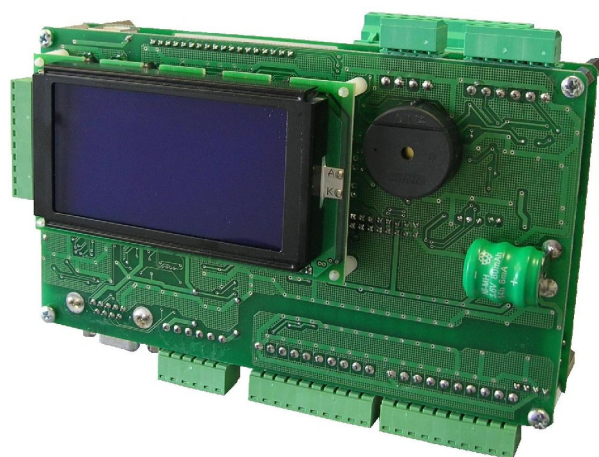




# KS 412

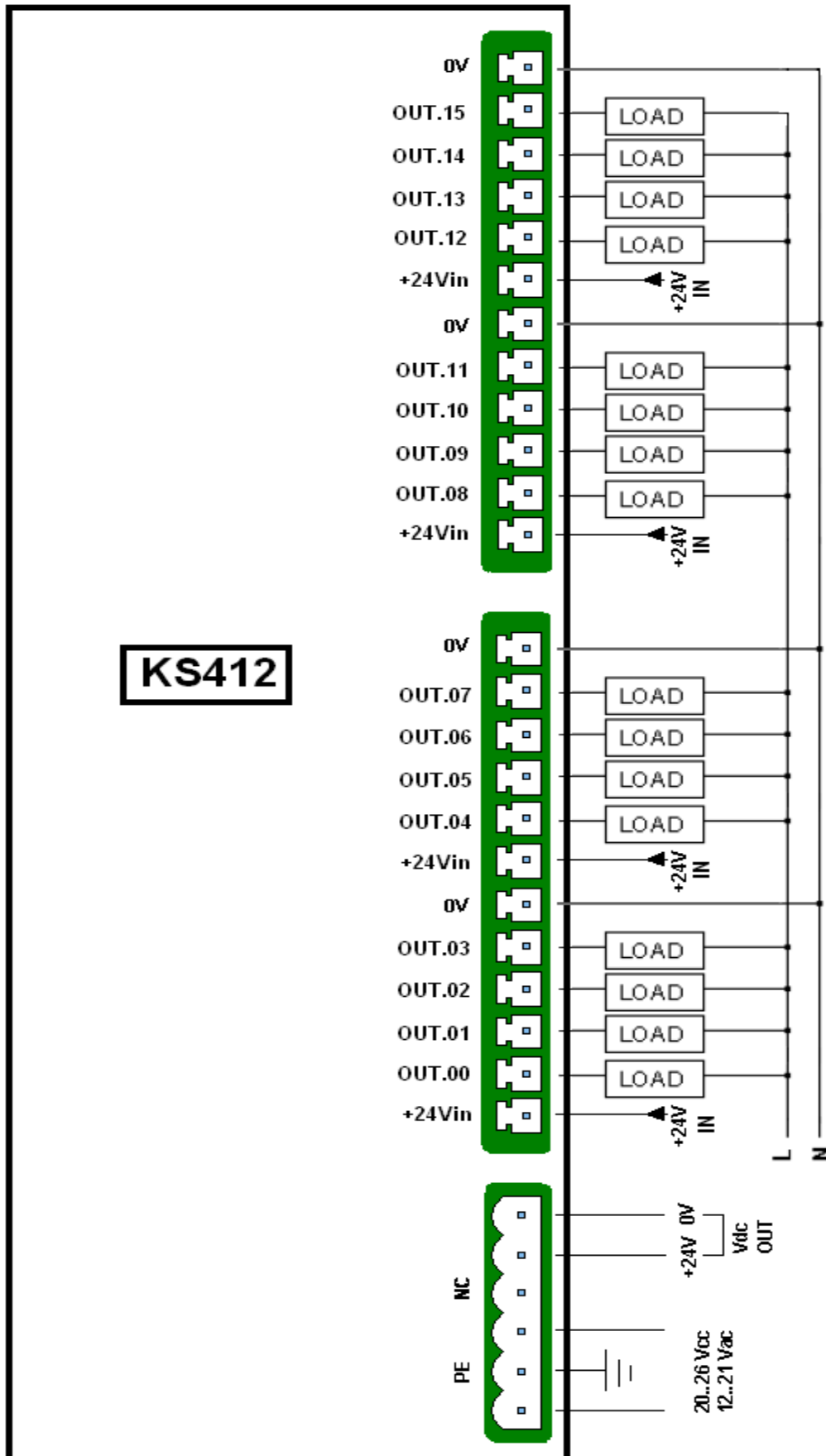


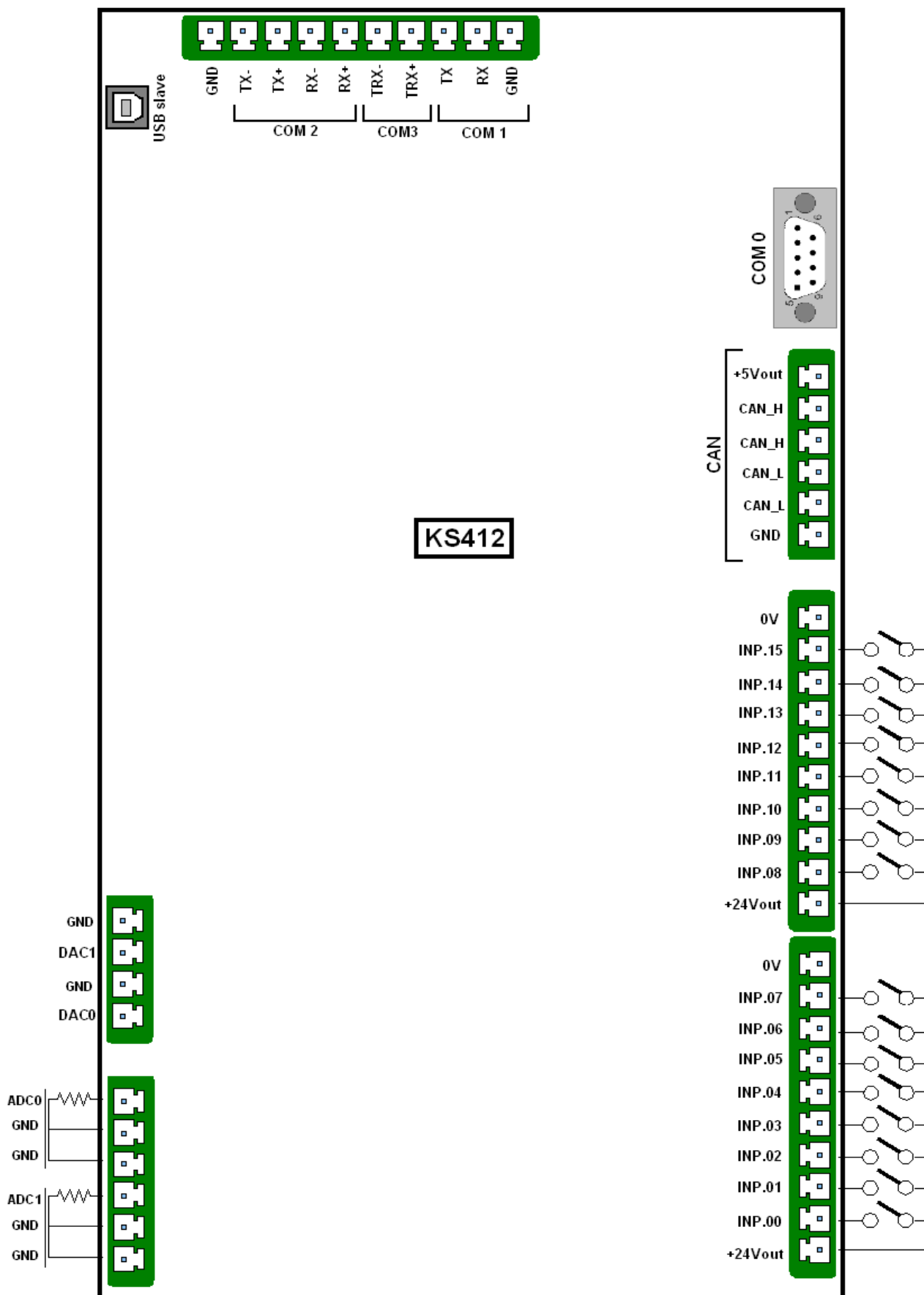
## Operator panel with integrated PLC

- Graphic LCD 160x80 monochromatic
- Open Master communication protocol
- Contact programming with Ladder language
