

ET-1002

Electronic Shelf Label



The ET-1002 is a TFT based electronic shelf label with a screen size of 10" and with both wireless and USB as communication options.

The information in this document is subject to change without notice.

Document History

Model Number:	ET-1002	Original release date	30-04-2018
Revision:	Rev0	Date	30-04-2018

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Limited Warranty and Disclaimers

Please read this manual carefully before installing or using the product.

Serial Number

A serial number appears on all Opticon products. This official registration number is directly related to the device purchased. Do not remove the serial number from your Opticon device. Removing the serial number voids the warranty.

Warranty

Unless otherwise agreed in a written contract, all Opticon products are warranted against defects in materials and workmanship for two years after purchase excluding batteries. Opticon will repair or, at its option, replace products that are defective in materials or workmanship with proper use during the warranty period. Opticon is not liable for damages caused by modifications made by a customer. In such cases, standard repair charges will apply. If a product is returned under warranty and no defect is found, standard repair charges will apply. Opticon assumes no liability for any direct, indirect, consequential or incidental damages arising out of use or inability to use both the hardware and software, even if Opticon has been informed about the possibility of such damages.

Packaging

The packing materials are recyclable. We recommend that you save all packing material to use should you need to transport your data collector or send it for service. Damage caused by improper packaging during shipment is not covered by the warranty.

Trademarks

Trademarks used are the property of their respective owners.

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Revision History

Product Name : ET-350

Edition	Date	Page	Section	Description of Changes
Rev.0	30-4-2018	-	-	Preliminary Version

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1 Abstract

This manual provides specifications for the ET-1002 Electronic Shelf Label, hereafter also referred to as “ESL”.

2 Overview

The ET-1002 is a 10” full color TFT display that is designed to be attached to product shelves, walls or in other POS applications. The ET-1002 is the perfect product to grab your customers attention at the point-of-sale with dynamic content. It can also be used to set a specific mood or to provide more product information. For communication, it uses a Wi-Fi module that can operate in the 2.4GHz band as well as in the 5GHz band. The product is designed for 24/7 operation, has built-in protection against sudden power loss and an extremely low inrush current that allows for easy installation with of-the-shelf power supplies. Another important feature is that the display will start up immediately when power is supplied, without the need to press a button.

