



**SYS-B68-HEN
INSTALLATION, USE AND WARNINGS MANUAL**

Edition: 06/2023

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1. Preliminary information

1.1 Device description

The **SYS-B68-HEN** device is a gateway enclosed in a metal box with a heat sink.

The technology developed by **SECO S.p.A.** can be used and applied in various fields, such as:



Automotive



Digital Signage -
Infotainment



HMI



Industrial
Automation and
Control



Info Kiosks



Multimedia
devices



Point of Sales

1.2 Recipients

This manual is intended for ordinary people and installers (expert users).



IMPORTANT

The user must read this manual before start with any kind of operation.

1.3 Warranty

The warranty shall be **voided** in the event of:

- failure to comply with safety regulations;
- tampering with the device;
- changes to the safety conditions established by the Manufacturer in the device management software;
- improper use of the device;
- use of the device by untrained and/or unauthorized personnel or failure to respect duties, as indicated in the manual;
- changes or repairs carried out by the user without written authorization from the Manufacturer;
- partial or total failure to comply with the instructions;
- defects in the mains power supply (electricity, power supply, etc.);
- poor maintenance;
- use of non-original spare parts;
- exceptional events such as floods, fires (if not triggered by the device).

The complete warranty terms are set out in the sales contract.



IMPORTANT

The Manufacturer is not liable for improper use of the device.

2. Identification

2.1 Manufacturer identification

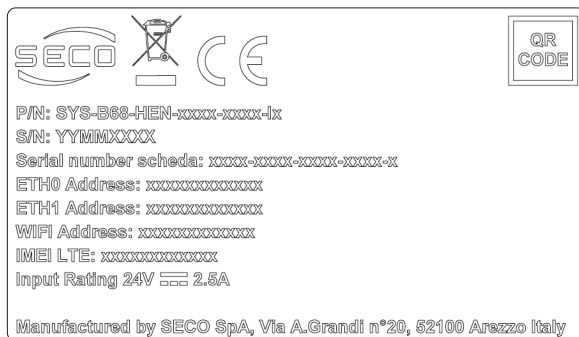
MANUFACTURER	SECO S.p.A
Address	Via Achille Grandi n°20 52100 Arezzo – Italy Tel: +39 0575 26979 Fax: +39 0575 350210

2.2 Device identification

Device	SYS-B68-HEN
Serial number	YYMMXXXXX
Year of manufacturing	2022

2.3 Device identification plate

The device is equipped with an **identification plate** located on the side. The plate features the device identification information to be reported to **SECO S.p.A.** if necessary, as shown in the table:



<p>SYS-B68-HEN -XXXX-XXXX-lx</p>	<p>HEN - Code that identifies the Client.</p>
<p>SYS-B68-HEN -XXXX-XXXX-lx</p>	<p>XXXX-XXXX - Code that identifies the electronic board inside the device.</p>
<p>SYS-B68-HEN - XXXX-XXXX-lx</p>	<p>lx – Code that identifies:</p> <ul style="list-style-type: none"> • Industrial Operating Temperature Range = “l” • Product Revision Index = “x”



CAUTION

It is strictly forbidden to remove the identification plate and/or replace it with other plates.

3. Technical specifications

3.1 SYS-B68-HEN device hardware specifications

The table below features the board hardware specifications:

Processor	<p>Intel® Atom™ x5-E3930 Dual Core @1.3 GHz (Burst 1.8GHz), 2MB L2 Cache, 6.5W TDP</p> <p>Intel® Atom™ x5-E3940 Quad Core @1.6 GHz (Burst 1.8GHz), 2MB L2 Cache, 9.5W TDP</p> <p>Intel® Atom™ x7-E3950 Quad Core @1.6 GHz (Burst 2.0GHz), 2MB L2 Cache, 12W TDP</p> <p>Intel® Pentium® N4200 Quad Core @1.1GHz (Burst 2.5GHz), 2MB L2 Cache, 6W TDP</p> <p>Intel® Celeron® N3350 Dual Core @1.1GHz (Burst 2.4GHz), 2MB L2 Cache, 6W TDP</p> <p>Intel® Celeron® J3455, Quad Core @1.5GHz (Burst 2.3GHz), 2MB L2Cache, 10W TDP</p> <p>Intel® Celeron® J3355, Dual Core @2.0GHz (Burst 2.5GHz), 2MB L2Cache, 10W TDP</p>
Memory	Quad Channel soldered down LPDDR4 memory, up to 8GB
Mass Storage	<p>Optional eMMC drive onboard</p> <p>M.2 SATA SSD slot (Socket 2 Key B Type 3042/2260)</p> <p>microSD Card slot</p> <p>SATA 7p M connector</p>
Network connection	<p>2x Gbit LAN / Intel Gigabit Ethernet i21x family controller</p> <p>M.2 WWAN Slot for Modems (Socket 2 Key B Type 3042/2260)</p> <p>M.2 WLAN Connectivity Slot for WiFi/BT (Socket 1 Key E type 2230)</p>
USB	<p>2 x USB 3.0 Host ports on USB 3.0 Type-A sockets</p> <p>2 x USB 2.0 Host ports on USB 2.0 Type-A sockets</p> <p>2 x USB 2.0 Host ports on internal pin header</p> <p>1 x USB 3.0 Host port on SSD/WWAN M.2 slot</p> <p>1 x USB 2.0 Host port on WLAN M.2 Slot</p>
PCI-e	<p>1 x PCI-e x2 port on M.2 SSD/WWAN Slot</p> <p>1 x PCI-e x1 port on WLAN M.2 Slot</p>
Graphics	<p>Integrated Intel® HD Graphics 500 series controller, with up to 18 Execution Units</p> <p>4K HW decoding and encoding of HEVC(H.265), H.264, VP8, VP9, MVC</p> <p>Three independent display support</p>