- USB slave port

### ELECTRIC CHARACTERISTICS

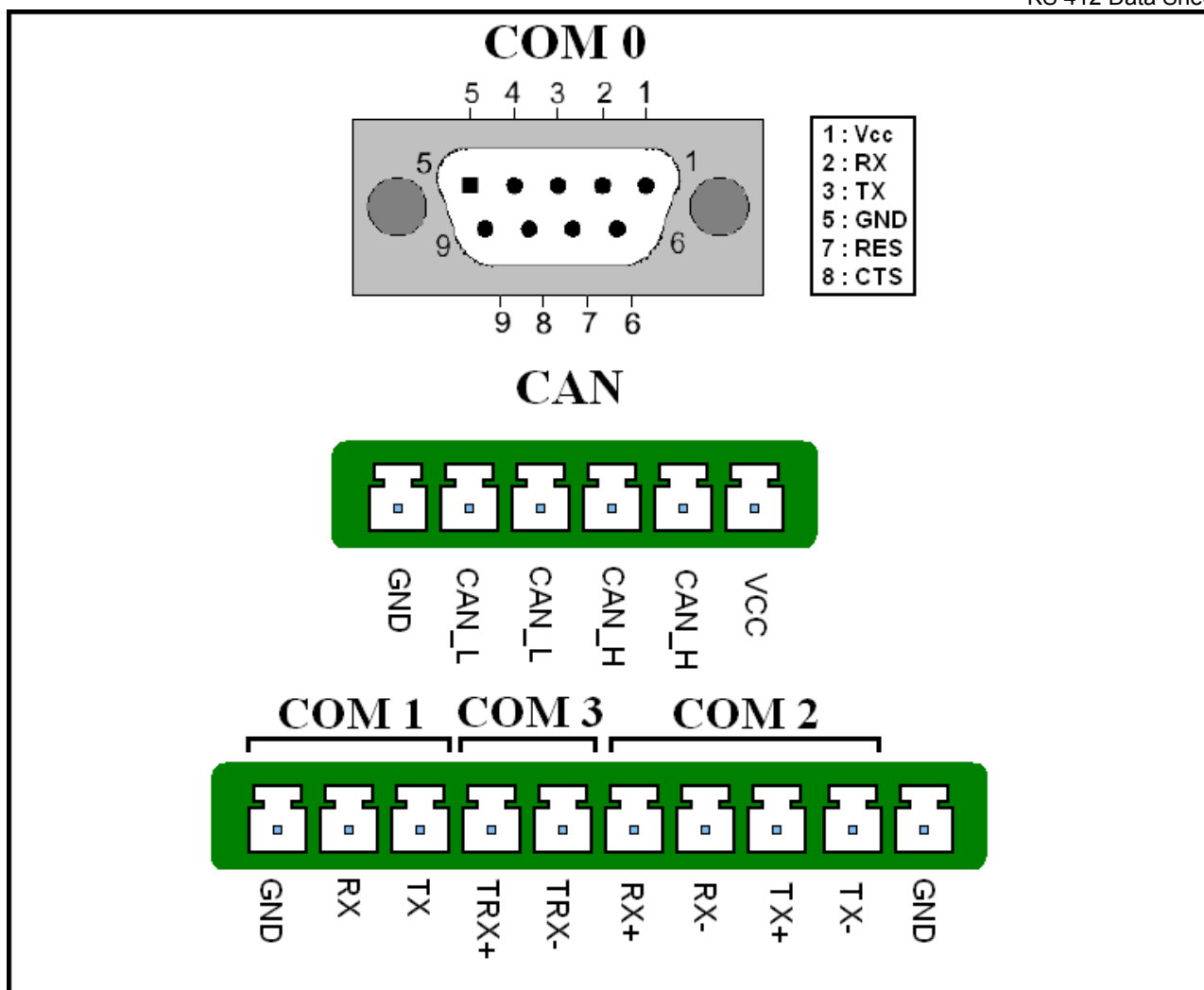
<b>Power supply voltage</b>	Min 20Vcc ; Max 26 Vcc Min 15 Vac ; Max 21 Vac
<b>Current Consumption</b>	under 800 mA without loads
<b>Microprocessor</b>	Fujitsu MB91467 @ 4MHz
<b>Program Memory</b>	128 KB
<b>Pages Memory</b>	128 KB
<b>E<sup>2</sup>PROM</b>	64 KB
<b>Cycle Time</b>	Programmable (min 1 msec.)
<b>Digital Inputs</b>	16 digital inputs PNP at 24 Volts with programmable anti-noise filter ( 4 fast inputs for encoder connection untill 10KHz) with programmable anti-noise filter (value 0..255)