3 Physical Features

3.1 Dimensions

W 241.90 mm x H 160.7 mm x D 21.8 mm

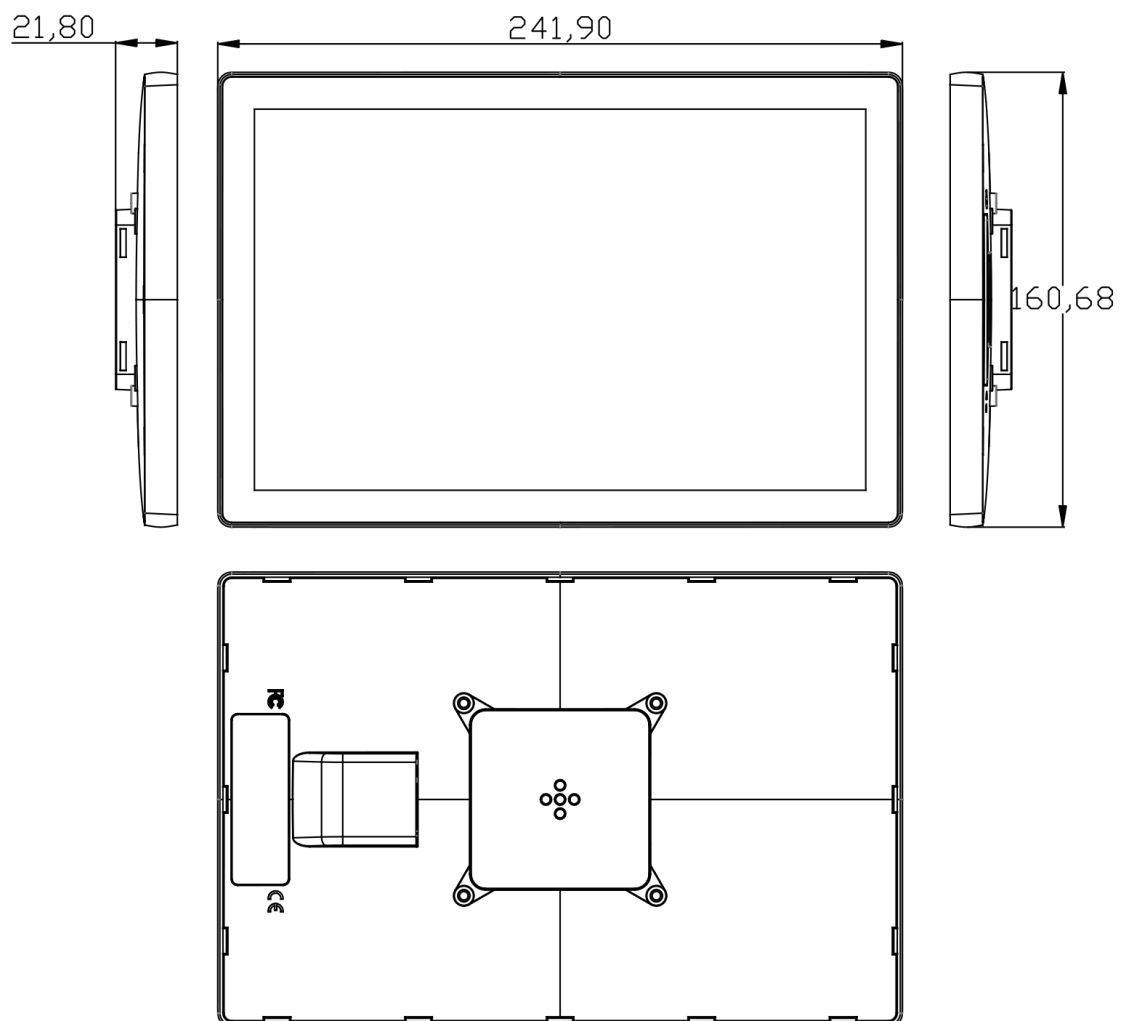


Figure 1: ET-1002 dimensions

3.2 Weight

Approximate 435 g

4 Environmental Specifications

4.1 Operating Temperature and Humidity

Temperature: 10 to 40° C
Humidity: 20 to 85% RH (Non-Condensing)

4.2 Storage Temperature and Humidity

Temperature: -20 to 60° C
Humidity: 20 to 85% RH (Non-Condensing)

5 Controls

Items	Specifications		Remarks
CPU	Type	8 core, 64-bit ARM® Cortex® A53	
	Clock frequency	1.4GHz	
	GPU	3D Graphics accelerator	
Memory	RAM	1 GB	DDR3 @ 800MHz
	Flash	4 GB	
LCD	Type	IPS, TFT	
	Size	10.1"	Diagonal
	Resolution	1280x800 RGB	
	Active area	216.96 x 135.6	mm

6 Electrical Specifications

6.1 Electrical Characteristics **TBD!!**

Conditions: Typical video application, USB unconnected, Backlight 100%, WiFi off.

Parameter	Typ	Unit	Remarks
Minimum Operating voltage	12	V	Minimum = 11V
	48	V	Maximum = 50V
Operating current	600	mA	Input voltage 12V
	300	mA	Input voltage 24V
	175	mA	Input voltage 48V
Inrush current	10mA higher than typical current		

6.2 Input power

The ET-1002 can be powered via a DC jack or via contact points at the back of the device.