Video	Two DP++ 1.2 interfaces on miniDP connectors (supports HDMI displays through external adapter) embedded Display Port (eDP) internal connector LVDS through optional external adapter
Power Supply model	+24V DC RTC battery ANTI-TAMPER battery
Battery	Battery kit included in the box
Operating System	Microsoft® Windows 10 Enterprise (64 bit) Microsoft® Windows 10 IoT Core Yocto (64 bit) Linux
IP protection rating	IP65
Operating temperature in user environment	-30°C ÷ +50°C
Humidity	5% ÷ 85%
Type of installation	Fastening with DIN bar
Accessories	Cables/connector kit included in the box

ATTENTION

****The values indicated refer to the maximum temperature of the environment of use of the device. It is the customer's responsibility to verify that the temperature remains within the admissible range indicated in this manual and, if necessary, adopt any passive cooling solution together with an application-dependent cooling system that can ensure that the heat sink temperature will not damage the device itself and/or the connected mechanical parts.**



CAUTION

For the mouse, keyboard, USB stick and other peripherals connected to the USB port, the plastic shell must have fire rating of V-0 or higher.



3.2 Software Specifications

The software version released on the website <https://www.seco.com/it/products>, which is always updated and available, even in later versions.

3.3 CE reference directives

SECO S.p.A. places the device on the market, equipping and providing it with:

- CE marking
- IT certification
- Device certificated as “electrical equipment used in measurement, control and laboratory”
- Declaration of Conformity
- IP65 certification
- User manual

Please also note that the device has been designed according to the following Directives:

- 2014/53/EU (RED)
- 2012/19/EU (WEEE2)
- 2011/65/EU (RoHSII) and subsequent amendments and additions by the European Parliament and the Council.

4. Safety devices

4.1 Warnings

CAUTION



It is the user's responsibility to apply preventive and protective measures, in accordance with the legislation of the country of installation and use of the device.

CAUTION



Only use the accessories supplied by the manufacturer.

CAUTION



Only connect certified peripherals / devices to the device.

CAUTION



Always disconnect the electrical power supply before carrying out any work on the device.

CAUTION



Check that the electrical voltage meets the values indicated in this manual before connecting the device.

CAUTION



Disconnect the device from any power source before cleaning.

CAUTION



Do not use liquid detergents or sprays for cleaning the device.

CAUTION



Do not pour liquids of any kind on the device. This may cause fires and/or electric shocks.

CAUTION



Keep the device away from exposure to moisture values outside the admissible range indicated in this manual.

CAUTION



The device must always be fixed to a machine before proceeding with any type of operation and/or use.

CAUTION



To avoid the risk of electric shock, this equipment must only be connected to a supply main with protective earth supply mains.

**CAUTION**

It is strictly forbidden to modify the appliance in order not to compromise the characteristics relating to the declared requirements.

**WARNING**

It is strictly forbidden to cover the device during operation.

**WARNING**




It is strictly forbidden for the patient/operator to touch the device during operation.

**CAUTION**

For the mouse, keyboard, USB stick and other peripherals connected to the USB port, the plastic shell must have fire rating of V-0 or higher.

