(Original) Use and maintenance manual

Type: Round belt welder
Model: PRC-15

IMPORTANT:

Read this user manual and follow the instructions and warnings before operating this device.

Any modification or transformation performed on this machine may cause loss of the manufacturer's guarantee and liability.

This manual must always remain near to the machine and visible to all the operating and maintenance staff, for any future consultation, forming part of the equipment.

Index:

Page

- CE Declaration of Conformity:

WE DECLARE, under our responsibility, that the machine:
- Type: Round belt welder
- Brand: ERM Engineering
- Model: PRC-15
- Serial No.: xxxxxx
- Manufacturer date: 2021

Inspired by the directives of the Official Journal of the European Communities:

2006/42/CE Machinery Directive
2014/35/UE Low Voltage Directive
2014/30/UE Electromagnetic Compatibility Directive

Complies with the design and construction specifications of the European Standards on General Machine Safety:

EN 349 – EN 614-1 – EN 614-2 – EN 12100 – EN 11161-1 - EN 1005-1 – EN 1005-2 – EN 1005-3 - EN 1005-4 – EN 13849-1 – EN 13849-2 – EN 894-3 - EN 61310-1 - EN 13732-1 – EN 13850 - EN 13857 – EN 14120 – EN 60204-1

General Manager: Eduardo Ramos Martínez

Arenys de Munt (Barcelona)-SPAIN
Date: 2021/08

- Description:

Welding equipment for heat-weldable round belts with a heating plate that is automatically interposed between the two ends of the belt at a certain temperature and time, and automatically withdraws, closing the joint and cooling.

- Technical characteristics:

Dimensions	470x400x330mm.(LxWxH)
Weight	14 Kg
Minimum development	260mm.
Max. Diameter	15mm.
Voltage	1x 230 v 50/60Hz
Power	270 W
Work pressure	5/6 Kg/cm^2
Max. temperature	520º C

- Installation and connection:

Connect the power cable that comes out of the machine to 230V. Then we must provide compressed air, through the air tube at a minimum pressure of 5Kg/cm^2.

Place the machine on a table or workbench at a comfortable height for the operator, making sure that the device is stable and secure.

Leave the electric pedal on the ground and adjust it to a comfortable position without getting in the way or causing a trip.

- Using instructions:

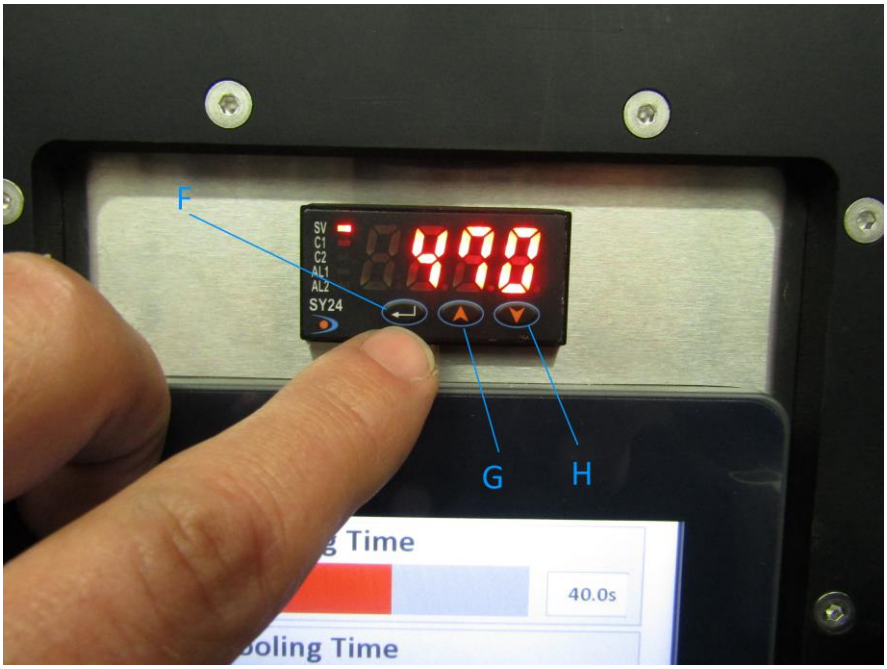
WARNING:
THIS DEVICE INVOLVES THE DANGER OF FINGER ENTRY BETWEEN THE CORD HOLDING CLIPS, THEREFORE THE OPERATOR MUST BE EXTREMELY CAUTIOUS IN THAT AREA.

Once the machine is connected to the network and provided with compressed air, we will start the device through the protection switch located on the back.

Note: We must wait 2/3 minutes once the temperature is reached for the heat of the solder plate to stabilize.

