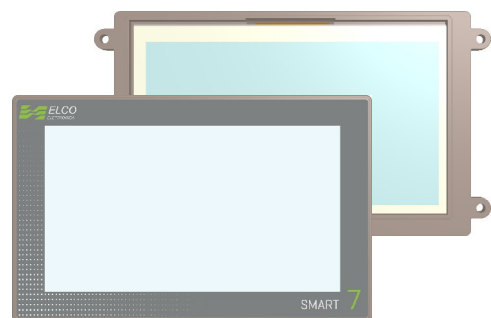
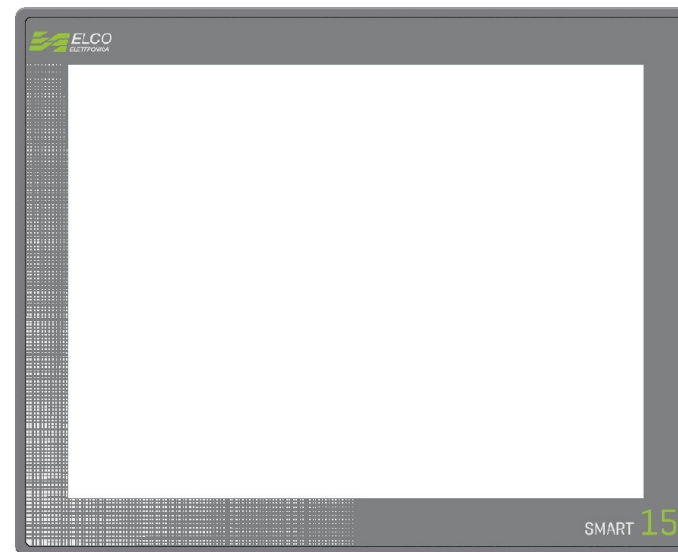




SMART7 (E OPEN-FRAME)



SMART10



SMART15



SMART-BOX

SMART SERIES

PLC / CNC / HMI INTEGRATED *ALL IN ONE*

3 DIFFERENT SIZES (7" / 10" / 15") WITH TOUCHSCREEN HMI

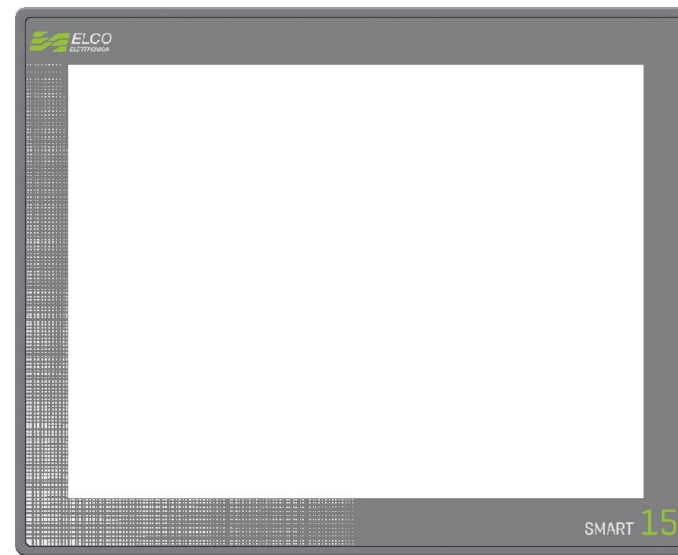
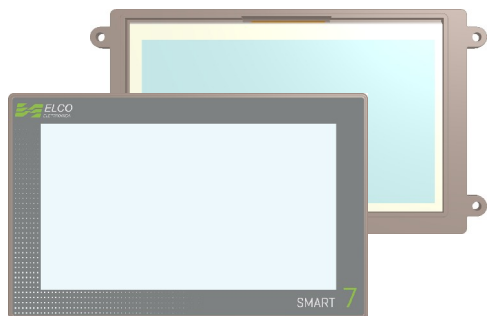
7" SIZE WITH TWO DIFFERENT MOUNTING SOLUTIONS – STANDARD AND OPEN-FRAME (REAR MOUNTING SOLUTION FOR A DEEP INTEGRATION)

HIGH COMMUNICATION CAPABILITIES: RS232 / RS485 SERIAL PORTS, CAN BUS, USB ED ETHERNET

HIGH INTEGRATION LEVEL WITH MOTION AND REMOTE I/O CONTROL VIA FIELDBUS

HIGH PERFORMANCE PROGRAMMABLE SYSTEM: SMART SERIES CAN BE PROGRAMMED WITH ELCO AUTOMATION STUDIO, A POWERFUL AND USER FRIENDLY INTEGRATED SUITE, THAT WITH ONLY ONE APPLICATION ALLOWS THE DEVELOPER TO CREATE PLC LOGIC (PLC), AXIS MOTION CONTROL (CNC), AND GRAPHICAL USER INTERFACE (HMI)

© Elco Elettronica Automation S.R.L. specifies that the technical information contained in this brochure maybe subject to change without prior notice.



