

MEMBRANE KEYBOARD RCA-KBL-16WH



INSTALLATION GUIDE



RCA Automação Ltda.
CNPJ: 08.520.923/0001-86
169, Paulo Domingos Bonilha
Pq. Conceição II, Piracicaba - SP, Zip: 13.412-415
Phone: +55 19 3036 0275 -
www.rcaautomacao.com.br

Before using the product read this manual and remember to keep it in an easily accessible place for possible consultation, thus ensuring the proper use of the equipment.

This manual contains guidance on care and precautions when handling the RCA membrane, as well as information for installation, operation and technical specifications of the product.

Make sure, before installation, that you have understood all technical aspects and protection and safety measures.

RCA Automation is available at all times to answer questions through our service channels:



+55 19 3036-0275



@rcaautomacao



www.rcaautomacao.com.br



CAUTION WHEN HANDLING ANY ELECTRICAL DEVICE.

- Make sure that the equipment is not energized:
 - ✓ Identify the energy source;
 - ✓ Turn off the power source;
 - ✓ Block and identify the panel/source;
 - ✓ Check that there is no residual energy.

Remember: safety first.

- Do not modify or remove connections to the energized equipment.
- Install the product in a clean and dry place, free of corrosive and/or flammable gases or liquids.
- The equipment must be properly grounded, respecting the regulatory standards.

Contents of this package

- 1 membrane keyboard RCA 16 DI + 16 DO – 24VDC;
- 4 4 M4 parlock nuts and plain washers;
- Female 3-pin connector;
- 2 16-pin female connectors;
- 8 21.5x94mm tags for button identification;
- 2 17,5x94mm tags for identification of areas;
- 2 nylons cable ties;
- Device Installation Manual and Mold;

Technical Specifications

The RCA membrane is a robust interface device designed to optimize space in the manual control process. It has 16 illuminated buttons with simple connections that can be used with controllers, PLCs and relays.

| Product | |
|---|---------------------------|
| Product code | RCA-KBL-16WH |
| Description | 16x16 membrane keyboard |
| Dimensions | 170,00 x 170,00 x 32,00mm |
| Operating Temperature | 14° à 122°F |
| Button lifespan | 1.000.000 operations |
| Degree of protection | IP20 |
| Electrical Supply | 24 DC voltage ±10% |
| Digital Inputs | |
| Quantity | 16 |
| Permissible voltage | 2 à 24 DC voltage* |
| Consumption current | 2 mA |
| Digital Outputs | |
| Quantity | 16 |
| Voltage | 24 DC voltage |
| Maximum current per output | 50 mA |
| Material | |
| Mounting base | Aluminum |
| Back cover and screws | Stainless steel |
| * The LED can be activated with a small voltage and can remain lighted at low voltages. | |
| Membrane Keyboard | Polyester |
| Package | |
| HxWxD | 280,00x210,00x70,00mm |
| Weight | 3,85809 Lb. |

Installation

For a correct fixation of the membrane, use the Installation Mold to guide it when cutting and use a 4.5mm drill for the holes. Make sure that there are no burrs that could damage the product and its cables at the time of installation, eliminating them with a thin file. Secure it with the 4 Parlock M4 nuts and plain washers that are included in the kit packaging.