Temperature programming

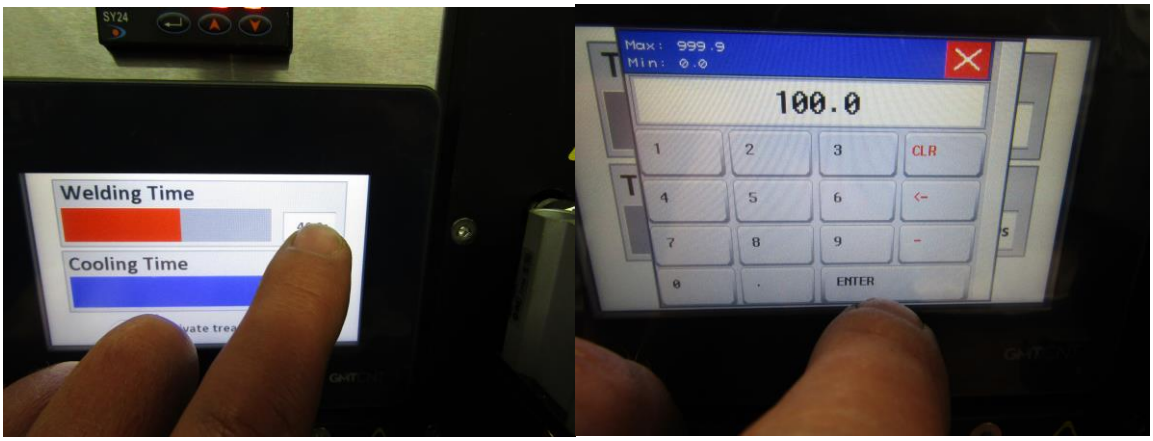
To set the desired temperature, press once on the (F) key of the controller where the programmed temperature will be shown, and then we will modify the value through the arrows (G and H).
After modifying the value, we will press the (F) key again to accept and exit programming.



NOTE:
The maximum programmable temperature is 520ºC, but it must be taken into account that the value taken by the temperature controller is from inside the resistance.

Time scheduling

To enter the welding and cooling times, we must touch on the screen on the numerical value to the right of each time bar, and another screen will open with a keyboard to enter the value (always in seconds) and accept it by pressing ENTER.



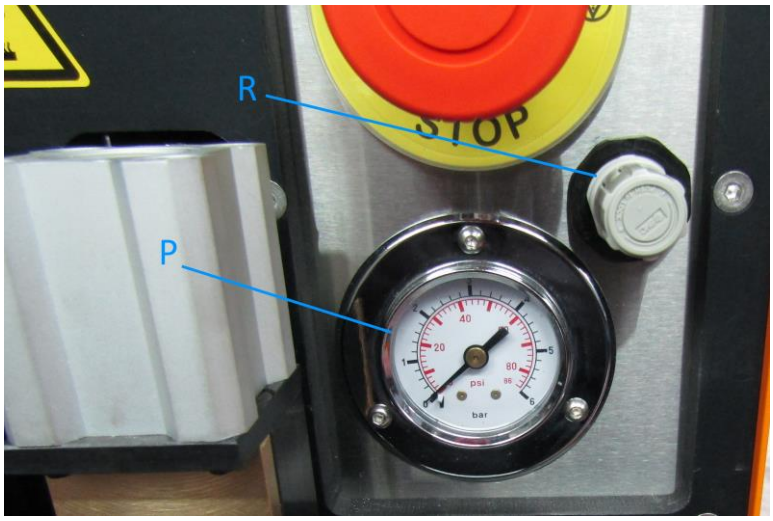
The time values will remain memorized until they are modified again.

Pressure adjustment

Setting the cooling pressure is important for different types of material or diameters.
To do this, this device has been equipped with a closing pressure regulator and a closing stroke mechanical stop.

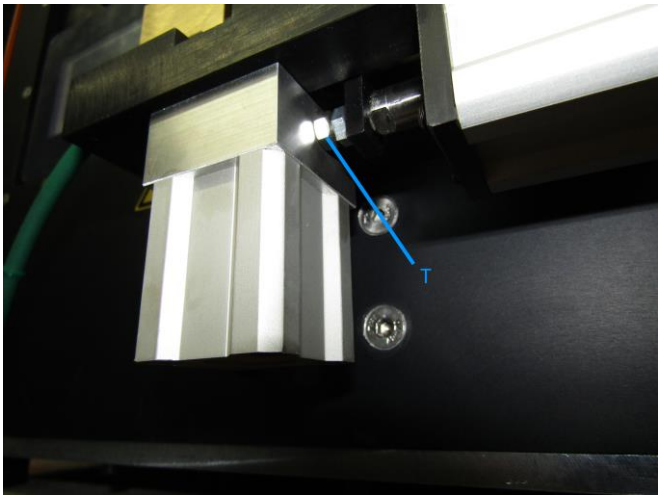
The excess or lack of pressure during the closing of the weld is as important as the temperature or time values.

To regulate the pressure, just turn the regulator knob (R) by pulling it out slightly to unlock it and the pressure will be displayed on the pressure gauge (P) on the left.