SMART7 (E OPEN-FRAME)

SMART10

SMART15

SMART-BOX

MAIN FEATURES

BASIC SYSTEM

- CPU 32BIT 800MHz
- MEMORIES: 256MB FLASH + 256MB RAM.
- TOUCHSCREEN DISPLAY
- 1x ETHERNET + 2x USB
- 2x RS232 + 2x RS485 + 1x CAN BUS,
- CLOCK / DATE / TIME
- UPDATE KEY + DIAGNOSTIC LED + BUZZER
- POWER SUPPLY 24VDC

OPTIONS

- 4x USB + 2x CAN BUS
- 2x ETHERNET + 4x USB + 2x CAN BUS

	SM7	SM7O	SM10	SM15	SM7B
Display	7" WVGA	7" WVGA	10.4" SVGA	15" XGA	/
Touchscreen	Resistive 4 wires	Resistive 4 wires	Resistive 4 wires	Resistive 5 wires	/
Flash memory	256MB	256MB	256MB	256MB	256MB
RAM memory	256MB	256MB	256MB	256MB	256MB
Dimensions	190 x 120 x 34.2mm	211.3 x 120 x 33.7mm	264.7 x 211.9 x 43mm	360 x 290 x 50mm	82 x 190 x 24mm
Weight	1kg	1kg	2kg	3kg	300g

MAIN FEATURES

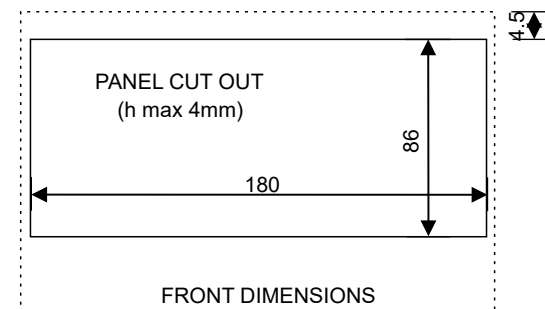
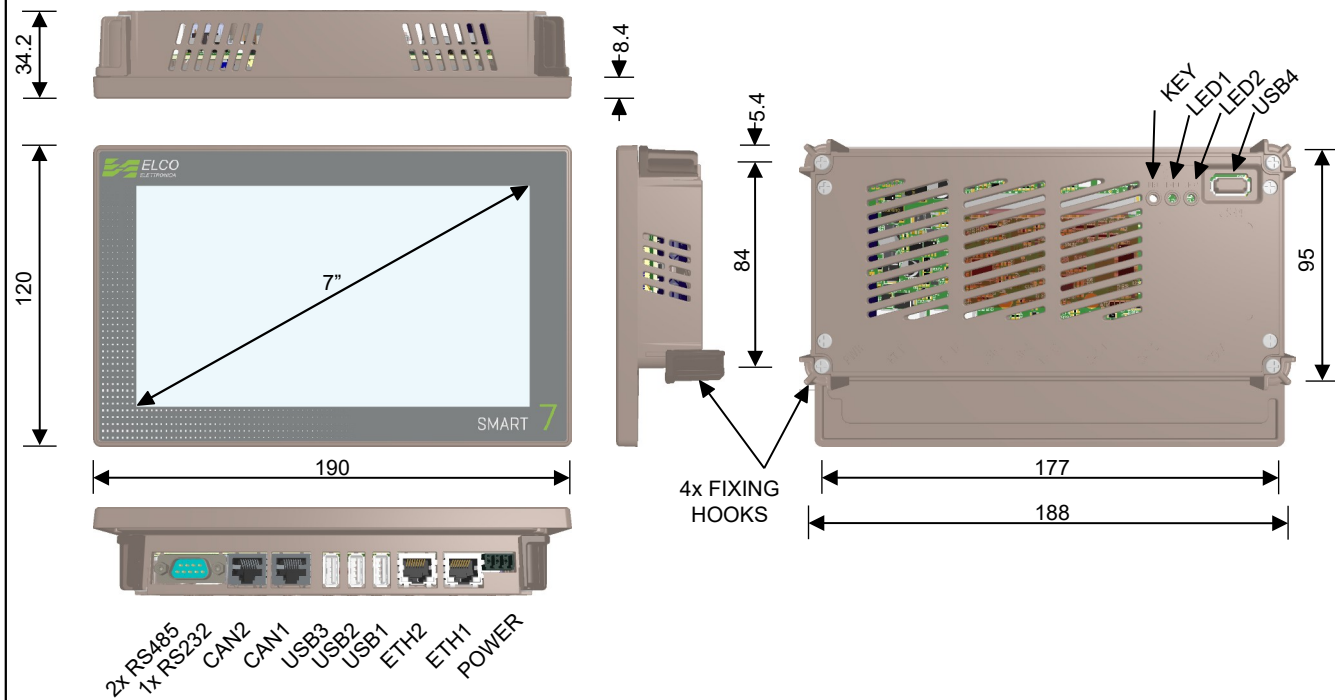
- FRONT PANEL MOUNTING
- INSTALLATION WITH 4 CORNER LOCKS
- 32BIT 800MHz CPU
- 256MB FLASH + 256MB RAM
- LCD 7" WVGA (800x480) TFT LED
- 4 WIRES RESISTIVE TOUCH SCREEN
- 24VDC / 1A POWER SUPPLY (RESETTABLE FUSE)
- 1x / 2x ETHERNET (10/100)
- 2x / 4x USB (2.0 Host)
- 1x / 2x CAN BUS (1Mbps)
- 2x RS232*, 2x RS485 (115.2kbps)
- CLOCK (RECHARGEABLE LITHIUM BATTERY)
- UPDATE KEY + DIAGNOSTIC LED + BUZZER

* 1 RS232 channel is always available but system reserved

TECHNICAL SPECIFICATIONS

PowerSupply	24Vdc±10% 1Amax (7W typ)
Temperature	0..40°C
Protection	IP65 (frontal) / IP20 (rear)
Display	7" WVGA 16bit 400cd/m² 40/60°
Battery (RTC)	Duration 3 months / Recharge 24h / 100 cycles
Buzzer	70dB 4kHz
Weight	1kg (approx.)
Dimensions	190 x 120 x 34.2 mm

DIMENSIONS



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- REAR MOUNTING
- HIGH SYSTEM INTEGRATION
- 4 PINS FIXING SYSTEM
- ... ALL THE OTHER FEATURES AS SMART7

Technical drawing of the RS485-4 CAN2-4 USB2-4 ETH2-1 POWER module, showing front, side, and rear views with dimensions.

