



USER  
MANUAL  
LAN type  
price checker

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This device is CE-Marked as it complies with requirements of EC Council Directives. The detailed list of directives and standards that it is subjected to are included in the Declaration of Conformity, that you can find at [www.elzab.com.pl](http://www.elzab.com.pl).

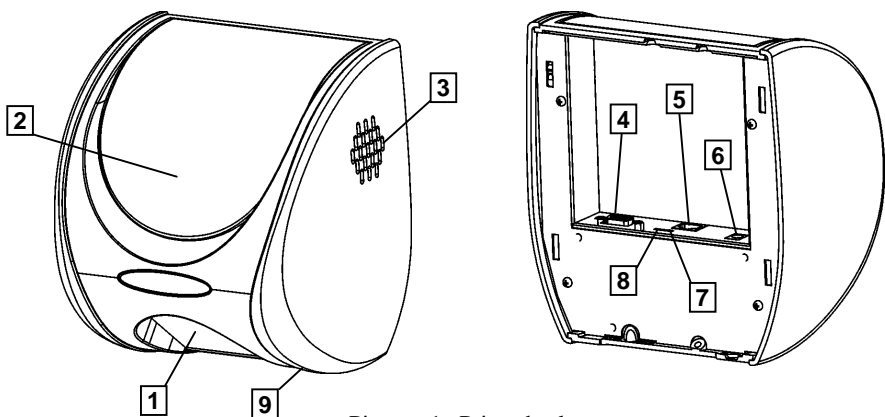
## 1. Structure and application

The price checker serves to check the prices of barcode-labeled goods. Reading a barcode by using the built-in or external reader results in displaying the name and price of the goods. The checker plays spoken price of the product and allows you to display additional information related to a particular commodity. The data exchange with the store's computer system is realized by the LAN network.

Depending on the type of the reader, checkers have the following designations:

Type of internal barcode reader	Designation of checker type
linear imager	<b>LLT</b>
omnidirectional laser	<b>LWT</b>
omnidirectional - area imager type	<b>LFT</b>

Reading the bar code sends the read out to the computer where the software searches the database of products. After finding the product the program sends the data to display on the checker's display. The price checkers also feature function allowing to display the advertising graphics and playback related audio files while awaiting for barcode reading result.



Picture. 1. Price checker

- 1 - Barcode reader
- 2 - Graphic display
- 3 - Speaker
- 4 - External barcode reader connector
- 5 - LAN connector
- 6 - Local power supply connector
- 7 - Green LED diode
- 8 - Orange LED diode
- 9 - USB (service) connector

## 2. General device operation

On the prepared to work checker the display shows the information to plant the bar code. After approaching the product and reading out the barcode the checker informs that the data was sent to the computer. Once finding the code in the commodity base the computer sends "response" in the form of the name and price of the product and any additional information depending on the program supporting the checker.

In the absence of communication, the display shows a warning message.

**Attention:** *In order to avoid barcode reading errors it is needed to activate in the reader, by using the bar code reader programming guide, only the barcode types that are used for products in the given point of sale.*

### 3. Installation and connection

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This equipment should be installed and operated in rooms, in areas not exposed to significant temperature fluctuations, heavy dust, vibration and shock. Do not install the devices in the areas with substantial corrosion aggressiveness of the environment and in the areas where there is a condensation.

The checkers are designed for mounting on a wall or a pole. There should be used for this purpose the mounting plate, screwed to the wall through holes, with 3,5 or 4 mm diameter screws (Fig.2 item 2). The spacing of these holes is tailored to older versions of checkers produced by Elzab company. There is also the possibility to mount the device on the holder or extension by using additional holes dedicated for that purpose. Their spacing is adapted to the hole spacing of the commonly available holders (e.g. monitors).

The mounting plate features four taps that are used to hang the checker and the threaded bushes (Fig. 2 item 1). that enable to choke the cables by using the supplied components. After connecting the cable and hanging, the checker is automatically locked in the work position. This allows fast installation with no additional operations and also protects against unauthorized access to the interior of the device or a theft.