4.2 Safety pictograms affixed on the device and used in the manual

The device and the manual are equipped with symbols, as indicated in the table below:

PICTOGRAM	DESCRIPTION
	<p>CE marking</p>
	<p>RAEE Indicates the separate collection of electronic and electrical equipment according to Directive 2012/19/EU.</p>
	<p>Symbol used to indicate the need to consult the instruction manual before using the equipment.</p>

5. Characteristics and components of the device

The **SYS-B68-HEN** device is a gateway enclosed in a metal box with a heat sink.



CAUTION

When running, the device can reach very high temperatures, causing the danger of burns when in contact with the heat sink.

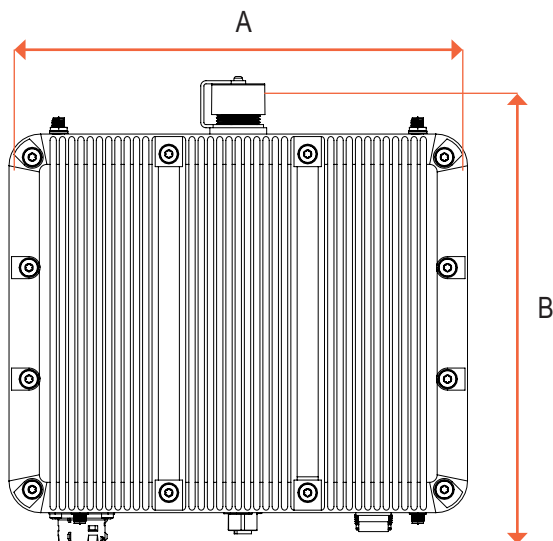
The **SYS-B68-HEN** it is equipped with a cables connectors kit in order connect properly to the destination machine.

The **SYS-B68-HEN** it is equipped with a two different typologies of battery (**MODEL ER14505**: Lithium Thionyl Chloride Battery and **MODEL CR2032**: Lithium Manganese Dioxide (Li / MnO₂)).

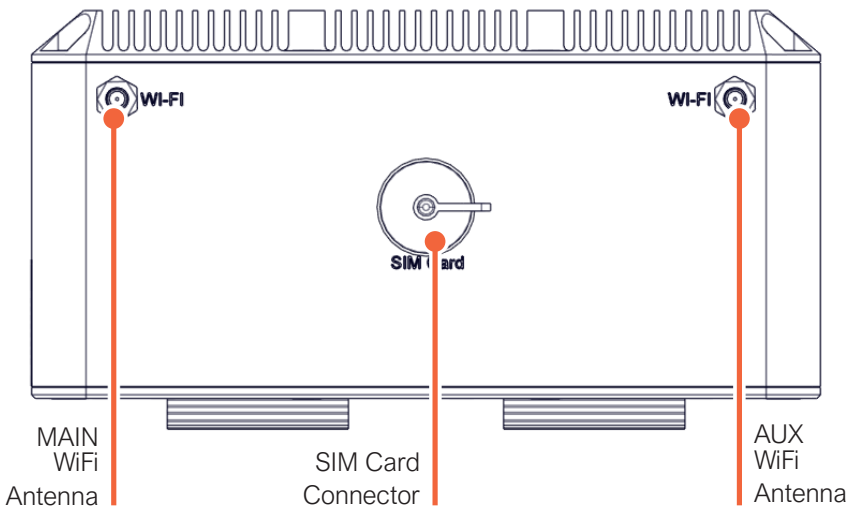
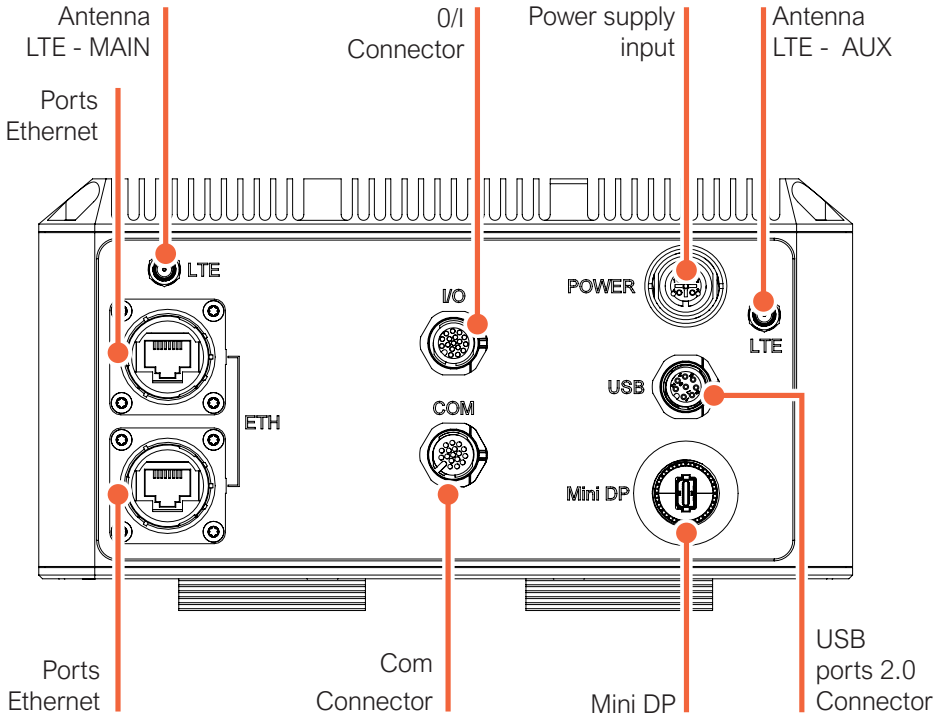
The **DIN bar** is the only fastening system to integrate the device on any of the customer's machines.