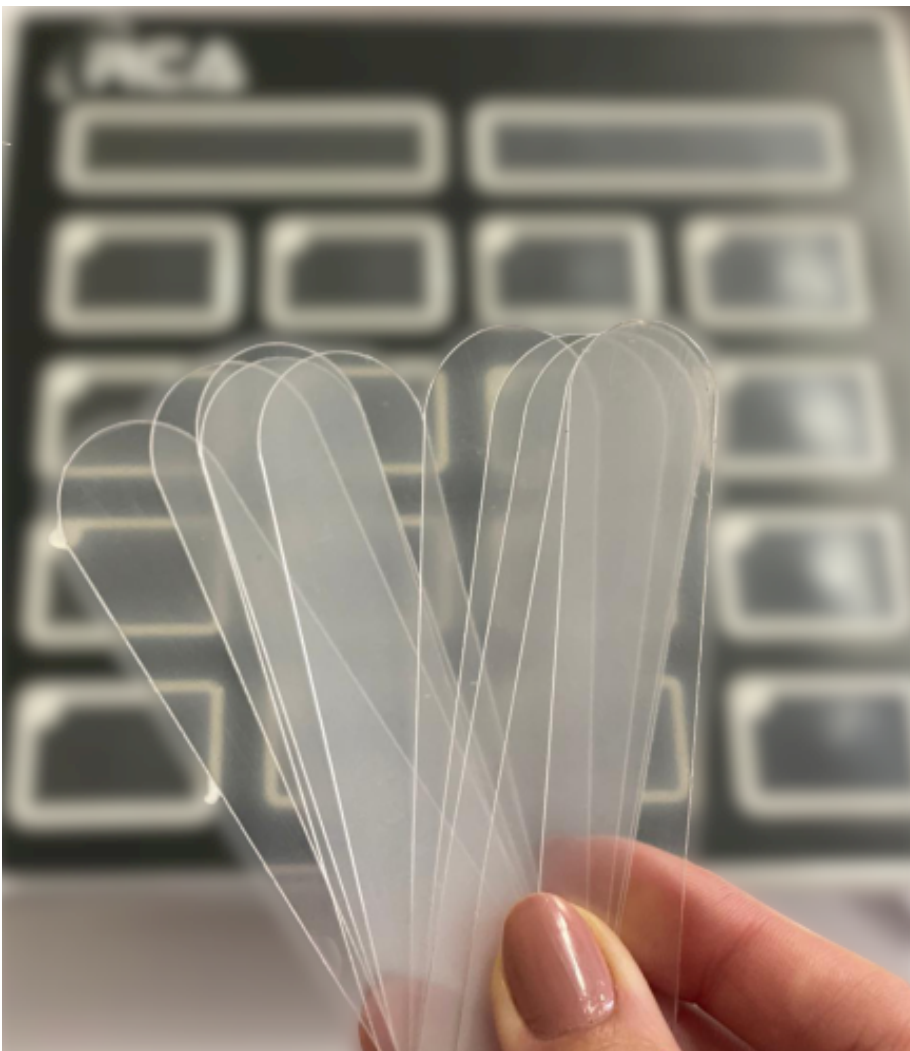
ATTENTION: Use personal protective equipment when handling tools for installation!