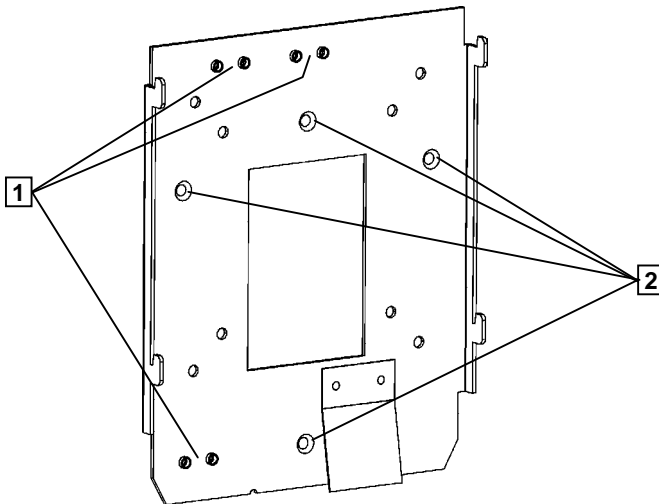


Fig. 2. Mounting plate

1 - Cables chocking places

2 - Mounting holes

To dismantle the checker put the longitudinal component (e.g. a screwdriver) into the marked hole (Z) and press it toward the back of the unit. This will move the latch allowing to lift the checker and remove the mounting plate.

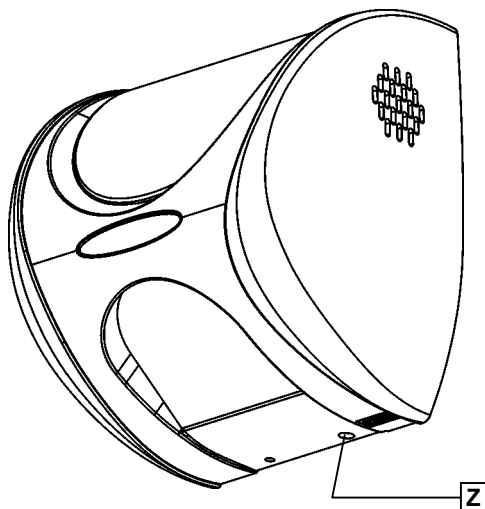


Fig. 3. Latch release place (Z).

On the top and bottom part of the checker there are the places (P) which serve to lead the cables. These are areas with reduced thickness of the wall, which can be cut if necessary to fit the size of the diameter of the wires.

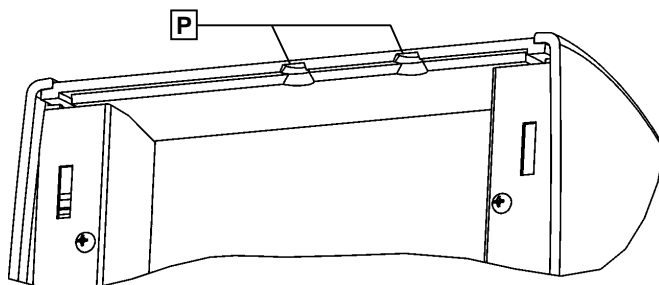


Fig. 4. Cables lead places (P)

**Warning: This is an A Class device. In a domestic environment it may cause radio frequency interference. In such cases, you can require from its user to use appropriate countermeasures.**

## 4. Power supply

Checkers, depending on their type, may be powered locally, via the power supply connector, or remotely via a communication cable. Possible sources of power are presented in the table below.

Checker type	Source of power	Remarks
LLT, LWT, LFT	33V/1,6A Power supply (code: A65)	Locally – power supply connector
	PoE Power supply	Remotely – communication cable
	MZAS Power supply module (code: MZ1)	Remotely – communication cable
	MRPS-2 4xLAN Power supply module	Remotely – communication cable

In systems with one checker it is recommended to use the PoE power supply.

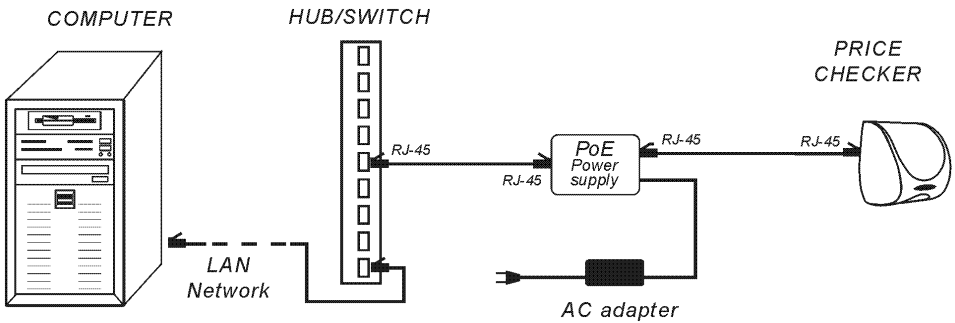


Fig. 5. Example of connecting a single checker with the PoE power supply

In complex systems with more checkers you can use the LAN Network power module together with 33V / 1.6 A power supply.