5.1 Measurement layout

Length (A)	218 mm
Width (B)	218,5 mm
Height	115,6 mm



5.2 Components



6. Installation

6.1 Permitted environmental conditions

Use of the device and of associated control systems that differ from those listed below is **not** permitted.

In particular, the installation and operation environment must **not** be:

- Exposed to environmental temperatures exceeding -30°C to $+50^{\circ}\text{C}$.
- Exposed to limit areas of 2,000 m.a.s.l.
- Exposed to excessive humidity (minimum 5%, maximum 85 %) and rapid changes in relative humidity (above 0.005 p.u./h).
- Exposed to corrosive fumes.
- Exposed to excessive dust.
- Exposed to abrasive dust.
- Exposed to oil vapours.
- Exposed to powder or gas explosive mixtures.
- Exposed to salt air.
- Exposed to vibrations, impacts or abnormal shocks.
- Exposed to weather conditions beyond the limits permitted or dripping.
- Exposure to unusual transport or storage conditions.
- Exposure to high or rapid thermal changes (above 5K/h).
- Presence of nuclear radiation.

CAUTION



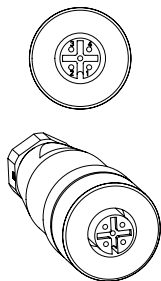
Environmental conditions that differ from those specified may seriously damage the device. Positioning the device in environments that do not correspond to those indicated shall render the warranty null and void for the parts to be replaced.



SECO S.p.A. shall not be held liable if these instructions are not complied with.

6.2 Installing the device

In order to install the device, make sure that the following cables connectors are connected properly to the device:

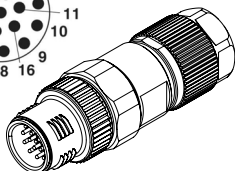
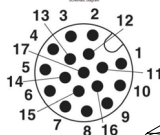


Connections	
1523434	Colors Wires
1	Red *
2	Black *
3	NC
4	NC

1* +24V DC connection

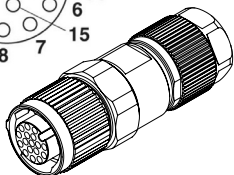
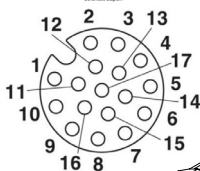
2* GND connection

Connector - SACC-MS-17PCON-SC0 - 1559602

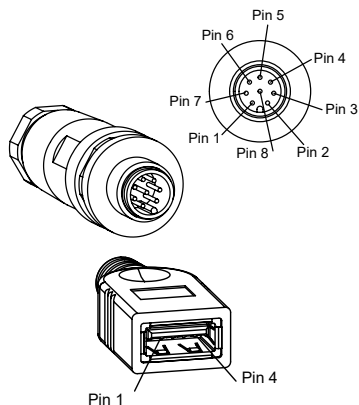


Connections			
1559602	Colors Wires	Signals	Wires Lenght
1	RED	3.3v	300 millimeters
2	BLUE	5v	
3	YELLOW	GPI2C4 CLI	
4	GREEN	GPI2C5 CLK	
5	WHITE	GPI2C4 DAT	
6	GRAY	GPI2C5 DAT	
7	BLACK	GND	
8	ORANGE	GND	
9	BROWN	GPI00	350 millimeters
10	YELLOW	GPI04	
11	GREEN	GPI01	
12	WHITE	GPI05	
13	GRAY	GPI02	
14	BLACK	GPI06	
15	ORANGE	GPI03	
16	BROWN	GPI07	
17			