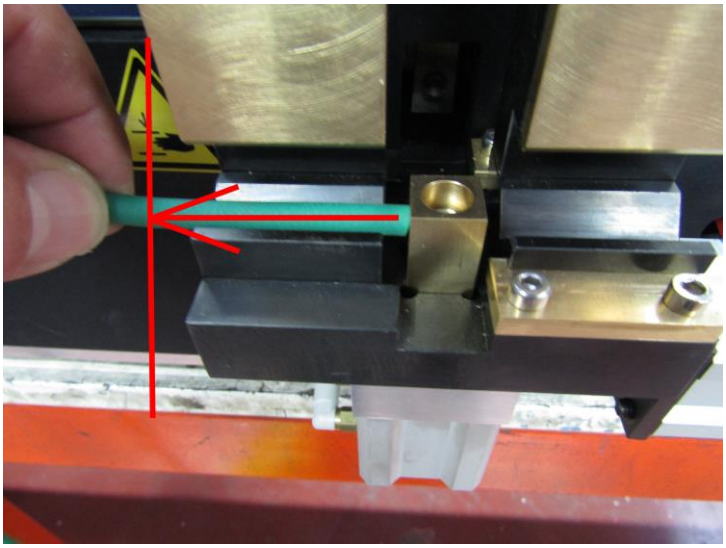
NOTE: The pressure adjustment should only be made during the cooling cycle, otherwise the pressure gauge will always be 0.

To regulate the closing stroke mechanically, we will adjust the bolt located at the bottom of the sliding base with an 8mm wrench.



Strap introduction

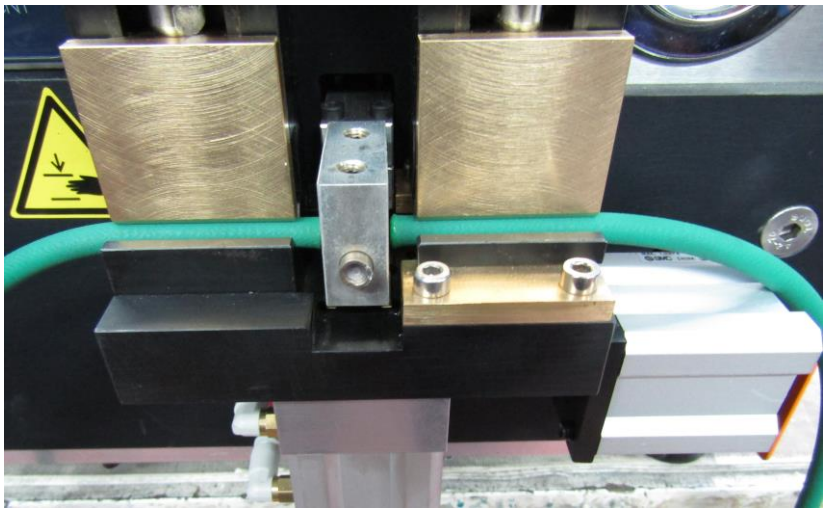
⚠ WARNING:
For this operation, it is important that the operator leaves enough space between the fingers and the end of the belt to avoid entrapment of the jaws.



To place the ends to be welded, we will activate the distance gauge by pressing and holding the pedal until both ends are well positioned against the central gauge.
Releasing the pedal will lower the two jaws to secure the ends of the belt and then the gauge will automatically be removed to start the cycle.

NOTE: The cycle can be interrupted at any time by pressing the EMERGENCY button.

Therefore, if we see that the introduction of the strap has not been correct, we will stop the process and repeat it again.



