ALGO DOSYS Sagl

Legal / operational headquarters
Piazzale Roncaà 4
6850 Mendrisio CH
TEL / FAX 0041 916301459
www.algodosys.com info@algodosys.com

DOSING SYSTEMS

Use and maintenance manual

Controller CDVV/02

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Legal headquarter
Piazzale Roncaà 4
6850 Mendrisio CH
TEL/FAX 0041916301459
www.algodosys.com info@algodosys.com

CE

CONFORMITY CE DECLARATION

(DIRECTIVE 2006/42/CE DEL 17 May 2006 ATTACHED 1)

We hereby declare that this typology of controllers:

MODEL/TYPE: CDVV/02

MADE IN : 2023

It's in agreement with CEE DIRECTIVE:

-**Specific attached**

ALGO DOSYS vibrators have to work **EXCLUSIVELY** in safe areas.

Products are not suitable to work in potential dangerous places due to explosions generated by gas, explosive dusts, explosive fogs, in agreement with DIRECTIVE 94/9/CE

Mendrisio, Lì, 01/2023
Carmelo Marzioli

PURPOSE OF THE USE AND MAINTENANCE MANUAL

The manual is drawn up with the aim of helping the user during the installation process of the ALGO DOSYS controller CDVV/02. The manual is an integral part of the product and must remain available, where necessary, for qualified personnel who need to intervene on the system.
The operator must only follow the technical data provided in the manual to avoid any damage to the operator himself, to the system and to all those who may suffer damage due to incorrect intervention on the system.

Qualified personnel: they are the only ones authorized to intervene on the controller to solve problems.
Symbology

ATTENTION: Draws attention to any operations or dangers that could cause personal injury to the operator or even death, or that could damage the electronic card.

NOTE: Symbol indicating important information or procedures..

Warranty: Any attempt by the user to disassemble, modify or generally tamper with any part of the machine will invalidate the warranty and release ALGO DOSYS from any liability for damage to persons or property caused by such actions. Any part showing damage or problems will be replaced free of charge if covered by warranty

Liability disclaimer:
ALGO DOSYS is relieved of any liability in the event of:
- incorrect installation;
- use contrary to the regulations in force in the country of use;
- lack of or incorrect maintenance planned;
- total or partial non-compliance with the instructions;
- exceptional environmental events not previously specified.

INDEX

INSTALLATION

MAINTENANCE

1.1 Warnings and symbols

Particularly important warnings are marked in the instruction booklet by the following names or symbols:

GENERIC DANGER:
Indication of the danger of preventing personal injury or material damage.

DANGER OF ELECTRIC SHOCK:
Indicates that the description concerns parts that may present a risk of electric shock if interventions are not carried out in strict compliance with safety regulations.

1.2 Installation

When wiring, be sure to carefully follow the instructions found in attachment 2.

How to calibrate the controller:

- Give a set point of 10% (-1 V) to the electronic board via pin 3 of terminal X3 (ground to pin 7 terminal board x2 or 7 terminal board x3)
- Check the speed read by the tachometer sensor on pin 6 of terminal board X3 (ground to pin 7 terminal board x2 or 7 terminal board x3) using the trimmer P2 (Vmin) make sure that the speed read is 10% (+ 1V)
- If the channel vibration is not sufficient, adjust the amplitude using the P3 trimmer
- Pay attention that the vibrator at maximum capacity must NOT exceed 230 - 240 V of max voltage and 1,4 - 1,5 A of max current (in case of overrange, decrease the amplitude through P3)

ALL OPERATIONS ON ALGO DOSYS CONTROLLERS MUST BE CARRIED OUT EXCLUSIVELY BY QUALIFIED PERSONNEL

2.1 Malfunctions and first intervention

Any operation on the electronic card must be carried out in the absence of voltage from the power supply circuit.

If the controller accuses one of the following malfunctions:

- The dosing is unstable
- The vibrating base start and immediately stop

Be sure to take the following actions:

- Check the electronic card isn't burned
- Check the polarity of the tachometer referring to attachment 2
- Check that the fuse on the vibrator control is intact, in case of replacement make sure to use one identical to the one installed, therefore with an amperage of 3.15 A
- Check that the red LED on the vibrator controller is not lit (red color) and also make sure that the switch is positioned as shown in Annex 2
- Measure the ohmic value of the electromagnetic coil (pin 4 and 5 terminal X1)and of the tachometer sensor (pin 3 and 7 terminal X3) which must be:

Electromagnetic coil: between 20 to 28 Ohm
Tachometer: 1,4 KOhm

If the actions indicated have not resolved the problem, please contact Algo Dosys

2.2 Conclusions and useful information

- NEVER ACT directly inside the vibrator control board; there are high voltage points, as indicated in Annex 3, coming into contact with voltages of this type can cause serious damage.

