

Modular Vision Ultra
SERVICE MANUAL

Edition: 10/2026

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1. Preliminary information

1.1 Device description

The **Modular Vision Ultra** is a modular HMI platform designed exclusively for cabinet integration and panel mount solutions. It is a flexible kit based on **Seco**'s core technologies, compatible with various COMe Type 6 modules on a 3.5" carrier board form factor.

The **Modular Vision Ultra** features a single 15-inch PCAP display (LVDS panel + USB Touch) and supports tailored configurations including active heatsink, RAM SO-DIMM, and on-board eMMC storage.

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

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.

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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	Modular Vision Ultra
Serial number	XXXXXXXX
Year of manufacturing	06/26

3. Technical specifications

3.1 Modular Vision Ultra device hardware specifications

The table below features the board hardware specifications:

Modules	Compatible with various COMe Type 6 modules from Seco's portfolio (on Carrier Board 3.5" form factor, based on MC30-0000-0000-C3_50)
Memory	RAM SO-DIMM slots (specific capacity depending on the selected module)
Graphic	Integrated in the selected COMe module; native LVDS interface support for the display.
Mass Storage	On-board eMMC (where possible)
USB	Dedicated USB interface for the integrated touch panel
Power	AC/DC power supply, single voltage range 19÷24 Vdc. Standard 5/2.5mm barrel connector. Total power budget: 90W (Requires PSU > 90W)
Dimensions	15" 270.1 x 51.7 x 187.1mm
Mounting Options	Panel mount solution only (designed exclusively for cabinet integration)
Operating Temperature	0°C ÷ +50°C*
Relative Humidity	5 ÷ 95% @60°C (non-condensing)
Front Panel Protection	IP66



ATTENTION
***Measured at any point of the heatspreader/heatsink during any and all times (including start-up). Actual temperature will widely depend on application, enclosure and/or environment. Upon customer to consider specific cooling solutions for the final system to keep the heatspreader temperature in the range indicated.**

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3.2 Software Specifications

The software version released on the website **https://developer.seco.com/hardware/product/hmi-solution/modular-vision** which is always updated and available, even in later versions.

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



CAUTION
No changes shall be made to the equipment without the manufacturer's permission as this may void the user's authority to operate the equipment.

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Whenever handling the device, ground yourself through an anti-static wrist strap. Placement of the board on an anti-static surface is also highly recommended.



Always switch the power off, and unplug the power supply unit, before handling the board and/or connecting cables or other boards.



Avoid using metallic components - like paper clips, screws and similar - near the board when connected to a power supply, to avoid short circuits due to unwanted contacts with other board components.



If the board has become wet, never connect it to any external power supply unit or battery.



Check carefully that all cables are correctly connected and that they are not damaged.



Batteries should not exceed the storage temperature of -20/+40°C and a relative humidity of 60±15%. Danger of explosion if the battery is replaced with another one of the wrong type. Batteries must be disposed of as required by the European directive.

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
	**WEEE /RAEE** Indicates the separate collection of electronic and electrical equipment according to Directive 2012/19/EU.
	Symbol used to indicate the need to consult the instruction manual before using the equipment.
	Symbol used to identify important warnings for the safety of the user and/or of the device.
	Warning! Read the manual before use.

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5. Characteristics and components of the device

The **Modular Vision Ultra** is a modular HMI platform designed exclusively for cabinet integration and panel mount solutions. It is a flexible kit based on **Seco**'s core technologies, compatible with various COMe Type 6 modules on a 3.5" carrier board form factor.

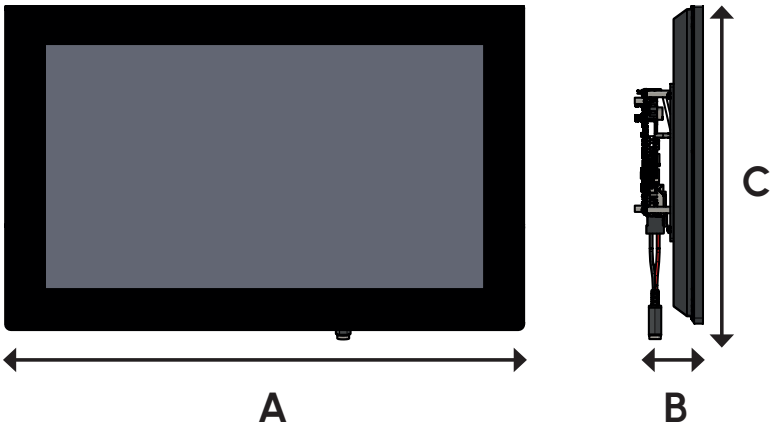
The **Modular Vision Ultra** features a single 15-inch PCAP display (LVDS panel + USB Touch) and supports tailored configurations including active heatsink, RAM SO-DIMM, and on-board eMMC storage.