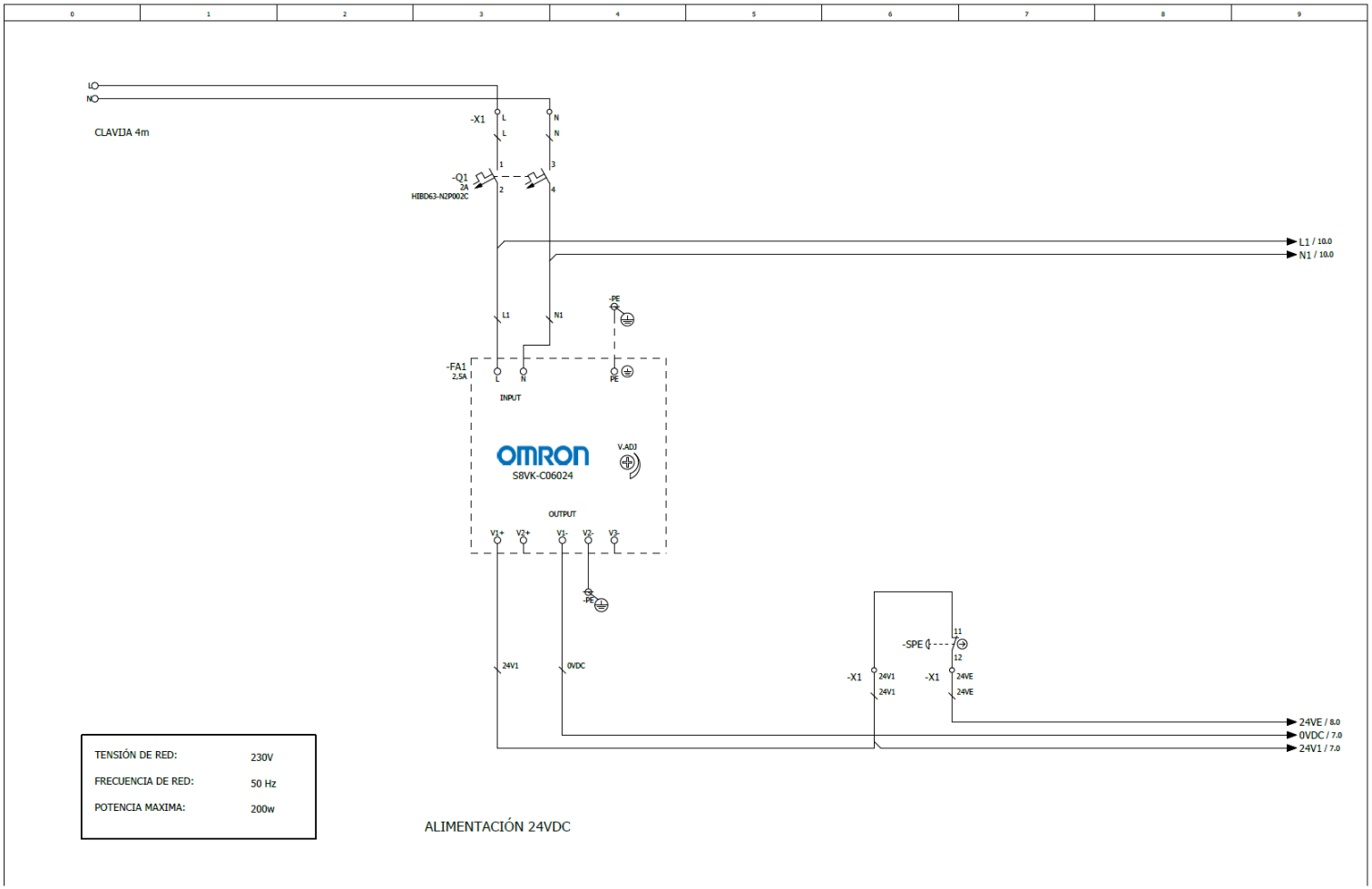
WARNING:

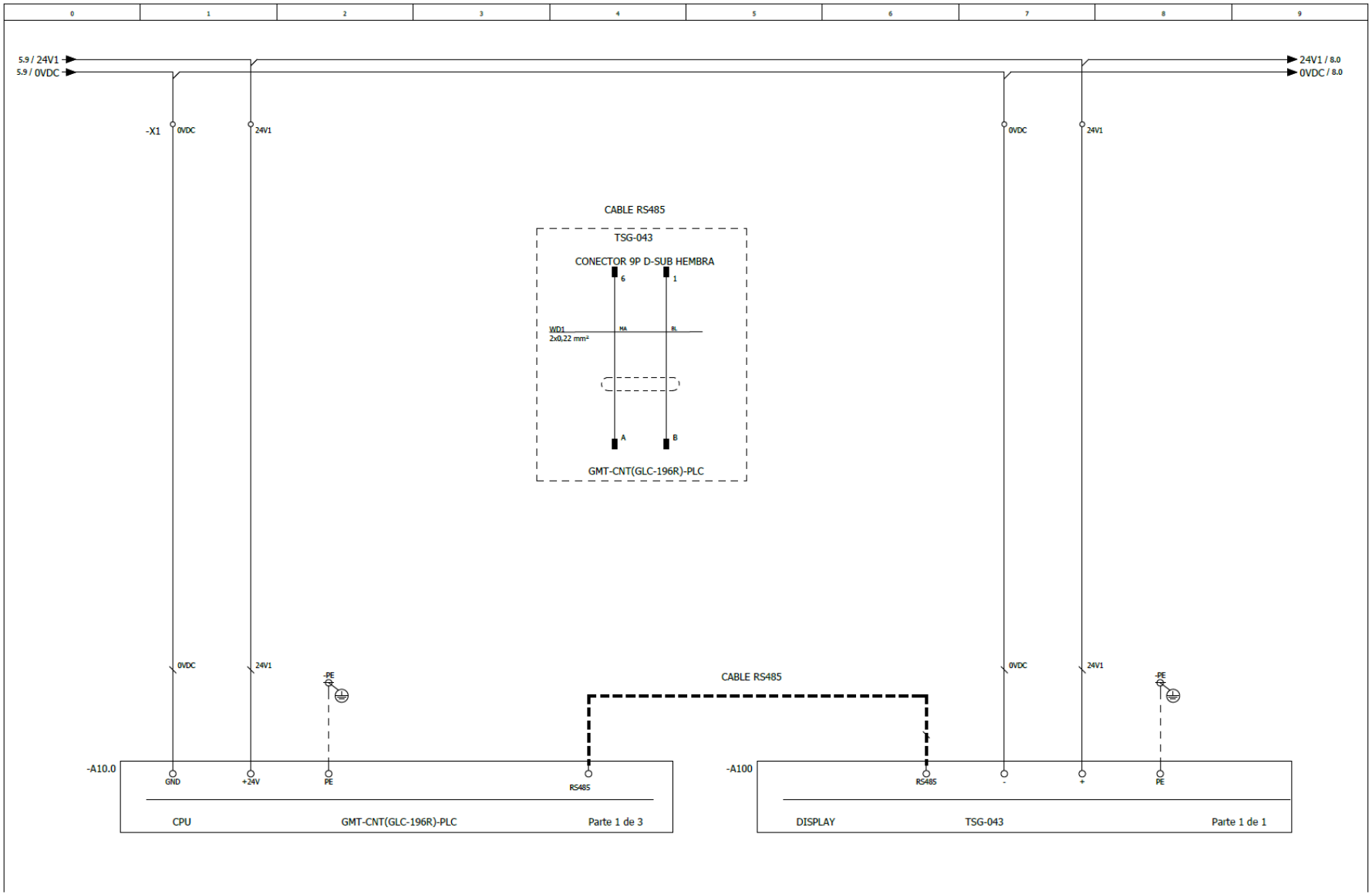
ATTENTION: During the welding cycle, the heating plate is outside the protective compartment, which may cause serious burns.
For this reason, it is recommended to exercise extreme caution during this operation, keeping the extremities away from this area.