- In any case, **NEVER OPEN** the casing of the linear vibrator, the products are supplied after wiring and optimization of the internal functioning and checks of the components inside the casing must only be carried out by qualified personnel. Inside the casing, which is previously isolated, there is high voltage, coming into contact with the internal wiring can cause serious damage.

-Do not change the channel or the springs as these changes can cause malfunctions. The vibrating bases are calibrated and optimized to work with a spring-to-channel ratio of: 50 Hz, 1 V = 1,5 Hz, channel and spring changes can cause imbalances in this ratio and therefore incorrect operation.

- Weights and dimensions of the vibrating feeders are indicative only and are subject to variations depending on the capacities and the type of material to be handled.

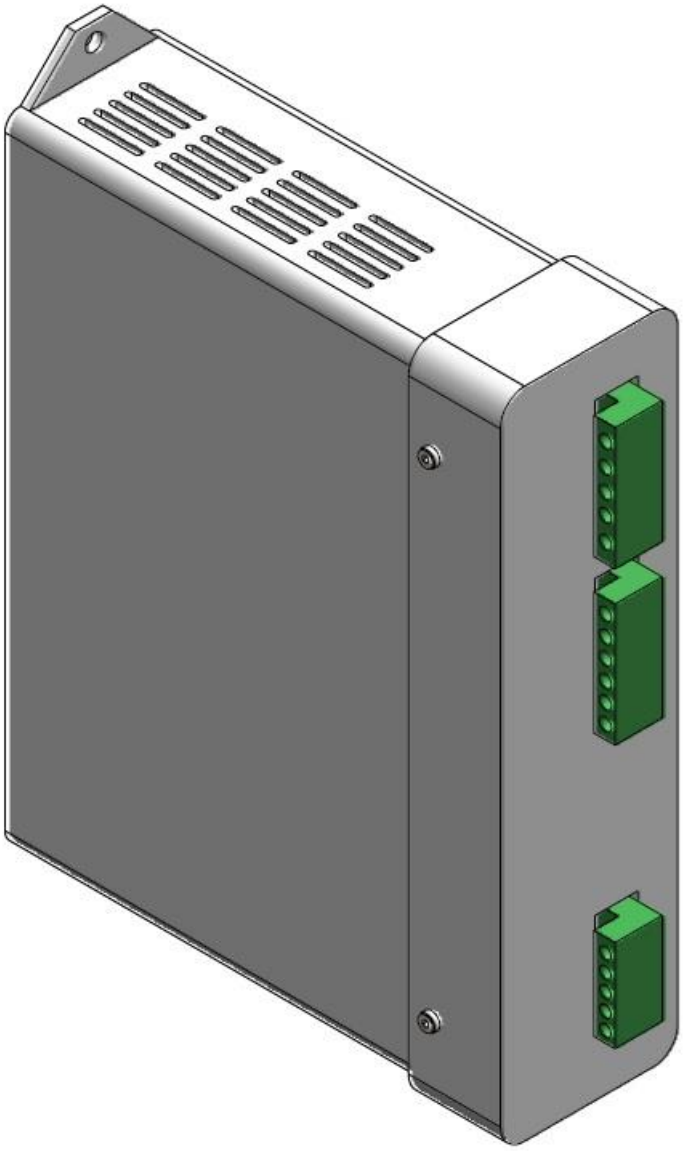
There are high voltage points inside the controller, never intervene directly on the circuits.

To open the controller box:

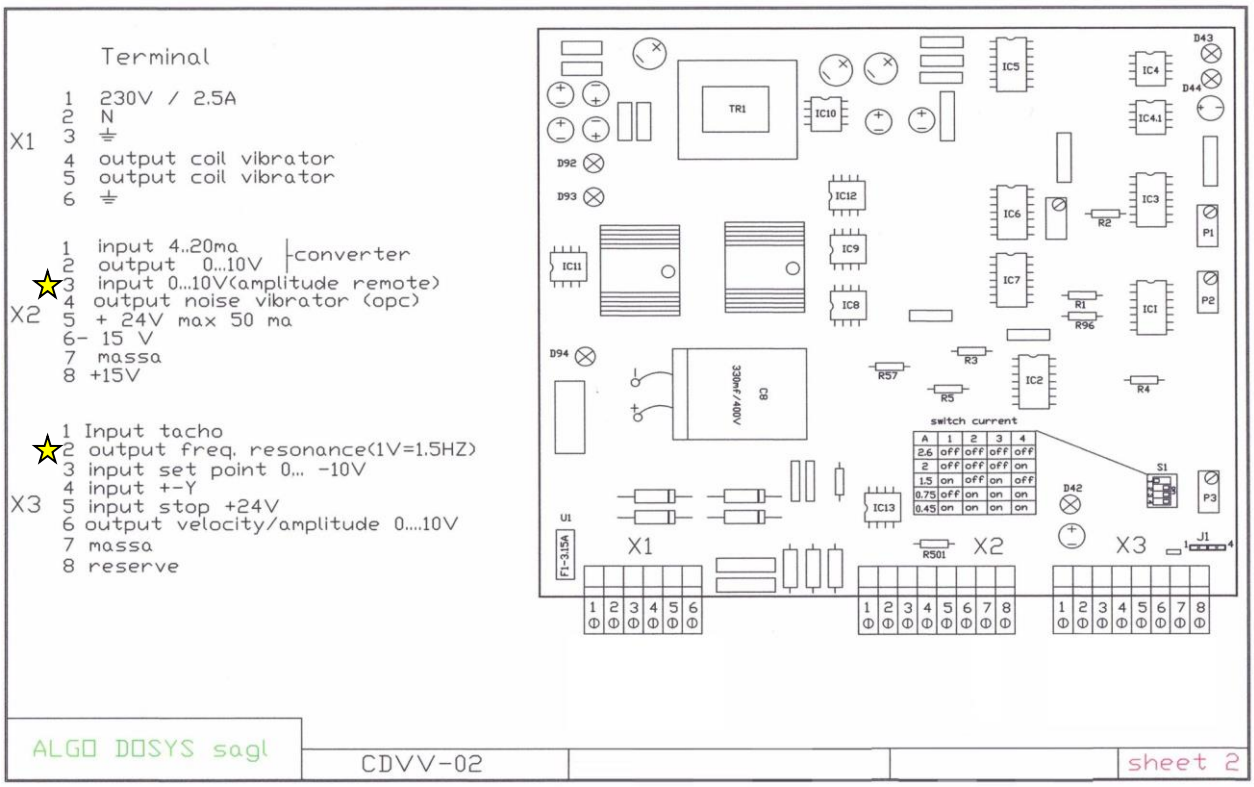
Apply a little pressure on the top and bottom of the front cover and pull out.

Pay attention: there are high voltage points in the board!

DO NOT place on a metal surface
DO NOT touch card components directly
IF you need to act on the trimmers, minimize the risk of danger you and for the electronic board



2.3 TERMINAL BLOCK CONTACTS



Of the following terminal block contacts, since they are almost all easy to understand, we will describe pin3 X2 and pin2 X3.

- ☆Pin3 X2 Input -0 ... 10V (remote amplitude): This function is used to manage the speed of the vibrating channel in gravimetric, if it is not between a range of 10 ... 70% of the maximum speed (Speed reading on the pin6 X3).
  During the first production start of the dispenser, it is advisable to avoid supplying a voltage higher than -1 Volt. When the ideal speed of the dispenser is reached, keep the tension constant and memorized.

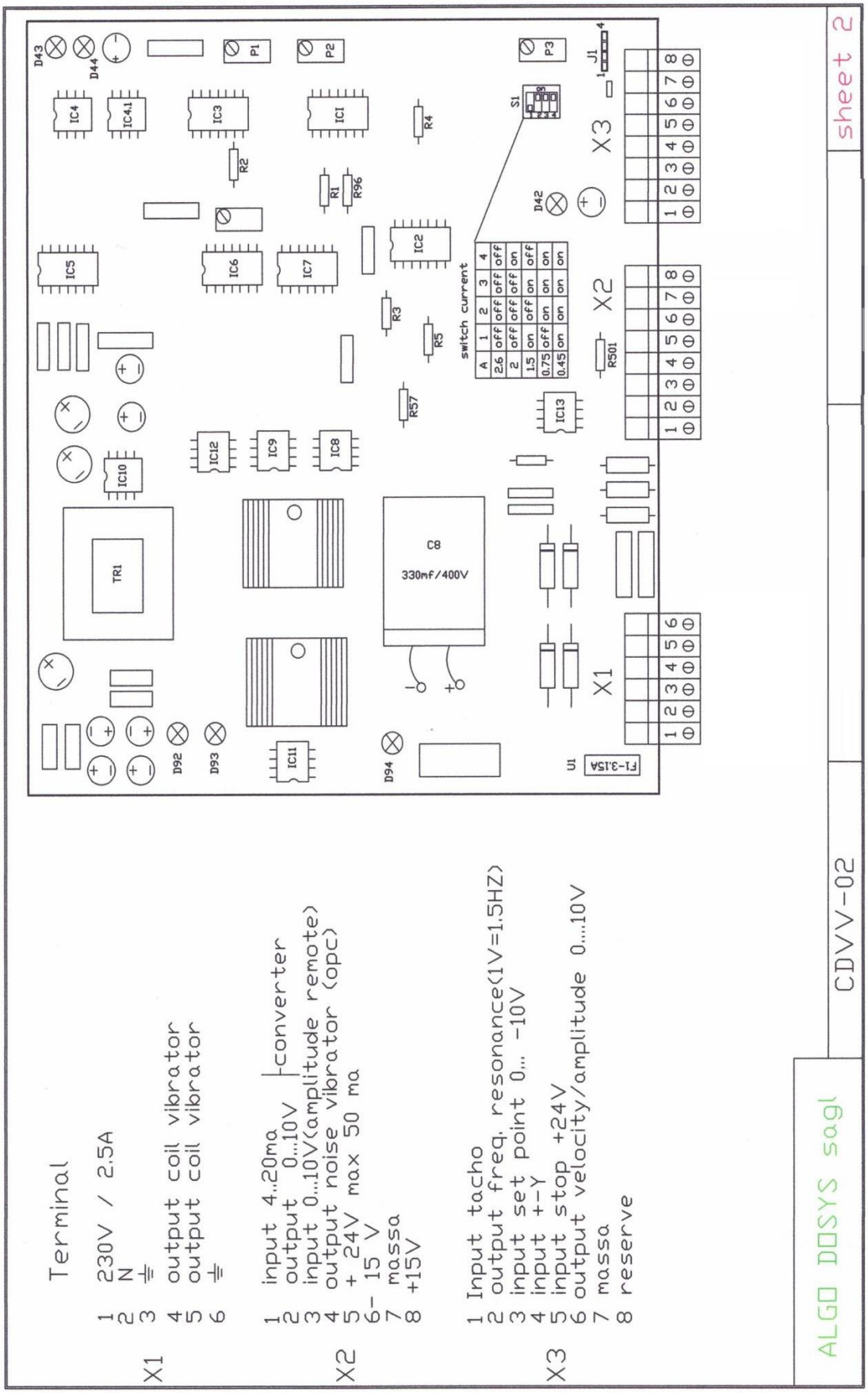
-☆Pin2 X3 Freq. Output resonance (1V = 1.5Hz): The resonance frequency of the moving dispenser can be displayed via the following output. The value expressed in Volts can be read in Hz. The resonance frequency of the dispenser relates the springs installed with the weight of the channel on which it will work. The ideal frequency is 50 Hz corresponding to 0 Volts on the output. This system, thanks to the use of the speedometer, guarantees efficiency within a range of 30 Hz.