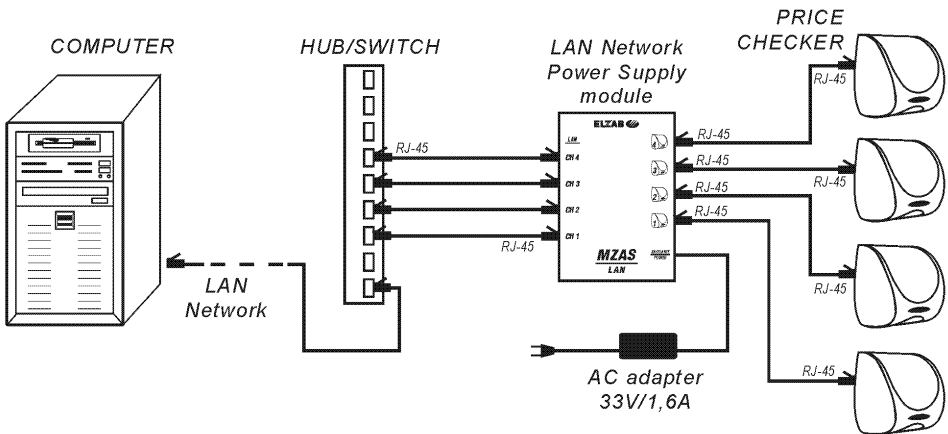


Fig. 6. Example of connecting four checkers with the MZ-1 power supply module



In case of mounting in the rack casing there is a possibility to connect the checkers via the MRPS-2 4xLAN power supply module, which can be extended by four further checkers with 4xLAN MR power supply module.

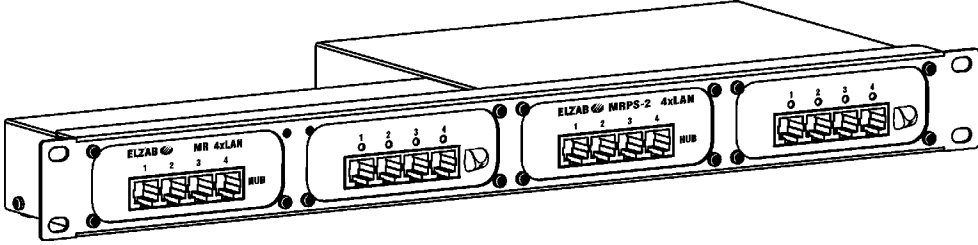


Fig. 7. Example of complex MRPS-2 4xLAN + MR 4xLAN power supply module

The communication cables for LLT, LWT and LFT versions should be done in the same way as for computer networks. We recommend to use the UTP cable of 5e category and 24AWG cross-section (4 pairs twisted, cable or wire) mutually terminated with RJ-45 crimped connectors (see the table below). The maximum length of the connection cable (total distance before and after the PoE power supply or power supply module for the given channel) is 100 meters.

Connector I contact No.	Strand color	Connector II contact No.	RJ-45 connector – contacts numeration
1	Orange and white	1	
2	Orange	2	
3	Green and white	3	
4	Blue	4	
5	Blue and white	5	
6	Green	6	
7	Brown and white	7	
8	Brown	8	

**Attention:** As the power runs in connection cables each cable should be checked with 10BaseT computer cables' tester.

**5. Checker specifications**

The configuration of the checker can be done by:

- Website,
- Configuration menu (by barcodes) – in limited range,
- Configuration files (USB).

For the safety reasons, the website configuration and the configuration files are protected by password. Login to the configuration page is: admin and the default password is: ELZAB. It is recommended to change the password by the user. For more information on how to configure, see "Programming Guide" available at [ftp.elzab.com.pl/ENGLISH/i\\_tft.zip](http://ftp.elzab.com.pl/ENGLISH/i_tft.zip)

## 5.1 DHCP client

When activated allows you to assign the network parameters of the checker by the DHCP server (IP address, Network Mask, and Gate). Deactivation allows you to set this parameters manually.  
Default value: off.

## 5.2 IP address

The IP address of the checker can be checked by the bare code placed on the end of this user manual: "Entering the 0 digit/displaying the state " in Chapter 12

## 5.3 Network mask

The subnet mask, in which works the checker can be checked by the barcode as above (IP address).

## 5.4 Gate

Network gate in which works the checker can be checked by the barcode as above (IP address).

## 5.5 UDP port

The UDP port is used for communication with the checker. This port serves the checker to send and receive the data. You can check the value by the barcode as above (IP address).  
Note: Before changing this setting, make sure that the checker server supports amended UDP port.