<b>Analog Inputs</b>	Two configurable analog inputs for voltage, current, PT100 or TMC at 10 bits.
<b>Digital Outputs</b>	16 static digital outputs PNP 24V and 500mA
<b>Analog Outputs</b>	Analog outputs 0...10V at 8 bits
<b>Buffered RAM</b>	96 words any 100 msec automatically copy into plugged RAM (for a term of 1 year)
<b>RTC</b>	Extern real time clock with plugged calendar and clock with rechargeable battery. (for a term of 1 year)
<b>Communication Ports</b>	<p>3 serial lines (COM 0,COM 1,COM 2), 1 USB slave port and a CAN port</p> <p><b>COM 0</b> : Available only in RS232 mode, in alternative to this can be used the USB slave port. This port might support many different communication protocols. It's used also for upload the application program or the operative system.</p> <p><b>COM 1</b> : Used only in RS232 mode, might support many different communication protocols and it's normally used like interface with other devices (I/O expansions, termoregulators, inverters or for network connection).</p> <p><b>COM 2</b> : Used only in RS422 mode, might support many different communication protocols and it's normally used like interface with other devices (I/O expansions, termoregulators, inverters or for network connection).</p> <p><b>COM 3</b> : Used only in RS485 mode, might support many different communication protocols and it's normally used like interface with other devices (I/O expansions, termoregulators, inverters or for network connection).</p>