Front View Dimensions:

- Overall width: 211.3
- Overall height: 120
- Top section height: 33.7
- Top section width: 172.2
- Top section thickness: 3.9
- Bottom section height: 107.3
- Bottom section width: 100
- Bottom section thickness: 45.5
- Bottom section width: 154.1 x 85.9 (AREA VISIVA)

Side View Dimensions:

- Overall height: 84
- Top section height: 5.4
- Bottom section height: 4

Rear View Dimensions:

- Overall width: 190
- Overall height: 90
- Top section height: 5.4
- Bottom section height: 4
- Bottom section width: 100.5
- Bottom section thickness: 13

Port Labels (Bottom View):

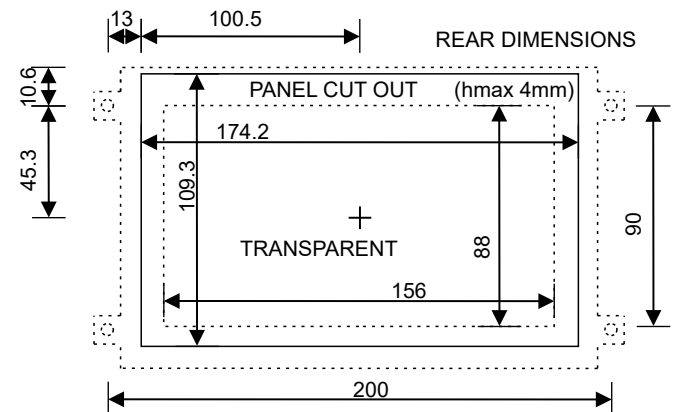
- 2x RS485
- 1x RS232
- CAN2
- CAN1
- USB3
- USB2
- USB1
- ETH2
- ETH1
- POWER

Other Labels:

- KEY
- LED1
- LED2
- USB4

PowerSupply	24Vdc±10% 1Amax (7W typ)
Temperature	0..40°C
Protection	IP65 (frontal) / IP20 (rear)
Display	7" WVGA 16bit 400cd/m² 40/60°
Battery (RTC)	Duration 3 months / Recharge 24h / 100 cycles
Buzzer	70dB 4kHz
Weight	1kg (approx.)
Dimensions	190 x 120 x 34.2 mm