Connector - SACC-FS-17PCON-SC0 - 1559644



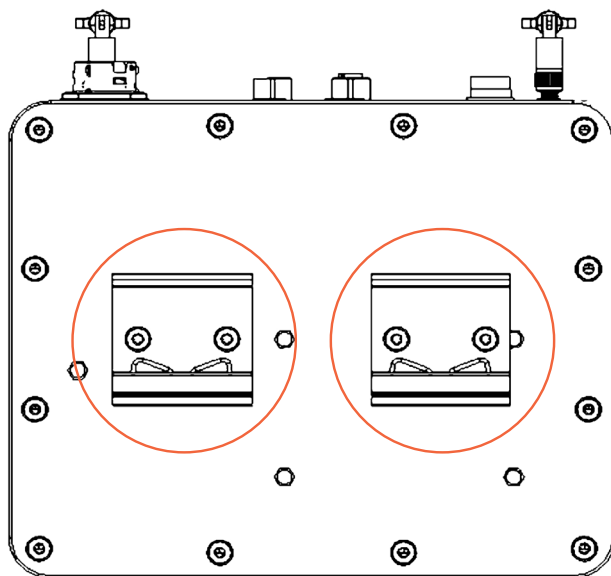
Connections				
1559644	DB9 - COM1	DB9 - COM2	Signals	Colors Wires
1	2		RXD1	RED
2		2	RXD2	BLUE
3	3		TXD1	YELLOW
4		3	TXD2	GREEN
5	5		GND	WHITE
6			NC	
7	7		RTS1	GRAY
8		7	RTS2	BLACK
9	8		CTS1	ORANGE
10			CTS2	BROWN
11		5	GND	WHITE YELLOW
12			NC	
13			NC	
14			NC	
15			NC	
16			NC	
17			NC	



Connections table				
1523492	USB-1	USB-2	Signals	Colors Wires
1	4		GND-1	BLACK
2		4	GND-2	BLACK
3	3		D1+	GREEN
4		3	D2+	GREEN
5	2		D1-	WHITE
6		2	D2-	WHITE
7	1		VCC 1	RED
8		1	VCC 2	RED

To install the device properly on wall using **DIN bar support**, follow the procedure below:

- 1 Make sure the electric connection on the destination machine is off and the electric power supply is disconnected from the device;
- 2 Proceed to fasten the device to the standard **DIN bar support** pushing it until will be locked;
- 3 Proceed to connect the electric supply to the device. Once inserted, turn the connector clockwise in order to lock it in place;
- 4 Proceed to electrically connect the destination machine.



6.3 Versions available

The **SYS-B68-HEN** device is available in different versions that integrate various configurations of the electronic board "B68".

Below are the tables with the main configurations of the device:

SYS-B68-HEN-6xxx-xxxx-lx	Option CPU APOLLO LAKE INTEL ATOM E3930
SYS-B68-HEN-7xxx-xxxx-lx	Option CPU APOLLO LAKE INTEL ATOM E3940
SYS-B68-HEN-8xxx-xxxx-lx	Option CPU APOLLO LAKE INTEL ATOM E3950
SYS-B68-HEN-xAxx-xxxx-l	Option RAM 2GB (1 Chip - 16Gb)
SYS-B68-HEN-xBxx-xxxx-lx	Option RAM 4GB (2 Chip - 16Gb)
SYS-B68-HEN-xCxx-xxxx-lx	Option RAM 8GB (4 Chip - 16Gb)
SYS-B68-HEN-xx4x-xxxx-lx	Option eMMC 32GB
SYS-B68-HEN-xx5x-xxxx-lx	Option eMMC 64GB
SYS-B68-HEN-xxx0-xxxx-lx	Option NO SSD SATA
SYS-B68-HEN-xxx1-xxx x - l x	Option SSD SATA 2,5' 256 GB
SYS-B68-HEN-xxx2-xxxx-lx	Option SSD SATA 2,5' 512 GB
SYS-B68-HEN-xxxx-1xxx-lx	NO Anti-Tamper
SYS-B68-HEN-xxxx-2xxx-lx	Anti-Tamper
SYS-B68-HEN-xxxx-x1xx-lx	Option WI-FI + LTE
SYS-B68-HEN-xxxx-x2xx-lx	Option WIFI + LTE + MINIDP
SYS-B68-HEN-xxxx-x3xx-lx	Option LTE + MINIDP
SYS-B68-HEN-xxxx-x4xx-lx	Option WIFI + MINIDP
SYS-B68-HEN-xxxx-xxx0-lx	Option No Operating System
SYS-B68-HEN-xxxx-xxx1-lx	Option Windows
SYS-B68-HEN-xxxx-xxx2-lx	Option Ubuntu