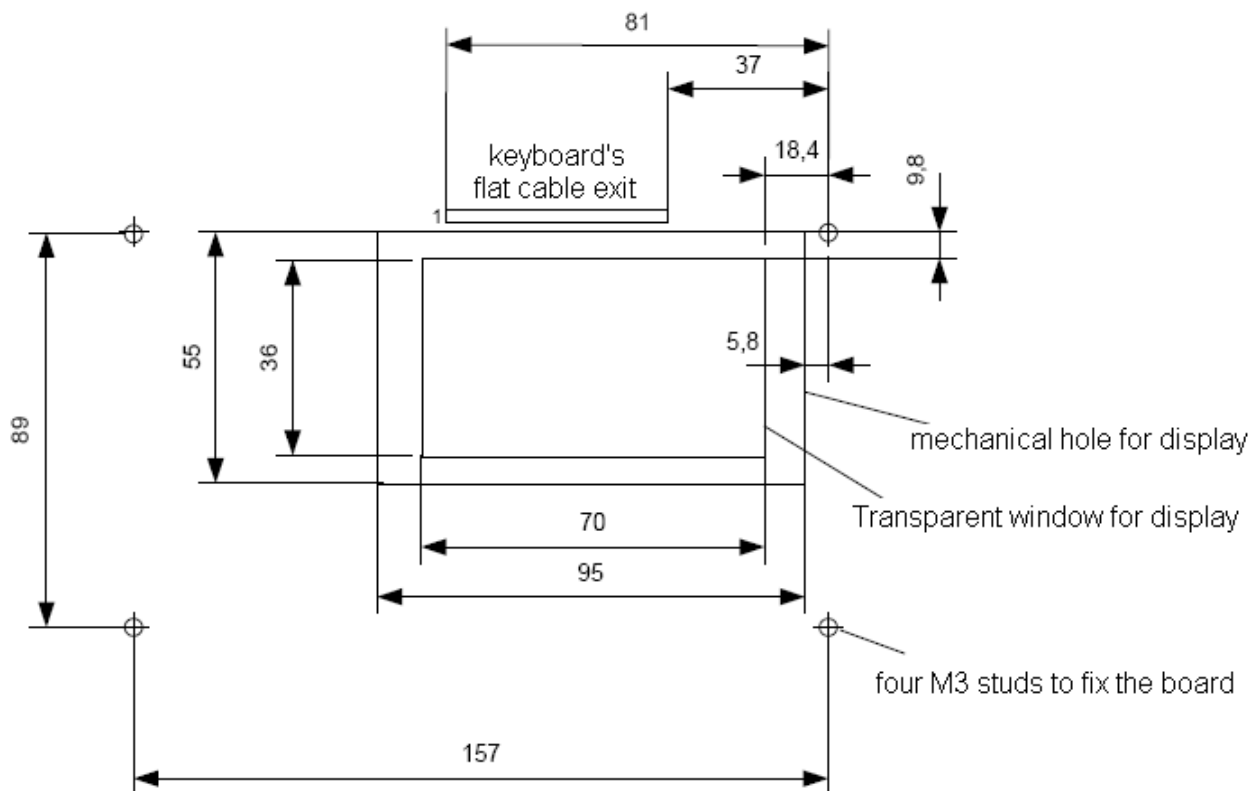


MECHANICS CHARACTERISTICS	
Temperature Range	from -10 °C to +70 °C
Humidity Range	from 10 at 90% (non-condensing))
Operating Atmosphere	Without corrosive gas
Noise Immunity	According to rules in force
Fixing System	Four M4 pegs
Weight	670 gr
Keyboard	Membrane keyboard on anodized aluminium font part. Keyboard customizable. (max 16 buttons and max 9 leds). Minimum keyboard size: 194x139 mm.