REAR DIMENSIONS



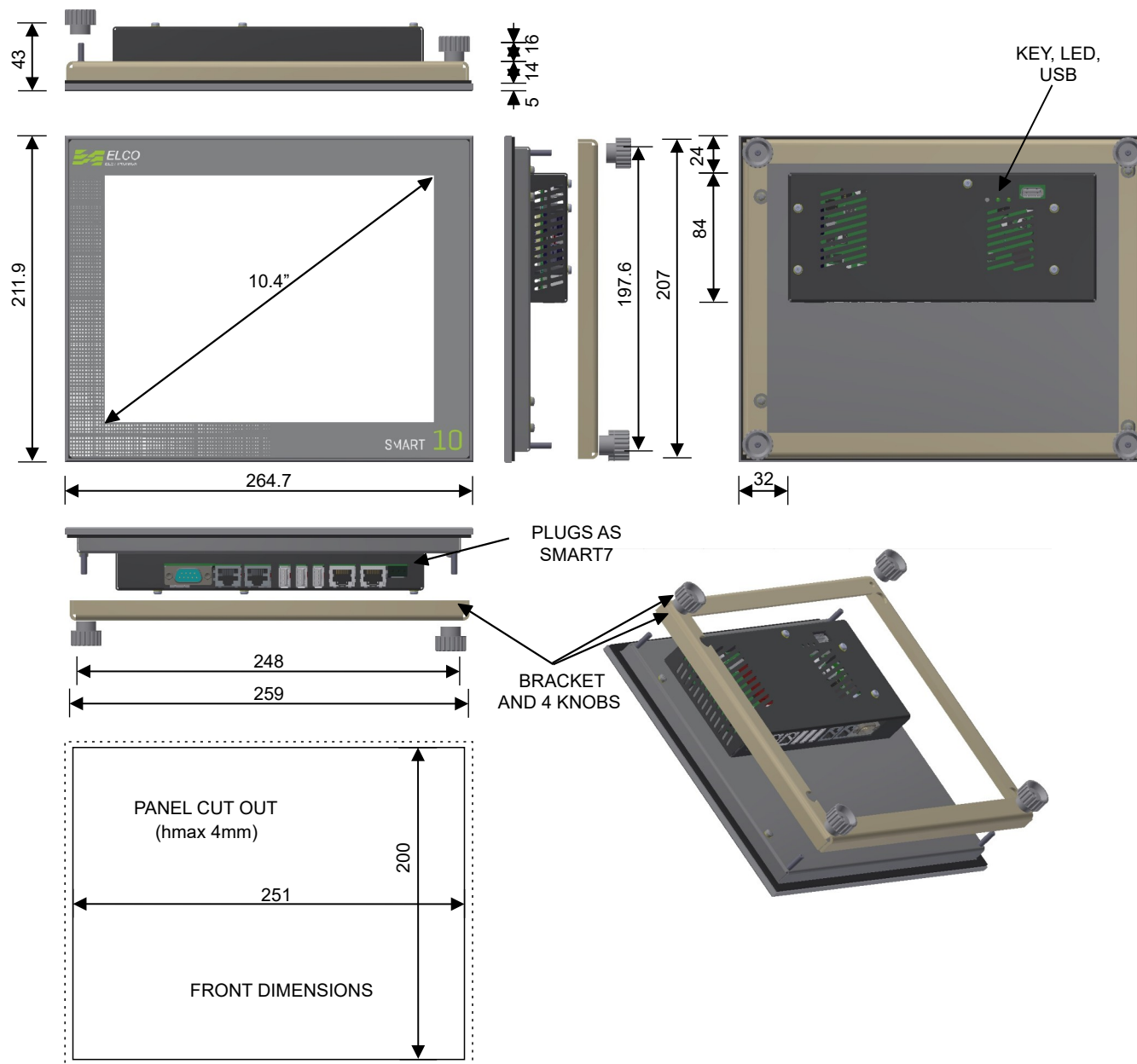
MAIN FEATURES

- 10.4" SGA (800x600) TFT LED DISPLAY
- 4 WIRES RESISTIVE TOUCH SCREEN
- FRONT PANEL MOUNTING
- INSTALLATION WITH BRACKET AND 4 KNOBS
- ... ALL THE OTHER FEATURES AS SMART7

TECHNICAL SPECIFICATIONS

PowerSupply	24Vdc±10% 1Amax (12W typ)
Temperature	0..40°C
Protection	IP65 (frontal) / IP20 (rear)
Display	10.4" SVGA 16bit 400cd/m ² 70/80°
Battery (RTC)	Duration 3 months / Recharge 24h / 100 cycles
Buzzer	70dB 4kHz
Weight	2kg (approx.)
Dimensions	264.7 x 211.9 x 43 mm

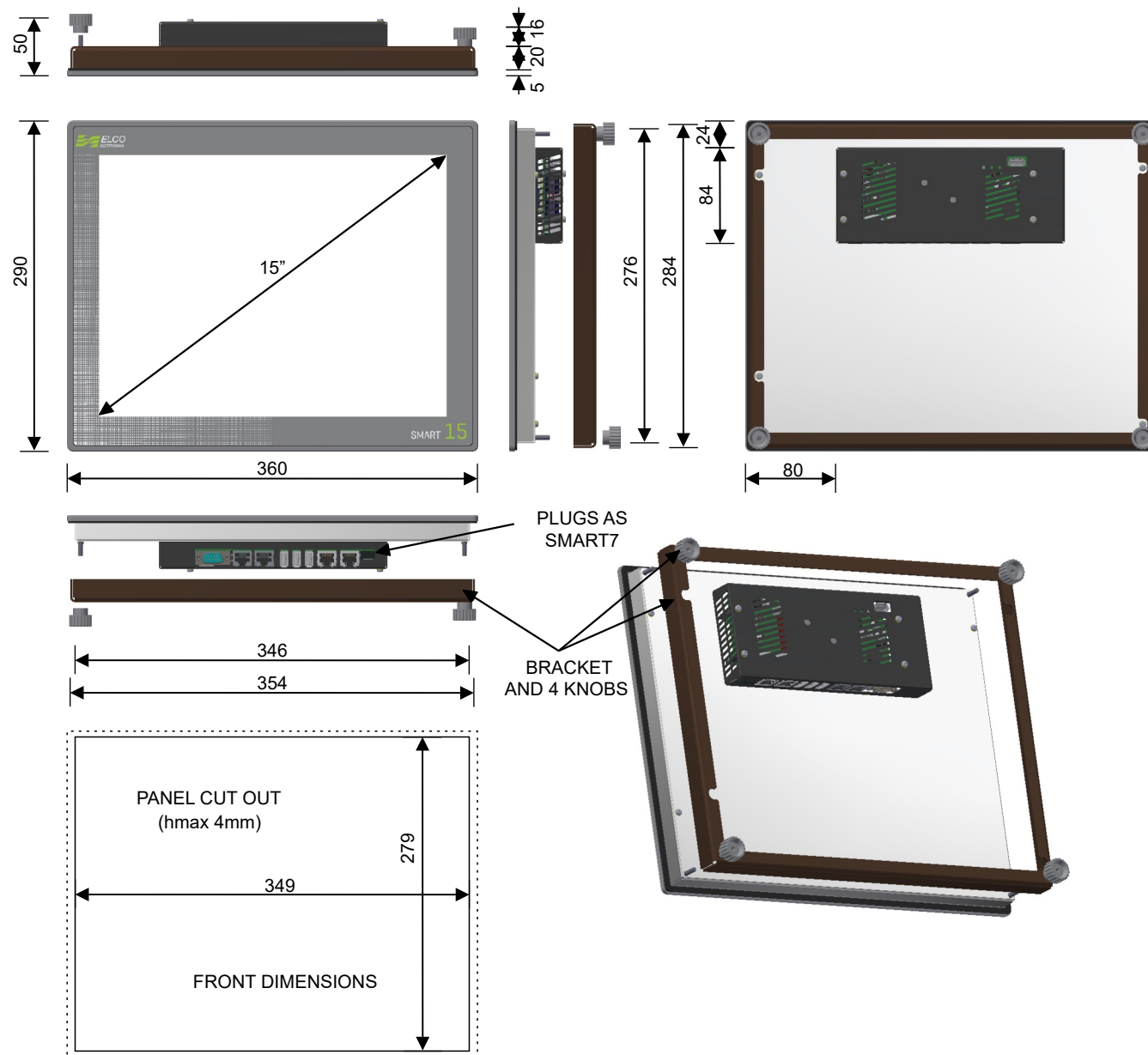
DIMENSIONS



MAIN FEATURES

- 15" XGA (1024x768) TFT LED DISPLAY
- 5 WIRES RESISTIVE TOUCH SCREEN
- FRONT PANEL MOUNTING
- INSTALLATION WITH BRACKET AND 4 KNOBS
- ... ALL THE OTHER FEATURES AS SMART7