6.2.1 DC Jack

The recommended DC plug for powering the ET-1002 should have the following specs:

Parameter	Value
Outer diameter	2.35 mm
Inner diameter	0.7 mm
Current rating	1A or more
Voltage rating	16V (for 12V power supply) to 50V (48V power supply)

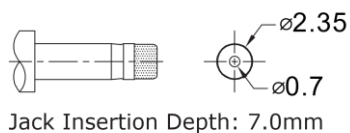


Figure 2: Recommend DC plug dimensions (in mm)

7 Interface Specifications

The ET-1002 has several options for wireless communication and a micro USB interface for wired communication. The USB port can be used to plug in e.g. an Ethernet adapter after which the ET-1002 can be controlled over a wired network.

7.1 USB

The ET-1002 has a micro USB port that can be used to power USB gadgets like a memory stick or a USB-to-Ethernet converter.

Specifications:	USB 2.0 OTG
Max. output power:	1.0A (Provided that the input power supply can handle this)
Supported drivers:	The OS is based on the Linux kernel, versions 4.4.x. In principle all drivers in the 4.4 kernel are available for the ET-1002 but some rarely used drivers are omitted. This means that a wide variety of USB dongles for e.g. Ethernet connectivity are supported.

7.2 WiFi

The ET-1002 has a WiFi interface that supports the 802.11ac standard at both the 2.4GHz and the 5GHz frequency band. The exact standard that is supported is as follows:
IEEE 802.11a/b/g/n/ac, dual-band SISO (Single-input and single-output)

8 Software

The software on the ET-1002 can be used to show video's and static content. The specs for these are as follows:

Parameter	Value	Remarks
Video Container Format	AVI, 3GP, QT(Quicktime), Matroska	
Video Codecs	H263, H264, MPEG-4	With hardware acceleration
Pictures	JPG, PNG	All resolutions. Pictures will be scaled to 800x1280 but not rotated.

At the time of writing the manual, the OS is based on Linux 4.4.x, but future revisions of this product may have a newer version.

9 Labeling

9.1 Product Label

The product label is affixed to the ET-1002 as shown below.



Figure 3: Product label

Label dimension:

60 x 20mm

Tolerance $\pm 0.2\text{mm}$

Corner radius 1mm

Label material:

Consist of base + laminate protection against wear.

Base: 80 μ yupo label, backing with glueLaminate: 25 μ clear lamination

RoHS compliant

Serial number area:

Data: 'B00040' followed by 5 hexadecimal digits.

The 5 hexadecimal characters form the serial number and starts with 00000 and is incremented with 1 for each label. No double serial number may exist.

Since it is a hexadecimal number, the numbers go from

00000, 00001, ... 00009, 0000A, 0000B, 0000C, 0000D, 0000E, 0000F, 00010 etc

9.2 Shipment Box Labels

The shipment box labels are meant to show the regulatory information on the shipment box as well as the quantity in the box. The labels are 150mm*95mm and are made from plain paper with adhesive backing.

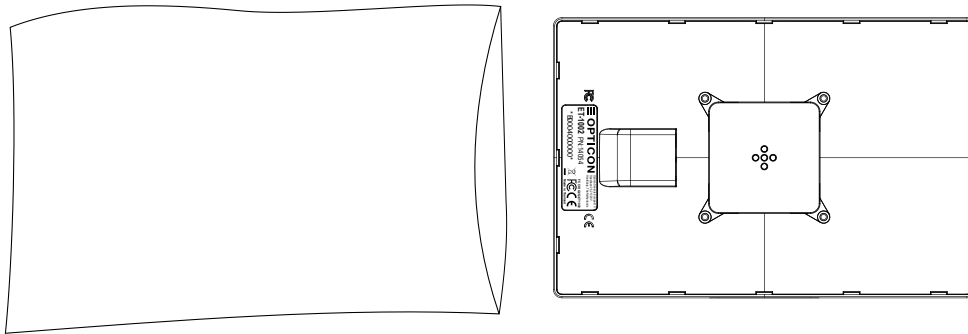


≡ OPTICON		C/No 001 Made in China
Product:	ET-1002	
PO:	 *13412*	
Spec#:	 *OF1ET1002.01*	
Article US: code		
EU:	 *14148*	SN (from)  *B0004000001*
QTY:	 *100*	SN (to)  *B0004000064*
Missing Serial Numbers QTY: 0 1 2		
Shipping date: 05-09-2017		
Software: Boot: - OS: -	 Opticon Sensors Europe B.V. Opaallaan 35, 2132 XV Hoofddorp The Netherlands	