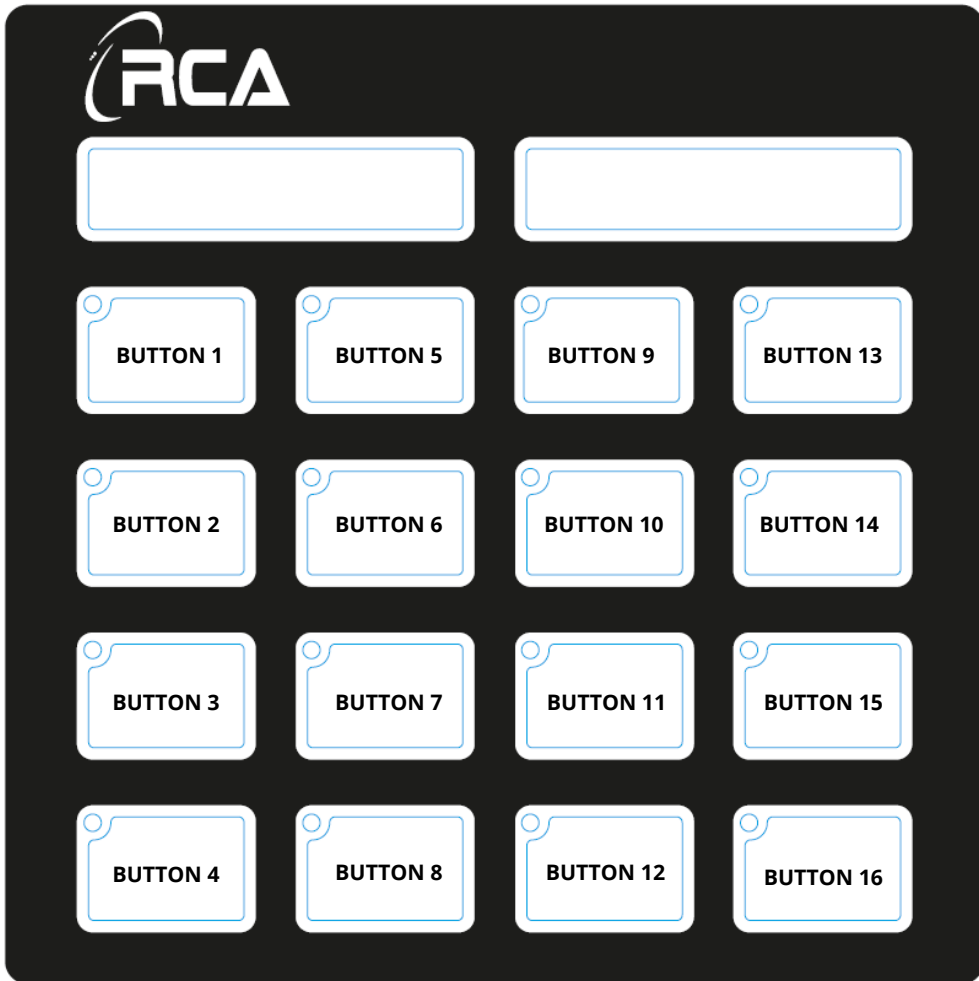
Tags

Using the Print Template available in DWG format, create the labels for each button, print on plain paper and cut out at the location indicated. The prints can be colored in order to highlight certain buttons. Use the identification tags as a guide to insert the identification into the lower side openings of the membrane. To facilitate this process, remove the plastic membrane that accompanies each tag.

Remember: There are two sizes of tags, one for the buttons and the other for identifying the area.



Below we can see a layout of the button layout for electrical assembly reference and label layout printing.



Connections

Use the connectors that come with the kit to make the electrical connections, preferably using a 36x24AWG multi-cable with mesh and eyelet type terminals. For this, you must use a 1/8" screw terminal screwdriver. The connections are identified by **X1** (digital inputs - LEDs), **X2** (digital outputs - buttons) and **X3** (electrical supply).



For the correct operation of this product, we recommend that the connection of terminal **0V** is at the same electrical potential of the inputs and outputs of the device that will be used for the activation (controller, PLC or relay).



ATTENTION: Make sure that the equipment is not energized when making electrical connections!

Wiring diagram:

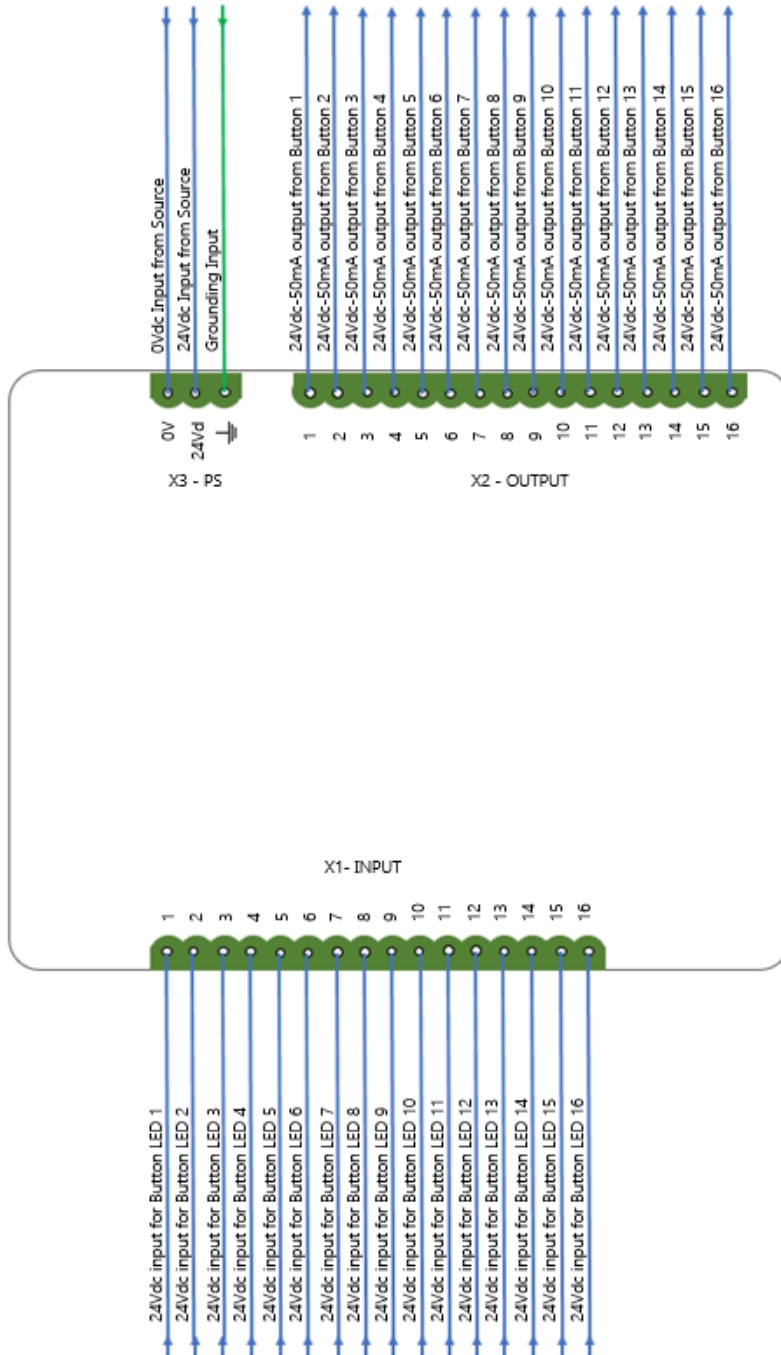
| X1 | INPUT |
|----|-------|
| 1 | DI0 |
| 2 | DI1 |
| 3 | DI2 |
| 4 | DI3 |
| 5 | DI4 |
| 6 | DI5 |
| 7 | DI6 |
| 8 | DI7 |
| 9 | DI8 |
| 10 | DI9 |
| 11 | DI10 |
| 12 | DI11 |
| 13 | DI12 |
| 14 | DI13 |
| 15 | DI14 |
| 16 | DI15 |