DIMENSIONS



TECHNICAL SPECIFICATIONS

PowerSupply	24Vdc±10% 1,5 Amax (15W typ)
Temperature	0..40°C
Protection	IP65 (frontal) / IP20 (rear)
Display	15" XGA 16bit 500cd/m² 80°
Battery (RTC)	Duration 3 months / Recharge 24h / 100 cycles
Buzzer	70dB 4kHz
Weight	3kg (approx.)
Dimensions	360 x 290 x 50mm

- DIN RAIL MOUNTING
- SLOTS OR HOOKS FOR DIN RAIL MOUNTING

- CPU 32BIT 800MHz
- 256MB FLASH + 256MB RAM
- 2 DIAGNOSTIC LED
- 24VDC / 1A (REASTORABLE FUSE)
- 1x / 2x ETHERNET (10/100)
- 2x / 4x USB (2.0 Host – DATI, PROGRAMS, SW)
- 1x / 2x CAN BUS (1Mbps)
- 2x RS232*, 2x RS485 (115.2kbps)
- OROLOGIO (RECHARGIABLE LITIUM BATTERY)
- UPDATE BUTTON + LED + BUZZER

TECHNICAL SPECIFICATIONS

Power supply	24Vdc±10% 1Amax (7W typ)
Tempertaure	0..40°C
Protection	IP20
Battery (RTC)	Duration 3 months / Recharge 24h / 100 cycles
Buzzer	70dB 4kHz
Weight	300g (approx.)
Dimensions	82 x 190 x 24mm

Technical drawing of the ELCO SM7B-12424111B module, showing front and side views with dimensions and port labels.

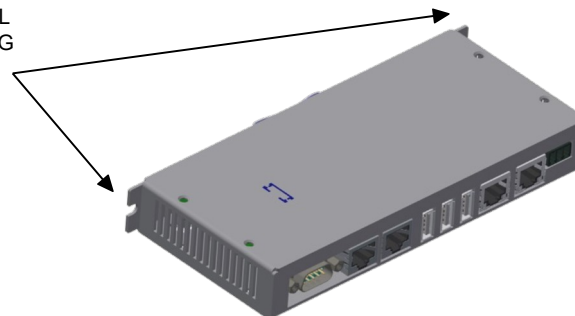
Front View Dimensions:

- Height: 177
- Width: 82
- Top connector height: 24
- Top connector width: 1.5

Front View Labels:

- PWR
- ETH1 (Ethernet)
- ETH2
- 24Vdc 25W
- USB1
- USB2
- USB3
- CAN1
- CAN2
- COM
- COM1
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- COM3
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2x SLOTS FOR
DIN RAIL
MOUNTING



