of the measured temperatures: -50°C ÷ +99°C The cable length – see the description in the position "Cable extension".
Perpendicular frame supporting the clock of ZA/ZB series	The frame to mount ZA/ZB clocks – single-sided or double-sided. Useful when the clock is mounted perpendicularly to the wall.
Holders for hanging ZA / ZB series clocks	Holders for hanging ZA / ZB clocks – single-sided or double-sided. Useful for mounting devices, eg. to the ceiling.
Cable extension	Hermetic cable connector.
	The power cord: the standard length 2m; max. 100m. The GPS receiver cable: the standard length 10m; max. 50m. The temperature probe cable: the standard length 2m; max. 50m. The surcharge applies to the extension of each running metre over the standard length
Buzzer (acoustic signalling device) standard	The industrial acoustic signalling device made of mechanically resistant synthetic material ABS. The power supply 230V, 3W. The intensity of the acoustic signal 88dB.
Buzzer (acoustic signalling device of increased volume))	The industrial acoustic signalling device made of mechanically resistant synthetic material ABS. The power supply 230V, 3W. The intensity of the acoustic signal 108dB.
Green or blue LEDs	The standard LED colour options: yellow, amber and red. For selecting a different colour there is a surcharge over the net value of the device in the standard version.
White LEDs	For selecting the white colour there is a surcharge over the net value of the device in the standard version.