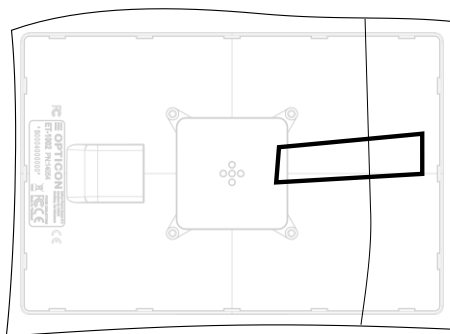
Figure 4: Shipment box labels

10 Packaging Specifications

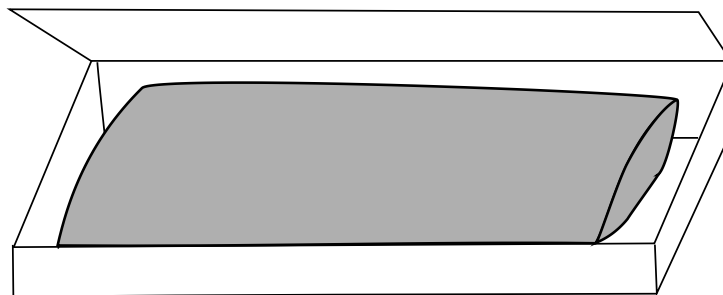
10.1 Individual Packaging Specification



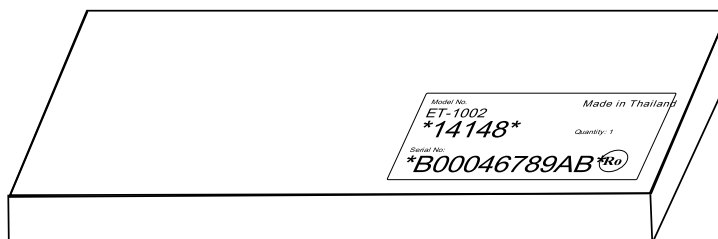
Put the ET-1002 in a foam bag



Close the foam bag with a piece of tape.