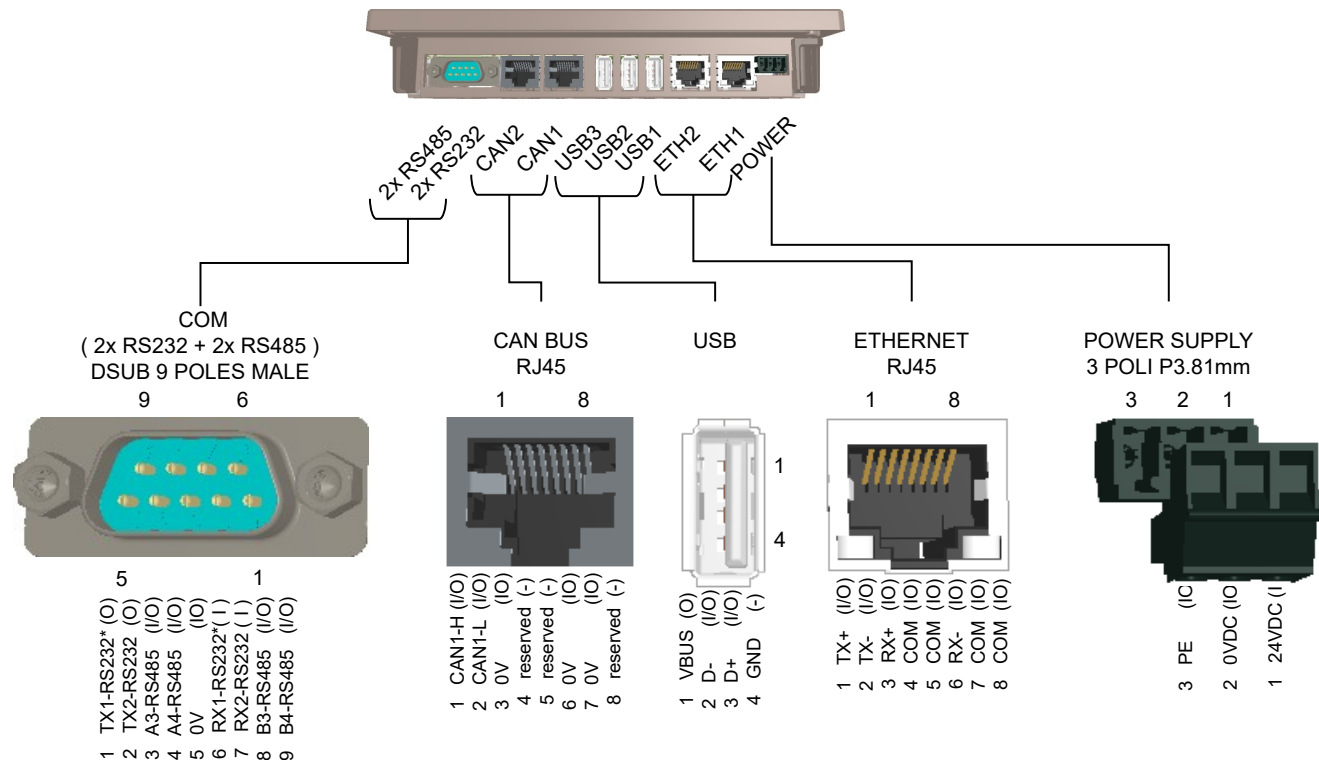
FEATURES

- CONFIGURABLE SYSTEM WITH DIFFERENT COMMUNICATION PORTS AVAILABLE
- 1x RS232* SERIAL PORT 115.2kb/s MAX
- 2x RS485 SERIAL PORTS 115.2kb/s MAX (TERMINATION RESISTOR SELECTABLE WITH JUMPER)
- 1x OR 2x ETHERNET 10/100BaseT
- 2x OR 4x USB 2.0 Host – DATA, PROG, SW (TOTAL CONSUMPTION 2A MAX)
- 1x OR 2x PORTE CAN BUS 1Mb/s MAX (TERMINATION RESISTOR SELECTABLE WITH JUMPER)

* 1 RS232 channel is always available but system reserved

TECHNICAL SEPCIFICATIONS

Power Supply	24Vdc±10% 1A
Ethernet	10/100BaseT
USB	2.0 Host 5Vdc 2A max tot
CAN BUS	1Mb/s max 120Ω (config.)
RS232	115.2kb/s max
RS485	115.2kb/s max 120Ω (config.)



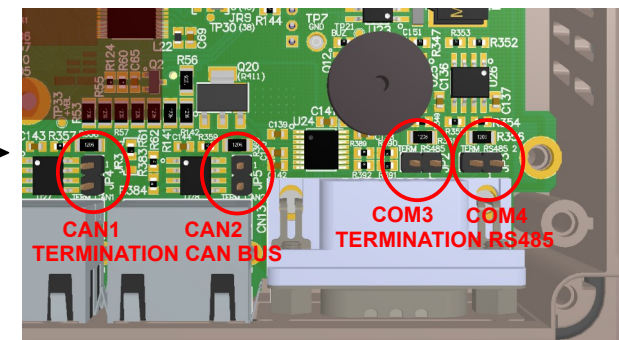
NOTE FOR RS485 – CAN BUS TERMINATION

The 120Ω CAN BUS and RS485 resistors are configurable:

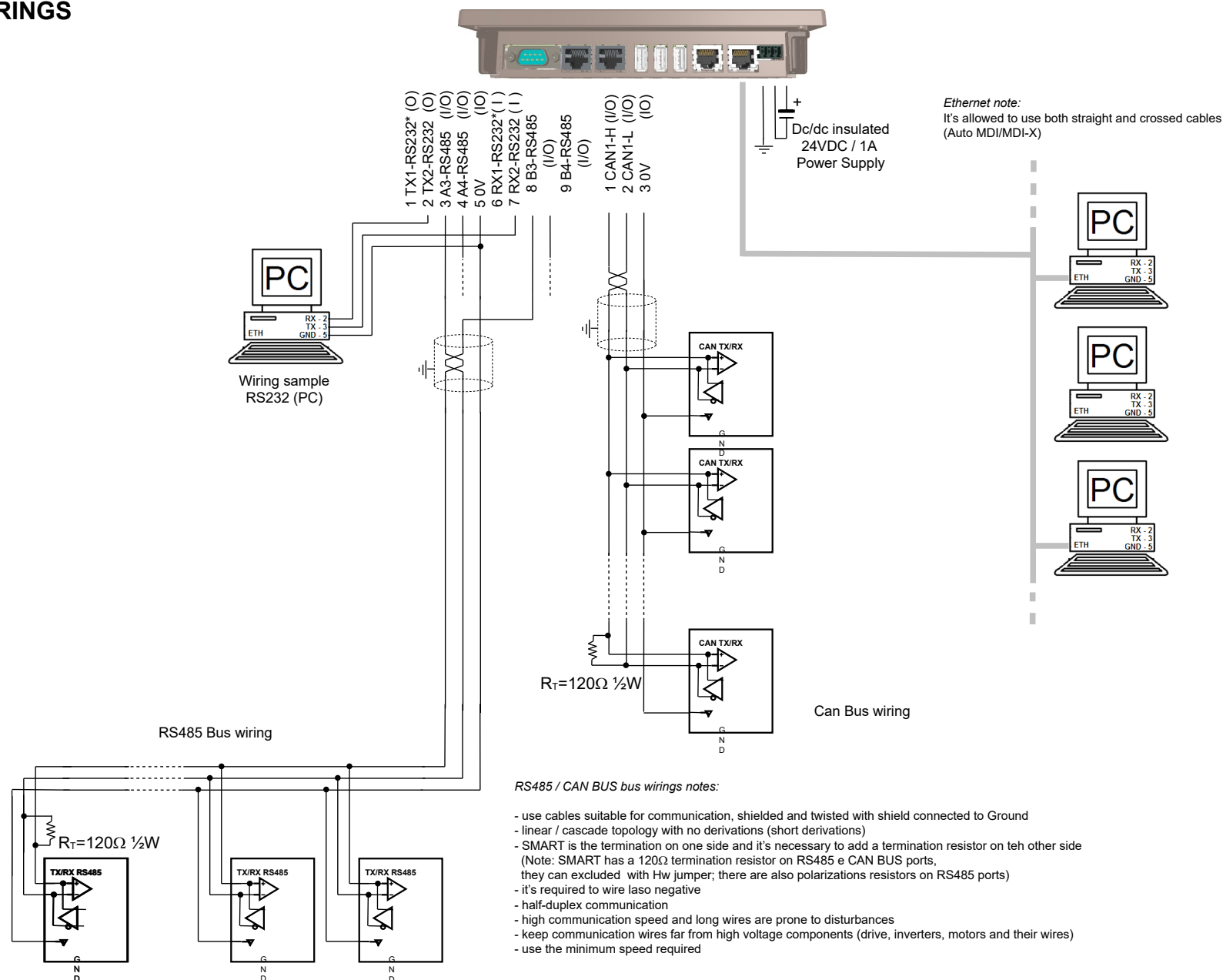
- remove SMART backplane
- find the jumpers selectors for termination
- set Jumper:
 - OFF = no termination
 - ON = termination active (default)