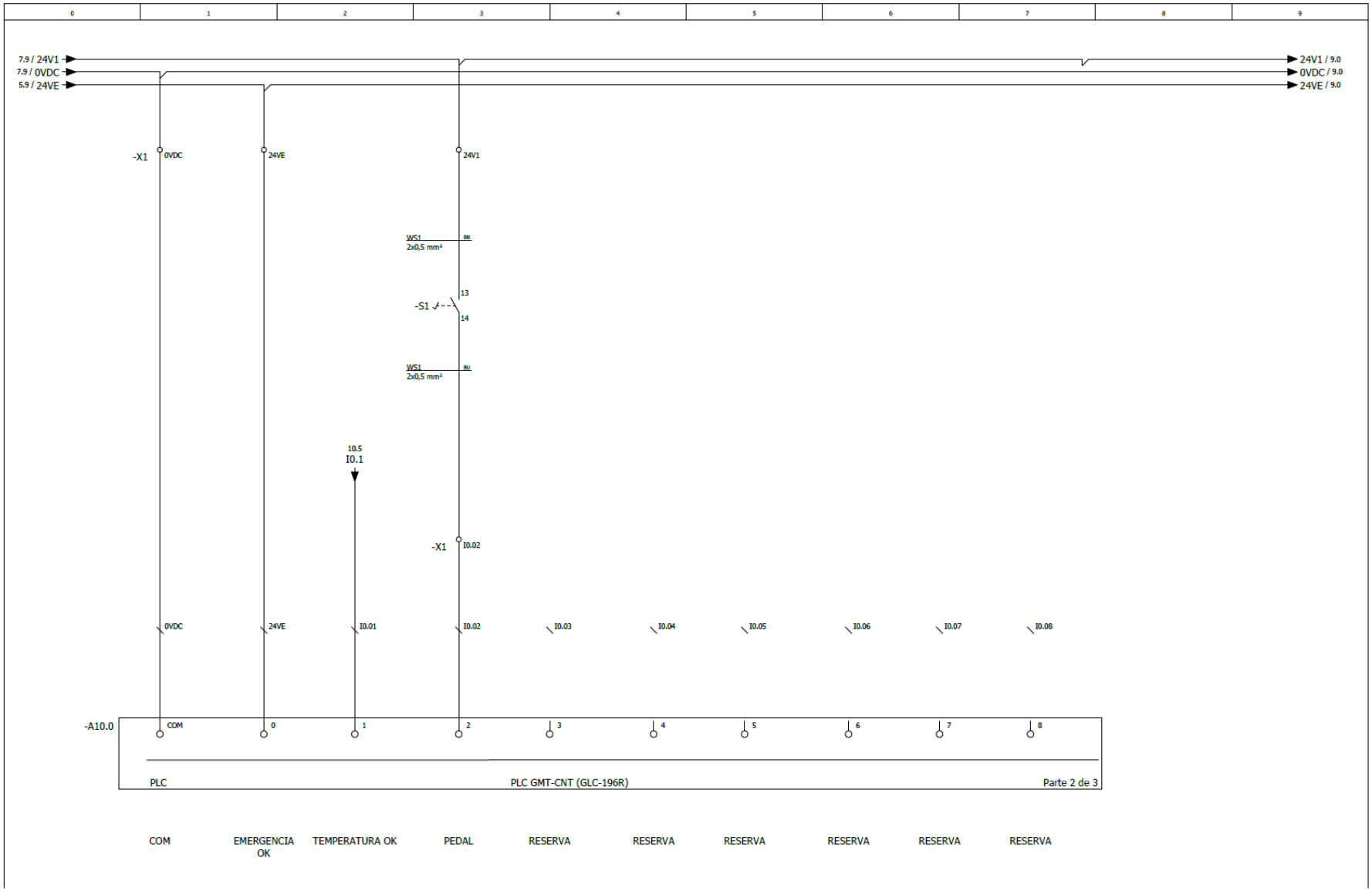
For a good weld, it is essential that the cuts at the ends of the belt are perfectly straight, for this it is recommended to use special scissors for belts equipped with guides.