## 5.6 IP address of the checker server

The IP address of the computer with application supporting the barcode requests.  
The value can be checked by the barcode as above (IP address).

## 5.7 Password for configuration

The password for the website configuration and configuration files. Up to 8 characters.  
The default value: ELZAB

## 5.8 The display backlight

Adjusting the TFT display backlight in the range of 0 – 9.  
The default value: 8.

## 5.9 Volume of the sound

Adjusting the sound volume in the range from 0 (sound off) to 5.  
The default value: 3.

## 5.10 Skin

Selection of the graphic sets displayed during functioning of the checker, wherein:

- ELZAB1 – predefined skin No. 1 – this is the default skin
- ELZAB2 – predefined skin No. 2
- USER – place for the skin defined by the user
- TEXT – no skin (text mode)

### **5.11 Spoken price**

The spoken price mode. Playing back the spoken product price is possible if the server application supports the control sequence 'A' or in case of finding the price in the price finding mode. You can set female or male voice or switch off this mode.

### **5.12 Price finding mode**

The price finding mode in sequence '1' (two-line displaying) and '6' (three-line displaying) sent by the checker servers LL/LW/LF/LFG.

Enables the playback of the product price without the necessity to change the server software of the checker. By default the mode is enabled but please make sure that it works correctly before using a particular server checkers. If the price of the product wasn't found the checker switch to two-line or three-line displaying mode.

### **5.13 Audio signalization**

The audio signalization of main operations – as the barcode reading.

The default value: active

### **5.14 Product requests mode**

The method of sending the requests for goods. There are possible the following values:

LL/LW/LF – checker sends the request by the sequence '1'

LFG – checker sends the request by the sequence '6'

LLT/LWT/LFT – checker sends the request by the sequence 'A'

The default value is 'LLT/LWT/LFT'. In order to enable the cooperation between the checker and checker's servers that only support the LL/LW/LF or LFG checkers it is needed to switch the checker in the appropriate mode.

### **5.15 Duration of advertising**

The duration of displaying the bmp advertising files, range from 0 (displays continuously up till planting the barcode) to 99 seconds. There is possible to set 100 advertisements, for more information refer to the programming guide.

## **6. Instructions for computer programmers**

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The transmission protocol is available at [ftp.elzab.com.pl/ENGLISH/prot\\_lan.zip](ftp.elzab.com.pl/ENGLISH/prot_lan.zip), and the 32-bit spr\_lan.dll library together with its application examples (including the SPSEWER.EXE – simple checkers server which retrieves the data from the ARTICLE.TXT file in the file interface format) are available at [ftp.elzab.com.pl/ENGLISH/spr\\_lan.zip](ftp.elzab.com.pl/ENGLISH/spr_lan.zip)

## **7. Checker's state**

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It is possible to read the checker's state from the transmission protocol. Verification of this state is also possible after planting the barcode 000000000000.

## **8. Upgrading the firmware**

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The checker allows you to upgrade the firmware via the USB. In this purpose place the firmware.bin file provided by the manufacturer in the root catalog of the USB memory (e.g. pen drive) and plug the memory to the USB connector. The firmware loading begins and it will be accomplished by the checker reset. Upgrading the firmware doesn't change the previously set checker's parameters.

When firmware charging is completed remove the USB memory.

Description of upgrades in the firmware is included in the "Programming Guide" available at [ftp.elzab.com.pl/ENGLISH/i\\_tft.zip](ftp.elzab.com.pl/ENGLISH/i_tft.zip).

## **9. Maintenance**

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The periodical cleaning is required during the usage of the checker. All maintenance operations should be carried out when the checker is switched off. Casing is made of plastic and the best way to clean it is using an anti-static detergent designated for the computer equipment. You can also use a soft cloth slightly dampened with water and a mild liquid detergent.

## **10. Package contents**

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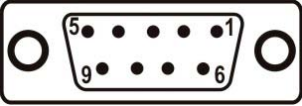
- Checker,
- Checker's user manual,
- Checker's warranty card,
- Anti-interference ferrite core (put on the LAN cable).