NOTE FOR RS485 POLARIZATION

SMART series RS485 ports have 560Ω integrated polarizations



TYPICAL WIRINGS



INSTRUCTIONS

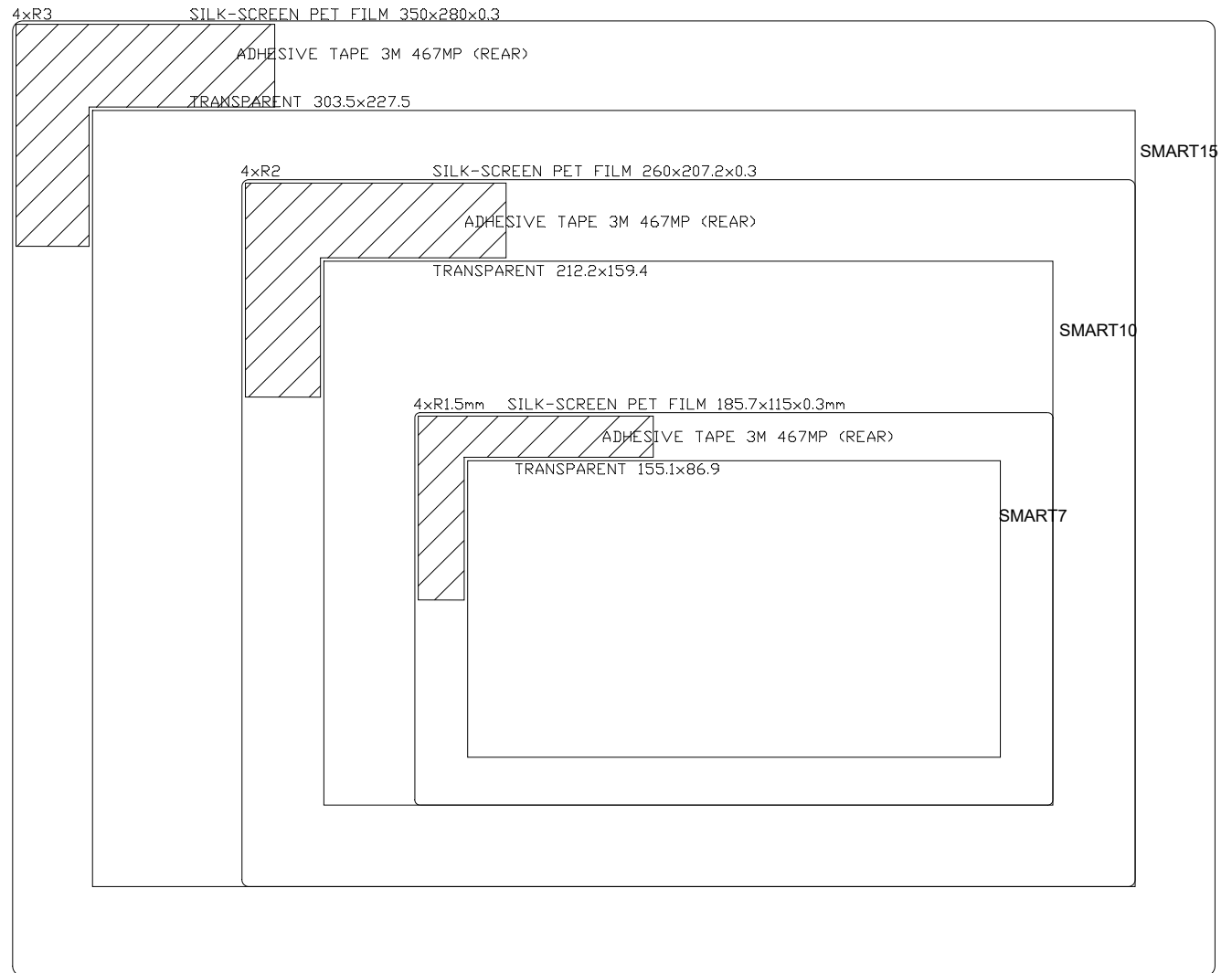
It's allowed to create your own customized panel layout for SMART7/10/15 units, adding a frame silk-screen film to add to the original one, all around the display area (the touchscreen display area – transparent area – must be keep free).

The new silk-screen film must be added on the original one, in order to preserve the original product insulation and protection.

The new silk-screen film must be:

- Material: polycarbonate
- Thickness: as thin as possible
- Dimensione: see the picture on the right
- Bi adhesive: (suggested 3M 467MP)

DIMENSIONS



SMART SERIES – ORDER CODES

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ORDER CODES (PART-NUMBER)

S M 7 - 1 2 4 2 4 1 1 1 S

graphic	: S=SMART / B=BLACK (NERO) / X=none
power supply	: 1=24Vdc
hw	: 1=SMART7 / 3=SMART10/15
hw options	: 1=buzzer + clock + eeprom
serials	: 4=2x RS232 + 2x RS485
can bus	: 1=1x CAN / 2=2x CAN
usb	: 2=2x USB / 4=4x USB
ethernet	: 1=1x ETH / 2=2x ETH
cpu	: 1=CPU 800MHz 256MB RAM + 256MB FLASH
plc	: SM7=SMART7
	: SM7O=SMART7 OPEN-FRAME
	: SM10=SMART10
	: SB10=SMART10 BLACK (NERO)
	: SM15=SMART15