On **Modular Vision Ultra**, configurations include an active heatsink, RAM SO-DIMM, and on-board eMMC. The carrier board features specific jumpers for display configuration, while power is supplied via a standard 5/2.5mm barrel connector.

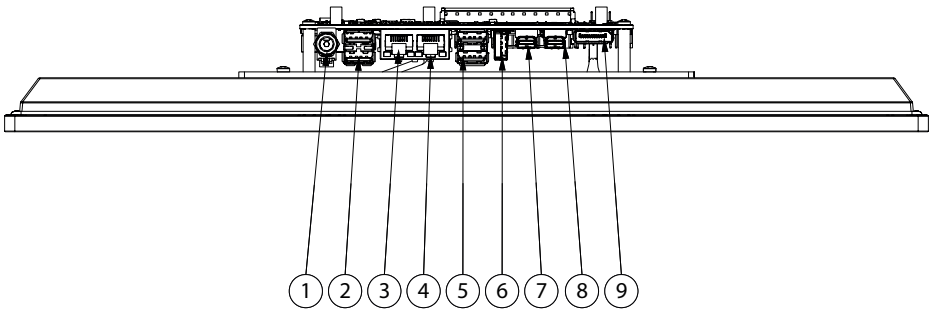
5.1 Measurement layout

Length (A)	270,1 mm
Width (B)	51,7 mm
Height (C)	187,1 mm

Cut out dimensions min. +0,5mm



5.2 Connectors



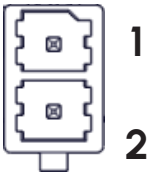
POS.	Description
01	Power
02	2x USB 2.0
03	Ethernet 1
04	Ethernet 2
05	2x USB 3.0
06	USB 3.0
07	miniDisplayPort 1
08	miniDisplayPort 2
09	DisplayPort

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5.3 Connectors description

POWER - Connector 01

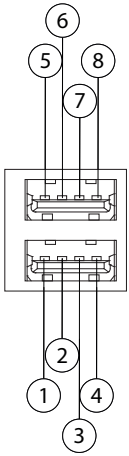
Pin	Signal
01-1	Vin -
01-2	Vin +



POWER Connector 01
The Modular Vision Ultra System can be powered by a 19÷24 Vdc – 90W power supply.

USB 2.0 - Connectors 02

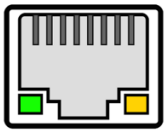
Pin	Signal
01	+5V_USB4
02	USB4_N
03	USB4_P
04	
05	
06	USB5_N
07	USB5_P
08	



USB 2.0 Connectors 02

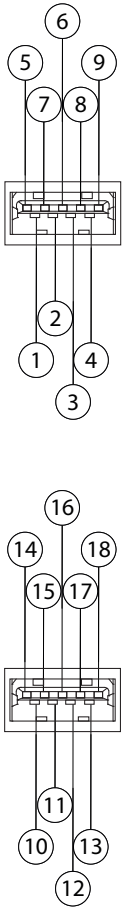
ETHERNET - Connectors 03/04

Pin	Signal
A2/B2	MDI_P0
A3/B3	MDI_N0
A4/B4	MDI_P1
A5/B5	MDI_N1
A6/B6	MDI_P2
A7/B2	MDI_N2
A8/B8	MDI_P3
A9/B9	MDI_N3



Ethernet Connectors 03/04
The Modular Vision Ultra system offers two RJ45 Ethernet connectors with LED for Speed and Link act.