| X2 | OUTPUT |
|----|--------|
| 1 | DO0 |
| 2 | DO1 |
| 3 | DO2 |
| 4 | DO3 |
| 5 | DO4 |
| 6 | DO5 |
| 7 | DO6 |
| 8 | DO7 |
| 9 | DO8 |
| 10 | DO9 |
| 11 | DO10 |
| 12 | DO11 |
| 13 | DO12 |
| 14 | DO13 |
| 15 | DO14 |
| 16 | DO15 |

| X3 | POWER SUPPLY |
|-------|--------------|
| 0V | 0 V |
| 24vdc | 24 vdc |
| ↓ | ↓ |

| SUBTITLE | |
|----------|-----------------|
| DI | Digital Inputs |
| DO | Digital Outputs |

SIMPLIFIED CONNECTION SCHEME



For a better finish, use the nylon cable ties provided in this kit for a better organization of the cables, fixing them in the slot holes of the back plate.



Warranty Term

All parts, pieces and components of the product are guaranteed against any manufacturing defects that may present, for a period of 1 (one) year, counting from the date of delivery of the product to the consumer, as stated in the purchase invoice of the product, which is an integral part of this Term throughout national and international territory. This warranty implies the free exchange of parts, parts and components that have a manufacturing defect, in addition to the labor used in this repair. If no manufacturing defect is found, but a defect (s) arising from improper use, the consumer will bear these expenses.

The warranty will lose its validity if any of the following hypotheses occurs:

- a)** if the defect is not a manufacturing defect, but rather, it was caused by the consumer or third parties outside the manufacturer;
- b)** if the damage to the product comes from accidents, accidents, agents of nature (lightning, floods, landslides, etc.), humidity, tension in the electrical network (overvoltage caused by accidents or excessive fluctuations in the network), installation/use not in accordance with this instruction manual or due to the natural wear and tear of parts, pieces and components;
- c)** if the product has been influenced by a chemical, electromagnetic, electrical or animal nature (insects, etc.);
- d)** if the product's serial number has been adulterated or erased;
- e)** if the product has been tampered with.

As these conditions of this Warranty Term, RCA reserves the right to change the general, technical and aesthetic characteristics of its products without prior notice.



RCA Automação Ltda.
CNPJ: 08.520.923/0001-86
169, Paulo Domingos Bonilha
Pq. Conceição II, Piracicaba - SP, Zip: 13.412-415
Phone: +55 19 3036 0275 -
www.rcaautomacao.com.br