INFORMATION:
This device can also be used for V-belts or with other geometry, if said geometry allows us to insert them correctly aligned.

- **Electrical schemes:**




0
1
2
3
4
5
6
7
8
9
5.9 / 24V1
5.9 / 0VDC
24V1 / 8.0
0VDC / 8.0
-X1
0VDC
24V1
CABLE RS485
TSG-043
CONECTOR 9P D-SUB HEMBRA
6
1
WD1
2x0,22 mm²
MA
BL
A
B
GMT-CNT(GLC-196R)-PLC
0VDC
24V1
PE
CABLE RS485
-A10.0
GND
+24V
PE
RS485
CPU
GMT-CNT(GLC-196R)-PLC
Parte 1 de 3
-A100
RS485
-
+
PE
DISPLAY
TSG-043
Parte 1 de 1


0
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7.9 / 24V1
7.9 / 0VDC
5.9 / 24VE
24V1 / 9.0
0VDC / 9.0
24VE / 9.0
-X1
0VDC
24VE
24V1
WS1
2x0,5 mm²
BN
13
-S1
14
WS1
2x0,5 mm²
BU
10.5
I0.1
-X1
I0.02
0VDC
24VE
I0.01
I0.02
I0.03
I0.04
I0.05
I0.06
I0.07
I0.08
-A10.0
COM
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5
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8
PLC
PLC GMT-CNT (GLC-196R)
Parte 2 de 3
COM
EMERGENCIA OK
TEMPERATURA OK
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RESERVA
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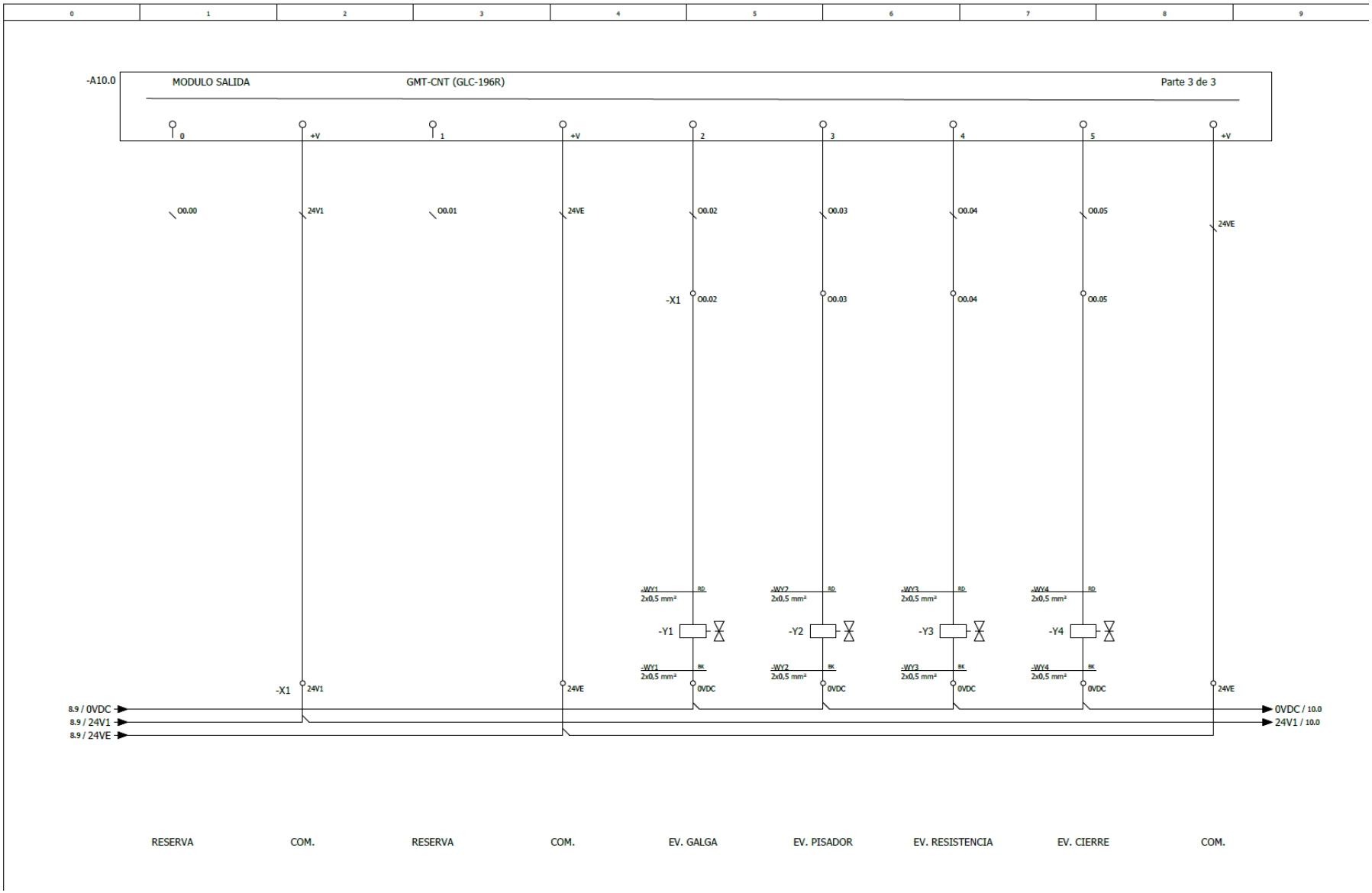
RESERVA