-10 Volt ← 0 Volt → +10 Volt
35 Hz 50 Hz 65 Hz

For a better functioning of the system, it is clearly advisable to work around a resonant frequency of 40 - 60 Hz.

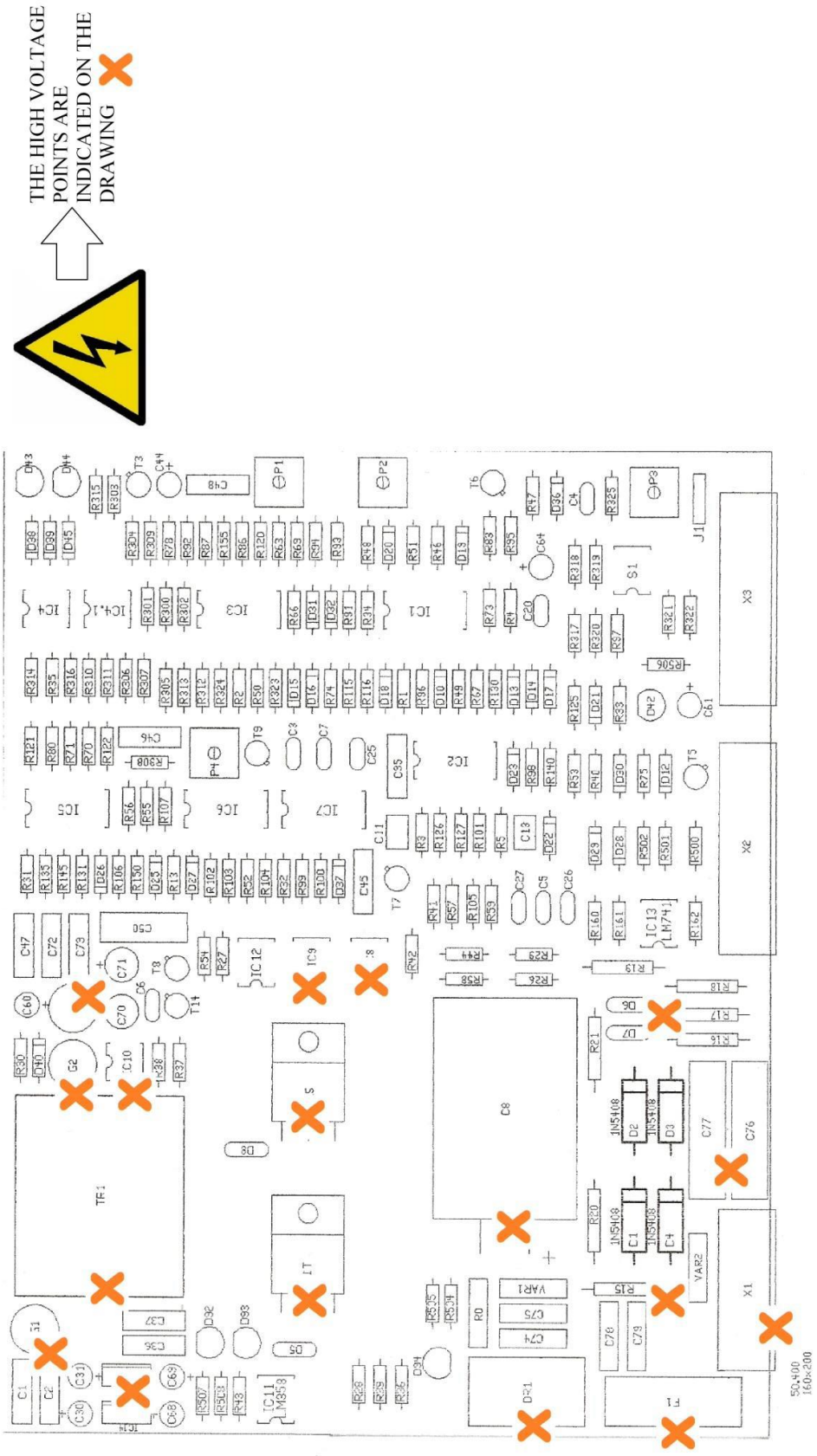
Attachment 1

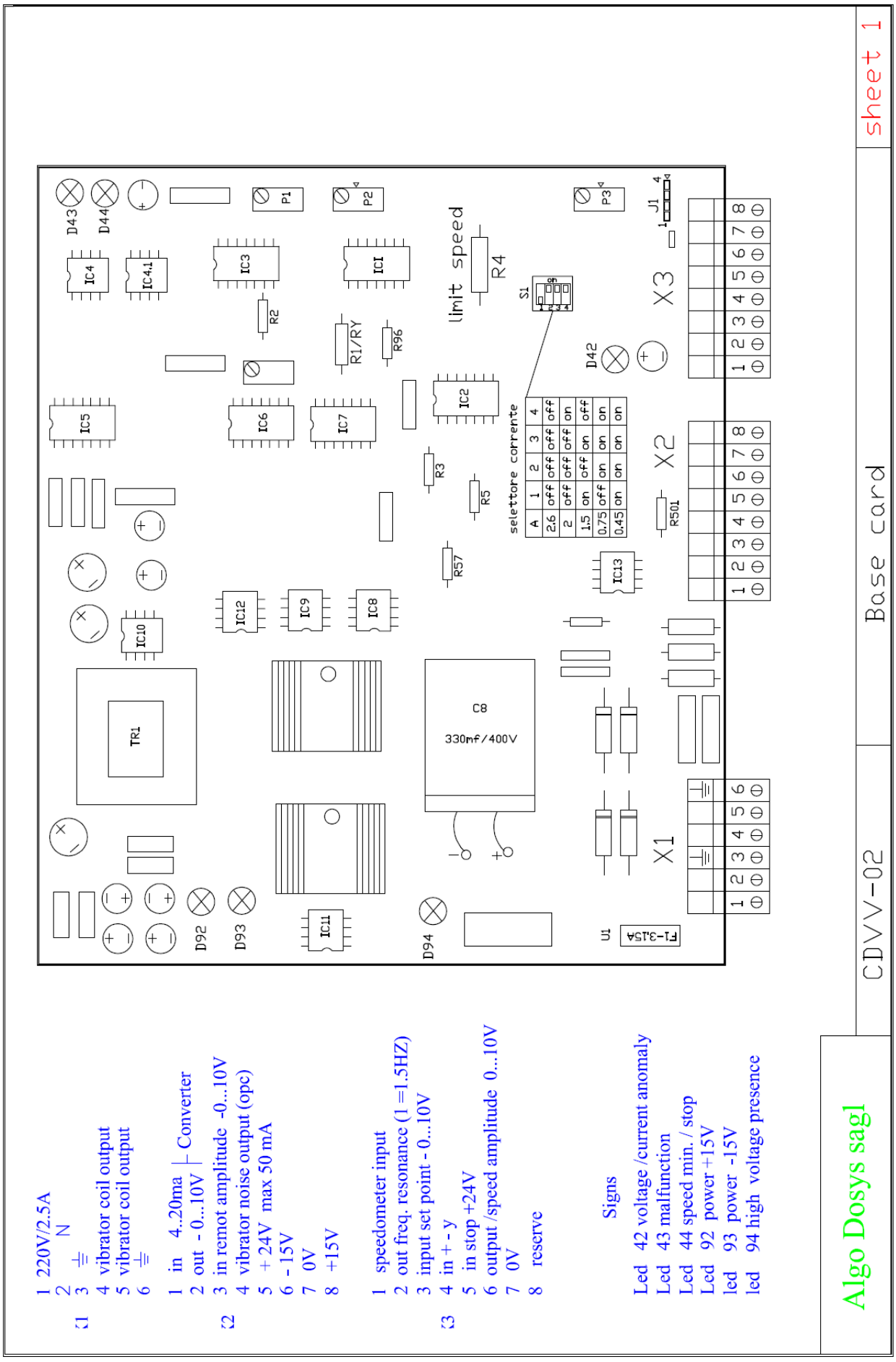
LINEAR VIBRATOR WIRING DIAGRAM

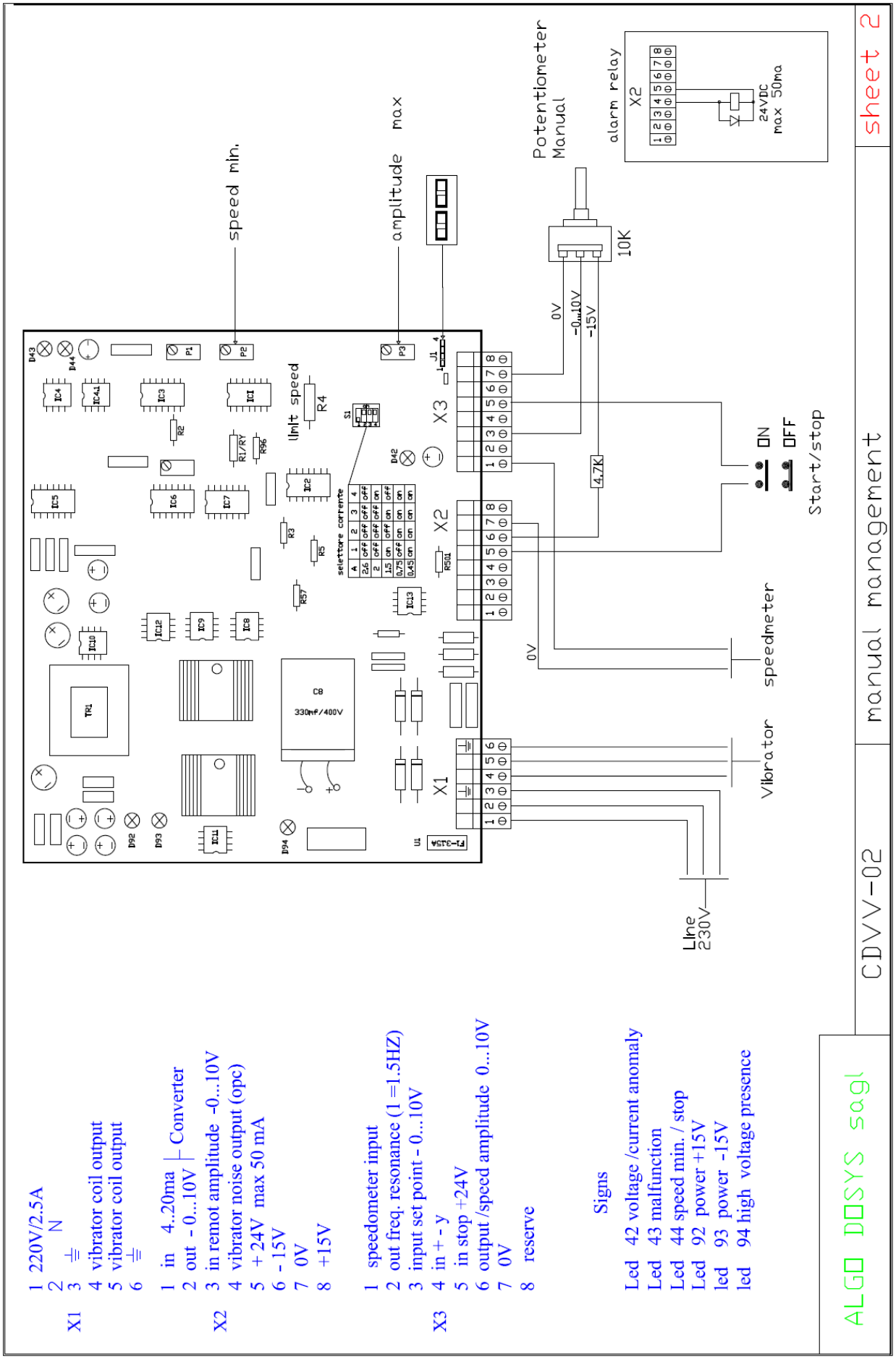


Attachment 2

DANGER AREAS DIAGRAM LINEAR VIBRATOR




Algo Dosys sagl
CDVV-02
Base card
sheet 1
X1
1 220V/2.5A
2 N
3 ⏚
4 vibrator coil output
5 vibrator coil output
6 ⏚
X2
1 in 4..20ma ├ Converter
2 out - 0...10V ┤
3 in remot amplitude -0...10V
4 vibrator noise output (opc)
5 + 24V max 50 mA
6 - 15V
7 0V
8 +15V
X3
1 speedometer input
2 out freq. resonance (1 =1.5HZ)
3 input set point - 0...10V
4 in + - y
5 in stop +24V
6 output /speed amplitude 0...10V
7 0V
8 reserve
Signs
Led 42 voltage /current anomaly
Led 43 malfunction
Led 44 speed min. / stop
Led 92 power +15V
led 93 power -15V
led 94 high voltage presence
limit speed
R4
selettore corrente
A 1 2 3 4
2.6 off off off off
2 off off off on
1.5 on off on off
0.75 off on on on
0.45 on on on on
C8
330mf/400V
TR1
F1-3.15A
D43
D44
D42
D92
D93
D94
P1
P2
P3
S1
J1
R1/RY
R2
R3
R5
R57
R96
R501
IC1
IC2
IC3
IC4
IC4.1
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13