## 11. Specifications

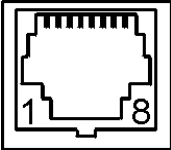
• <b>Checker type</b>	LLT	LWT	LFT
• <b>Barcode reader</b>			
Linear - linear imager type	☑	–	–
Omnidirectional laser	–	☑	–
Omnidirectional - area imager type	–	–	☑
• <b>Power supply</b>			
Power supply voltage	24V do 60VDC *)		
Average power consumption	2,7W	3,2W	3,7W
Maximum power consumption (service mode)	4,7W		
Power consumption of additional external reader	2,5W (if used add to P <sub>MAX</sub> )		
• <b>Dimensions, weigh</b>			
Depth	137 mm		
Width	173 mm		
Height	197 mm		
Weight without the power	1,4 kg		
• <b>Display</b>			
Backlighted graphic TFT	480x272 points		
• <b>Security</b>	The checker is a III class device		
• <b>Environment climatic conditions</b>			
Temperature	0°C - 40°C		
Humidity	40% - 80% (without condensation)		
• <b>Standard of readable barcodes</b>			
Recognized barcodes	EAN13, EAN8, EAN128, UPC-A, UPC-E, Code 39, Code 128, Code 93 and other digital codes		
• <b>Interfaces</b>			
LAN – Standard 100Mb/s + remote power	RJ45 connector		
External barcode reader (9600 b/s, 8 data bits, 1 stop bit, no parity, no flow control)	DSUB9 connector		
External USB memory (service connector) (uploading graphics and sounds, software upgrades)	A type USB connector		
Local power	Standard 5,5/2,5 connector		
• <b>Accessories (to be ordered separately)</b>			
33V/1,6A AC adapter (local adapter)	Code: A65		
PoE power supply	Code: 2001771		
MZAS power supply module	Code: MZ1		
MZAS 33V/1,6A AC adapter	Code: A68		
MRPS-2 4xLAN power supply module	Code: MZ6		
MR 4xLAN power supply module	Code: MZ5		

## 12. Description of the interface connectors




### External barcode reader connector

Contact No.	Signal	Signal description	DSUB9 connector
2	RxD	Data received from the reader	
5	GND	Grounding	
9	5V	Reader's power supply	
1,3,4,7,8	–	Not connected	

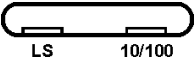
### LAN connector

Contact No.	Signal	Signal description	RJ45 connector
1	Tx-	Data transmitted to the computer	
2	Tx+	Data transmitted to the computer	
3	Rx+	Data received from the computer	
4, 5	GND	Grounding	
6	Rx-	Data received from the computer	
7, 8	+ 24V do 60V *)	Checker's power supply	

### Power supply connector

Mark	Parameters	Polarization	Power supply connector
	24 do 60V *)		

### LED indicators

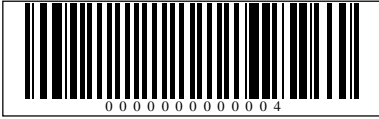
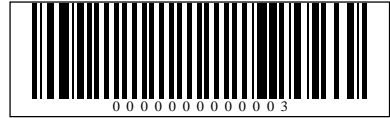
LED	Function in LAN option	Localization
Orange	<b>Link State</b> indicator– lights during connection with with Hub or Switch; blinks during data transmission	
Green	<b>10/100Mb</b> indicator – lights continuously during connection with Hub/Switch 100Mb	

\*) – Recommended power supply voltage should be 33 up to 60V (measured at the checker's connector). For voltages lower than 33V the external barcode reader will not be active.



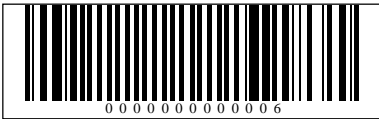
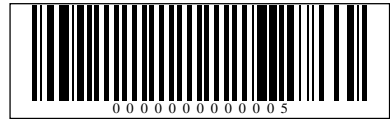
Barcodes for configuration menu (continued)

Entering the digit 3



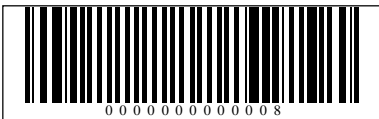
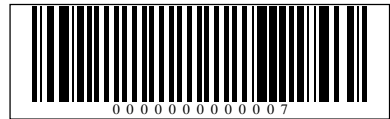
Entering the digit 4

Entering the digit 5



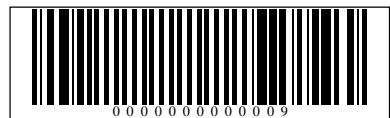
Entering the digit 6

Entering the digit 7



Entering the digit 8

Entering the digit 9





**This user manual is dedicated to the following products:**

LAN type price checker (differentially made) – Code: SP4L



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Date of entering on the market:	<i>01 - 2012</i>	Manual drawing No.:	SP4LIOA011
		Last edition date:	11-06-2015





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