LABELS

contain product information:

- part number (P/N)
- Electric power supply
- serial number (S/N) (also DM)

SM7-12424111S-0.1.9
24 Vdc 10 W
S/N 143859
MADE IN ITALY



SB10-12424131B-0.2.7

24 Vdc 25 W

S/N 145298



MADE IN ITALY

P/N (es.)	DESCRIPTION
SM7-11214111S	PLC SMART7
SM7O-11214111X	PLC SMART7 OPEN-FRAME
SM7-12424111S	PLC SMART7
SB10-12424131B	PLC SMART10 BLACK
SM15-12424131S	PLC SMART15

P/N	ACCESSORY
SM7.GANCI.KIT	4 HOOKS KIT FOR SMART7 INSTALLATION
SM10.MANOP.KIT	4 KNOBS KIT FOR SMART10 / 15 INSTALLATION

EEPROM

Into the PLC there's an eeprom memory with the complete product part number including the hw revision

SM15-12424131S-0.2.7

SMART SERIES – CE DECLARATION OF CONFORMITY

Rev 08/06/25
Pag. 12/15

Manufacturer

Elco Elettronica Automation S.R.L.

Address

**Via Costituzione, 50
42015 Correggio (RE)
Italy**



Declares that product(s)

SMART7 / SMART7 OPEN-FRAME / SMART10 / SMART15 (SMART series PLCs)

conforms to EC Directives

DIRECTIVE 2014/30/EU – Electromagnetic Compatibility

DIRECTIVE 2012/19/UE – RAEE

DIRECTIVE 2011/65/EU – Reduction of Hazardous Substances

and specifically to the following standards

EN61000-6-4 Emission standard for industrial environments

EN61000-4-2 Electrostatic discharge immunity test

EN61000-4-3 Radiated RF electromagnetic field immunity test

EN61000-4-4 Electrical fast transient immunity test

EN61000-4-5 Surge immunity test

EN61000-4-6 Immunity to conducted disturbances induced by RF fields

Correggio, 09/10/2020

*Alberto Ligabue
General manager*

SMART SERIES – DECLARATION OF ORIGIN

Rev 08/06/25
Pag. 13/15

Mnufacturer Elco Elettronica Automation srl

Address Via Costituzione, 50
42015 Correggio (RE)
Italy

Declares that product(s) SMART7 (OPEN-FRAME), SMART10, SMART15 (PLCs members of SMART series)

are of Italy origin and respond to norms which rule preferential trades with European Community and all countries which have signed trade agreements.

Undetakes to supply to custom authority in charge all necessary supporting documentation.

Correggio, 08/06/2020

Alberto Ligabue
General manager

INSTALLATION (GENERAL RULES)

• MECHANICAL INSTALLATION

- For SMART front panel installation, make the proper and accurate cut out on a flat surface, insert SMART product from the front part and fix it with the 4 hooks or bracket + knobs, checking the good adhesion to the surface, in order to ensure the sealing gasket can work properly.
- For SMART Open Frame product installation, make the proper and accurate cut out on a flat surface with the 4 pins at the 4 corners and fix the SMART from the rear part adding nuts and washers shimming till the perfect display distance from the cover silk screen; then lock the nuts.
- Keep the distance from sources of heat and electromagnetic disturbances.
- Keep free area all around the SMART product in order to ensure ventilation, especially in the grids positions. If necessary provide a forced ventilation system or an air conditioning system.

ELECTRICAL INSTALLATION

- Always disconnect the power supply before installation and / or maintenance and / or any electrical work.
- SMART series require an isolated, stabilized and independent power supply with adequate power
- Use compliant and certified components in the system
- Provide additional independent external protections and / or electromechanical exclusion or emergency devices (SMART, like all electronic devices, can malfunction or fail and cause unexpected and dangerous operations)
- Provide any additional protections against overcurrents (fuses) and / or overvoltages (suppressors) if necessary
- Separate the logic / signal / low voltage devices (e.g. SMART control) from those characterized by power / noise / high voltage
- Separate signal / communication cables from power / high current / high frequency cables
- Use cables suitable for each type of signal (eg power cables, shielded, differential, twisted, with or without terminations, etc.), especially for "critical" signals (weak, analog, high frequency, communication signals)
- Do not overtighten screws and nuts to avoid damage, but only what is necessary to ensure a good seal or connection

MAINTENANCE

The SMART series controls do not require specific routine maintenance. They contain a battery to keep the clock when the control is off: in case of exhaustion of the life cycles, the date / time settings will no longer be maintained; in this case it is possible to replace the battery with a new one - contact the manufacturer. (P / N Seiko MS621FE-FL11E - 7x3mm micro-button with solder terminals on printed circuit MnO2 rechargeable 3V 5mAh 100 cycles - code Farnell 1614634)

DISPOSAL

For the disposal of electronic equipment, the provisions and regulations in force must be observed. In particular, in compliance with European Directives, the crossed-out bin symbol indicates that the product at the end of its life must be collected separately from other waste. The user must therefore deliver the equipment to suitable separate collection centers for electrical and electronic waste. Illegal disposal of the product by the user involves the application of sanctions according to current legislation.

The SMART series controllers contain a battery (only for clock backup): to dispose of the batteries, the provisions and regulations in force must be respected. In compliance with the European Directive, the crossed-out bin symbol indicates that accumulators and batteries at the end of their life must be collected separately from other waste, delivering them to suitable separate .





Via Costituzione, 50 | 42015 | Correggio (RE)

Tel: +39 0522691024

elco@elcoelettronica.it

www.elcoelettronica.it