ALGO DOSYS sagl
CDVV-02
manual management
sheet 2
X1
1 220V/2.5A
2 N
3 ⏚
4 vibrator coil output
5 vibrator coil output
6 ⏚
X2
1 in 4..20ma ├ Converter
2 out - 0...10V ┤
3 in remot amplitude -0...10V
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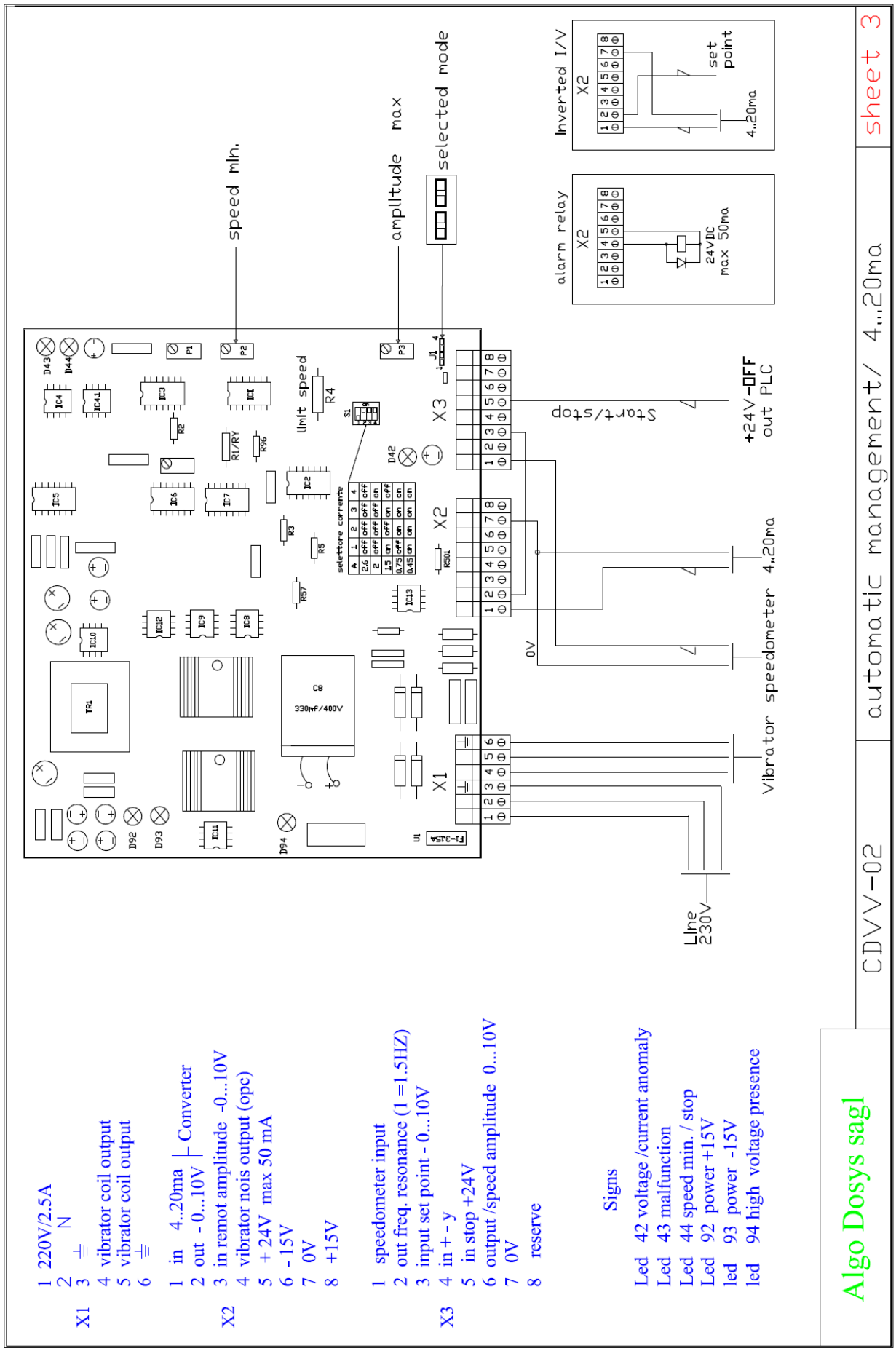
speed min.
amplitude max
Potentiometer Manual
10K
0V
0...10V
-15V
4,7K
alarm relay
X2
24VDC max 50ma
limit speed
R4
selettore corrente
C8
330mf/400V
TR1
F1-315A
ON
OFF
Start/stop
speedmeter
Vibrator
Line 230V