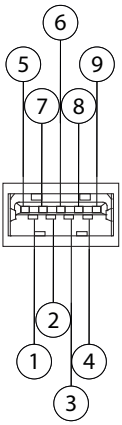
USB 3.0 - Connectors 05	
Pin	Signal
01	+5V_USB0
02	USB0_N
03	USB0_P
04	
05	USBSS_RXN0
06	USBSS_RXP0
07	
08	USBSS_TXN0
09	USBSS_TXP0
10	+5V_USB1
11	USB1_N
12	USB1_P
13	USBSS_RXN1
14	USBSS_RXP1
15	
16	
17	USBSS_TXN1
18	USBSS_TXP1



USB 3.0 Connectors 05

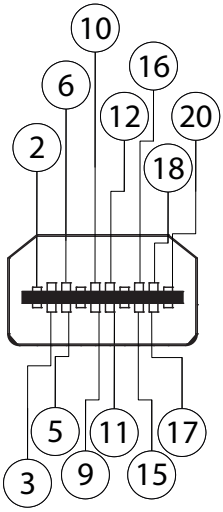
Information subject to change. Please visit www.seco.com to find the latest version of this manual.

USB 3.0 - Connector 06	
Pin	Signal
01	+5V_USB2
02	2 USB2N
03	2 USB2P
04	
05	USBSS_RXN2
06	USBSS_RXP2
07	
08	USBSS_TXN2
09	USBSS_TXP2



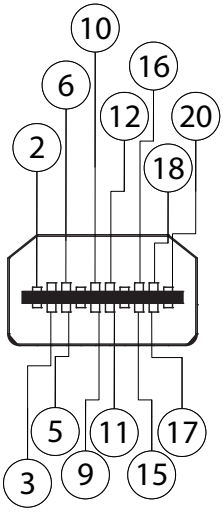
USB 3.0 Connector 06

miniDP 1 Connector 07	
Pin	Signal
01	
02	DP2_HPD
03	DP2_TXP0
04	
05	DP2_TXN0
06	DP2_CEC
07	
08	
09	DP2_TXP1
10	DP2_TXP3
11	DP2_TXN1
12	DP2_TXN3
13	
14	
15	DP2_TXP2
16	DP2_AUXP
17	DP2_TXN2
18	DP2_AUXN
19	3.3V_DP2
20	



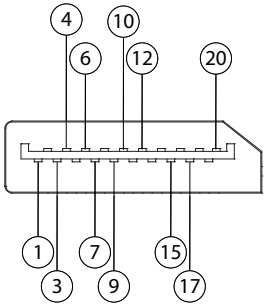
miniDP 1 Connector 07

miniDP 2 Connector 08	
Pin	Signal
01	
02	DP1_HPD
03	DP1_TXP0
04	
05	DP1_TXN0
06	DP1_CEC
07	
08	
09	DP1_TXP1
10	DP1_TXP3
11	DP1_TXN1
12	DP1_TXN3
13	
14	
15	DP1_TXP2
16	DP1_AUXP
17	DP1_TXN2
18	DP1_AUXN
19	3.3V_DP1
20	



miniDP 2 Connector 08

DISPLAY PORT Connector 09	
Pin	Signal
01	DP0_TXP0
02	
03	DP0_TXN0
04	DP0_TXP1
05	
06	DP0_TXN1
07	DP0_TXP2
08	
09	DP0_TXN2
10	DP0_TXP3
11	
12	DP0_TXN3
13	
14	
15	DP0_AUXP
16	
17	DP0_AUXN
18	
19	
20	3.3V_DP0



DISPLAY PORT
Connector 09

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 0 °C. to + 50 °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).
- Front protection rating IP66.
- 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.
- The conductors of the command and control circuits directly connected to the supply voltage must be protected against overcurrents.
- The conductors of the command and control circuits fed by a transformer or by a DC supply must be protected against overcurrent.
- In command and control circuits connected to a protective equipotential circuit, the requirement is satisfied by inserting a protective device against overcurrents in the isolated conductor.



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

CAUTION
The power supply must have this values:
- **Voltage: +19V ÷ +24V**
- **Current: 5 A max**

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

To install the device properly on **machine/wall/sheet/other 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	Fix the device to the existing support using the screws that will be screwed in matching the holes **(A)** in the plate (4 to 10 screws depending to the device size);
3	Proceed to connect the electric supply to the device.
4	Proceed to electrically connect the destination machine.



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

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7. Maintenance

User should clean the product with a dry cloth when necessary, based on his visual inspection.

CAUTION
Disconnect the device from any power source before cleaning operation.

WARNING
The enclosure of the device must be cleaned only with a dry cloth.

After cleaning, the user should check that the product is still correctly installed.

8. Waste disposal



Electrical equipment no longer in use must not be thrown away with normal municipal waste. The substances and materials it contains must be disposed of separately in an appropriate manner.
The device must be disposed correctly as it is a waste of electric and electronic equipment (WEEE).