-A10.0
MODULO SALIDA
GMT-CNT (GLC-196R)
Parte 3 de 3
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+V
1
+V
2
3
4
5
+V
O0.00
24V1
O0.01
24VE
O0.02
O0.03
O0.04
O0.05
24VE
-X1
O0.02
O0.03
O0.04
O0.05
-WY1 2x0,5 mm²
RD
-WY2 2x0,5 mm²
RD
-WY3 2x0,5 mm²
RD
-WY4 2x0,5 mm²
RD
-Y1
-Y2
-Y3
-Y4
-WY1 2x0,5 mm²
BK
-WY2 2x0,5 mm²
BK
-WY3 2x0,5 mm²
BK
-WY4 2x0,5 mm²
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24V1
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8.9 / 24V1
8.9 / 24VE
0VDC / 10.0
24V1 / 10.0
RESERVA
COM.
RESERVA
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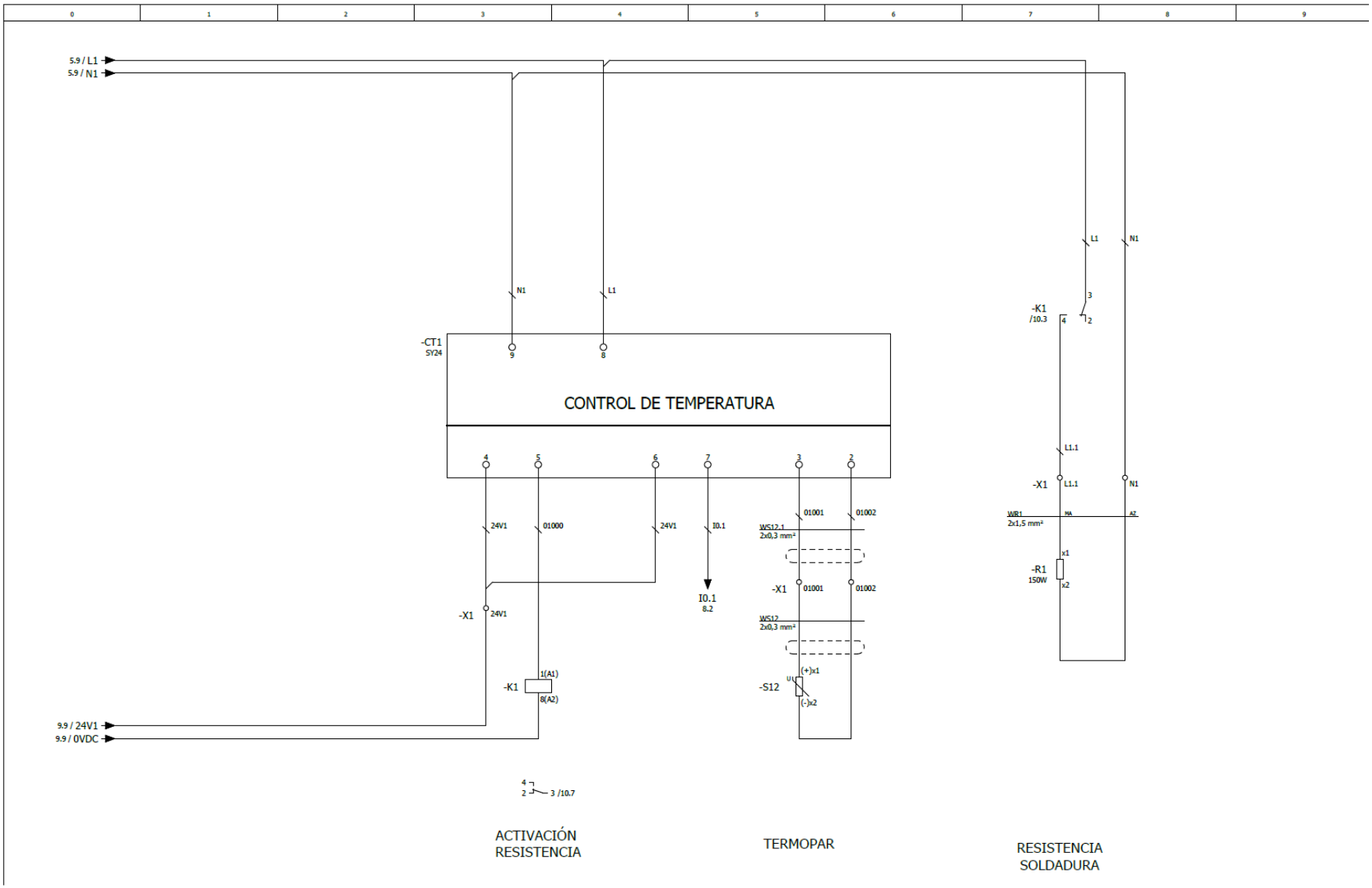
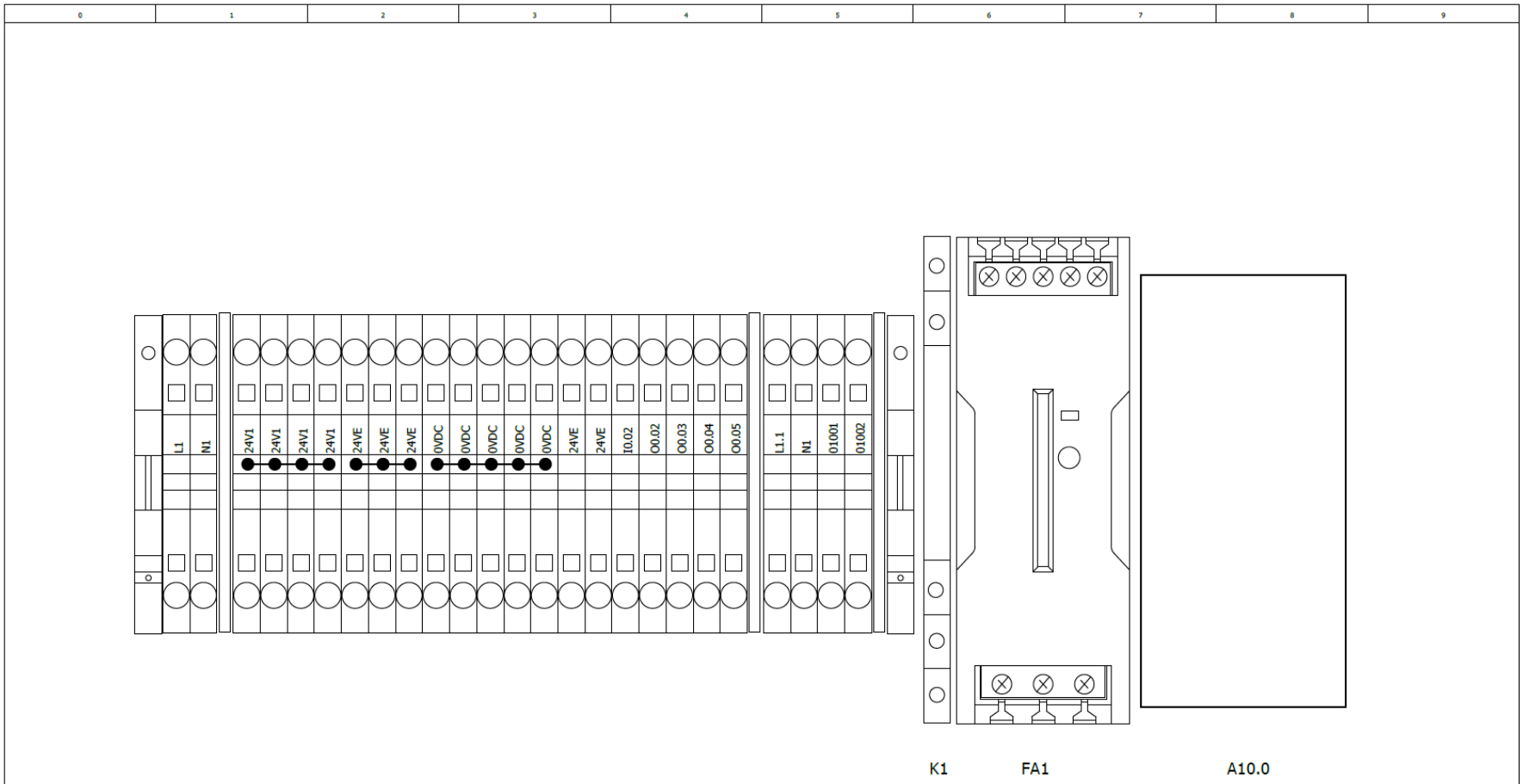
EV. GALGA
EV. PISADOR
EV. RESISTENCIA
EV. CIERRE
COM.


5.9 / L1
5.9 / N1
N1
L1
-CT1
5Y24
9
8
CONTROL DE TEMPERATURA
4
5
6
7
3
2
24V1
01000
24V1
I0.1
8.2
01001
01002
WS12.1
2x0,3 mm²
-X1
24V1
-X1
01001
01002
WS12
2x0,3 mm²
-K1
1(A1)
8(A2)
-S12
(+)x1
(-)x2
9.9 / 24V1
9.9 / 0VDC
4
2
3 /10.7
ACTIVACIÓN
RESISTENCIA
TERMOPAR
L1
N1
-K1
/10.3
3
4
2
L1.1
-X1
L1.1
N1
WR1
2x1,5 mm²
-R1
150W
x1
x2
RESISTENCIA
SOLDADURA


L1
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