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4 vibrator coil output
5 vibrator coil output
6 ⏚

1 in 4..20ma ├ Converter
2 out - 0...10V ├
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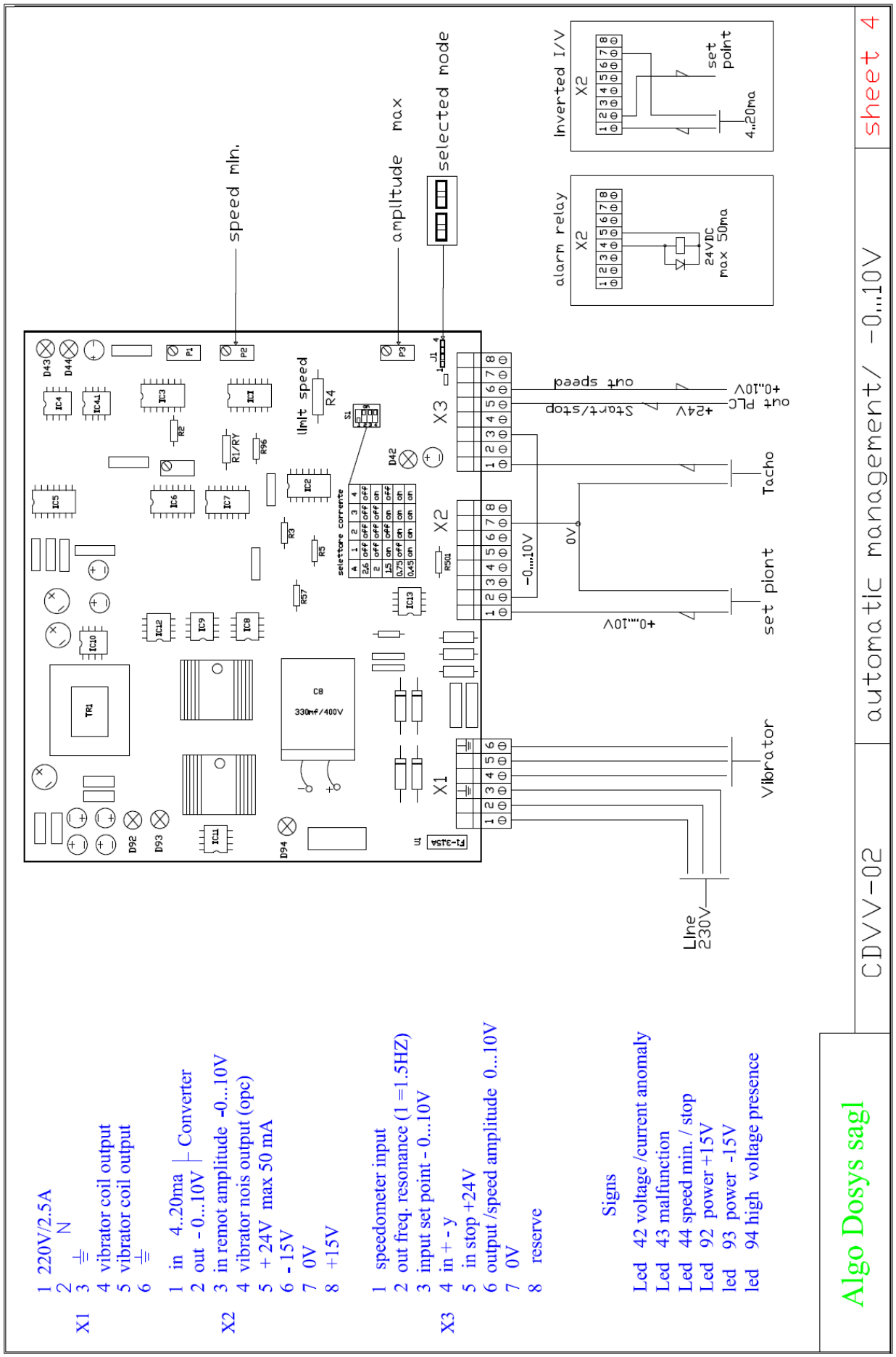

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1 220V/2.5A
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3 ⏚
4 vibrator coil output
5 vibrator coil output
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X2
1 in 4..20ma ├ Converter
2 out - 0...10V ┤
3 in remot amplitude -0...10V
4 vibrator nois output (opc)
5 + 24V max 50 mA
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7 0V
8 +15V

X3
1 speedometer input
2 out freq. resonance (1 =1.5HZ)
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