Put the ET-1002 in a cardboard box

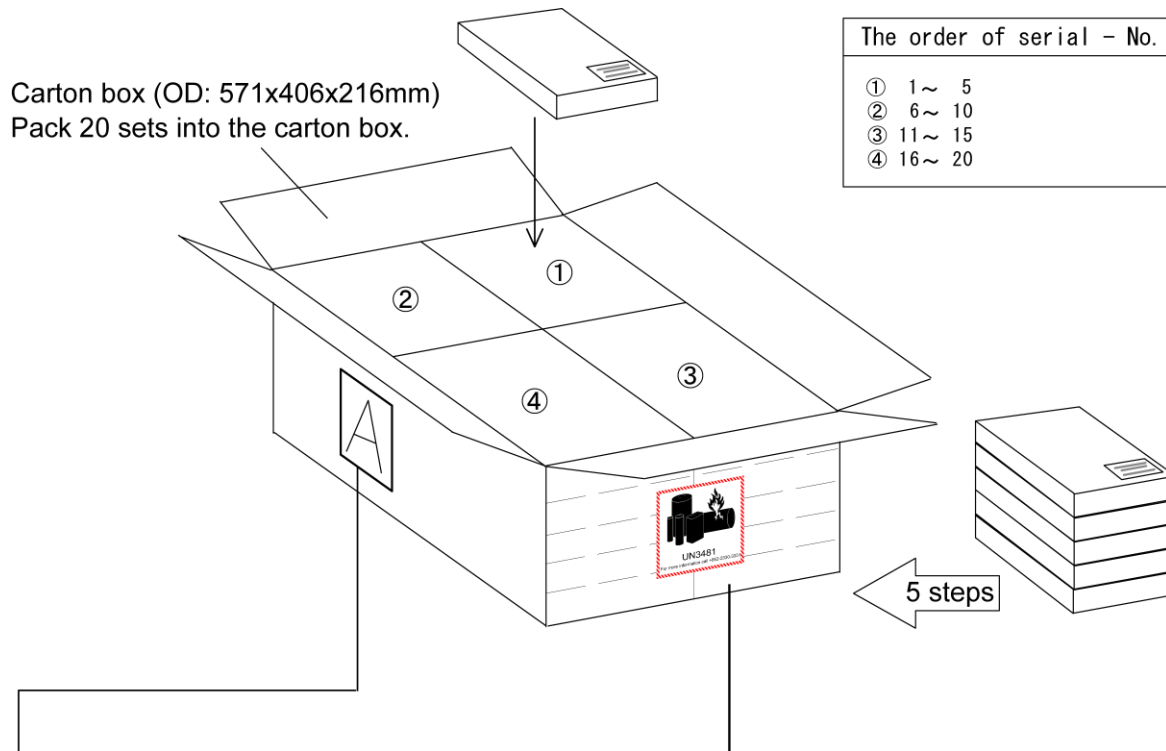


Close the box and put a serial number sticker on it.

Make sure that the serial number matches that of the ET-1002 in the box

Figure 5: Individual packing

10.2 Collective Packaging Specification



A: Barcode serial label for shipment box
Stick a label on the front side and one on the back side of the box.

OPTICON		C/No XXX
		Made in XXXXXXX
Product:	ET-1002	
PO:		
Spec#:		
Article US:		
code		
EU:	SN	
	(from)	
QTY:	SN	
	(to)	
Missing Serial Numbers		QTY: 0
1		
2		
Shipping date: xx-xxxxxxx-20xx		
Software: Boot: xxxxxxxx OS: xxxxxxxx AP: xxxxxxxx		
 Opticon Sensors Europe B.V. Opaallaan 35, 2132XV Hoofddorp The Netherlands		

B: Lithium Ion safety label 2019 model
Stick one label on a side that doesn't have a barcode serial label.



Figure 6: Shipment packing

11 Regulatory Compliance

11.1 RED

Hereby, Opticon Sensors Europe B.V. declares that the radio equipment type ET-1002 is in compliance with Directive 2014/53/EU. The full text of the Declaration of Conformity is available at the following internet address: <https://opticon.com/product/et-1002/>

Federal Communications Commission (FCC) Statement

15.19

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device.

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

11.2 WEEE

Waste Electrical and Electronics Equipment Directive, 2012/19/EU.



Following information is only for EU-member states:

The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

11.3 RoHS

RoHS: The restriction of the use of certain hazardous substances in electrical and electronic equipment, 2011/65 EC.

12 Handling precautions

Handle this product carefully. Do not deliberately subject it to any of the following.

12.1 Shock

Do not throw or drop the ET-1002.
Do not place heavy objects on the ET-1002.

12.2 Temperature Conditions

Do not use the ET-1002 at temperatures outside the specified range.
Do not pour boiling water on the ET-1002.
Do not throw the ET-1002 into the fire.
Do not leave the ET-1002 on the dashboard of a car.

12.3 Foreign Materials

Do not immerse the ET-1002 in liquids.
Do not subject the ET-1002 to chemicals.

12.4 Disposal

When discarding the product, treat it as electronic waste and dispose of it according to local regulations.

12.5 Other

Do not disassemble this product.
The ET-1002 may be damaged by high voltage discharges.