**MECHANICS CHARACTERISTICS**

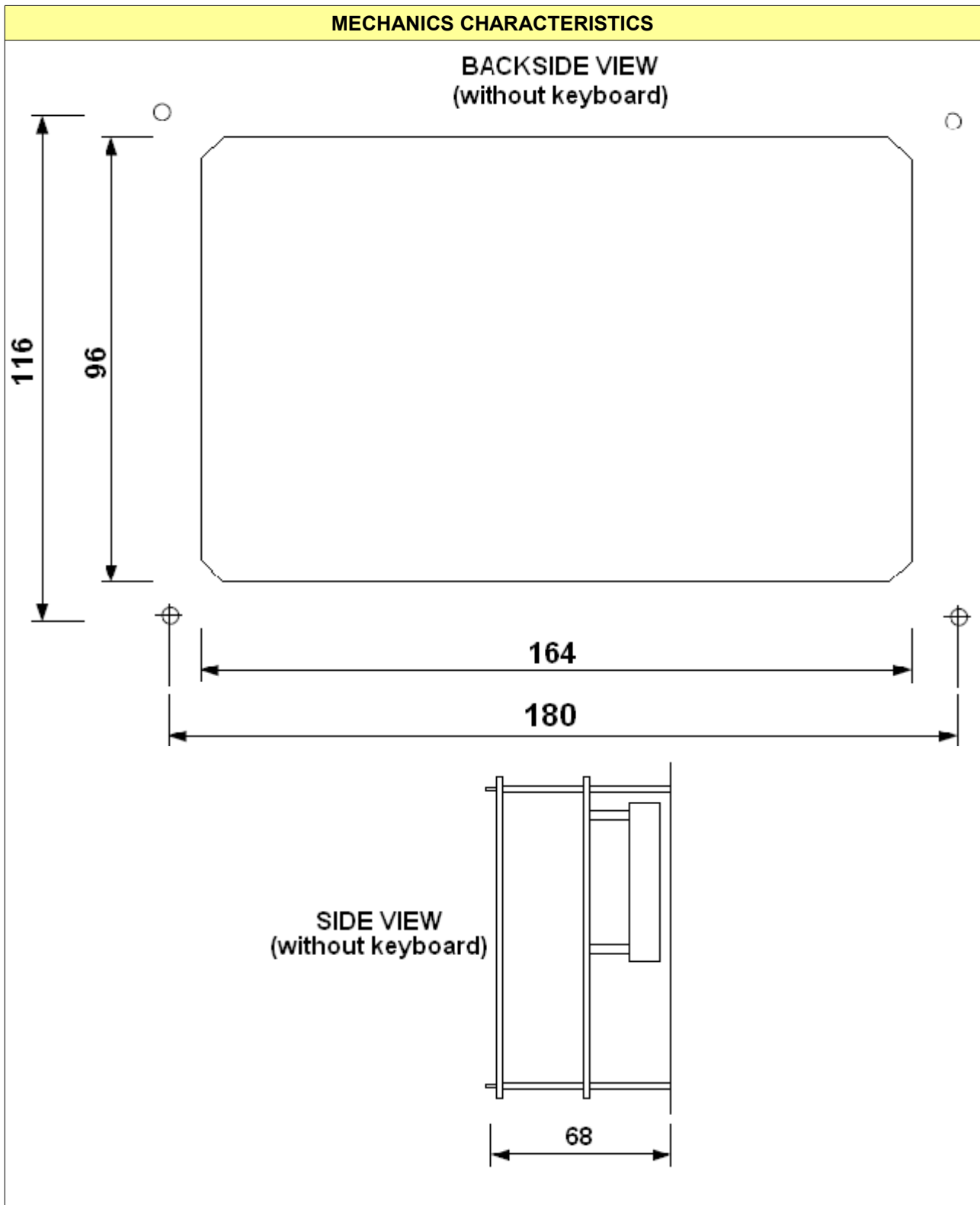
**Basic elements of the keyboard support seen from behind**



**Keyboard's flat cable**

1 LED1	10 COMMON +5V
2 LED2	11 ROW0
3 LED3	12 ROW1
4 LED4	13 ROW2
5 LED5	14 ROW3
6 LED6	15 COL0
7 LED7	16 COL1
8 LED8	17 COL2
9 LED9	18 COL3

<b>Display</b>	<b>Monochromatic graphic display 160x80 backlight.</b>
<b>Dimensioni</b>	<b>Front view 116x184 mm, Depth 68 mm</b>





CARATTERISTICHE SOFTWARE	
Programming Languages	AWL / Ladder
Timers	256 timers a 16 bit con risoluzione 1/100 sec , configurabili singolarmente come ritardo alla eccitazione o alla diseccitazione . 8 timers free running con risoluzione a 1 msec attivabili singolarmente con flag di sistema .
Counters	256 counters a 16 bit configurabili singolarmente come incrementali o decrementali
Data Memory	12288
Developed Functions	<ul style="list-style-type: none"> <li>- Week programming</li> <li>- Ricipe management</li> <li>- Encoders management</li> <li>- P.I.D. Temperature's regulation</li> <li>- CAN Open protocol management</li> </ul>
Memory area check in real time mode on data table ( Debug )	●
Ladder's subroutines Import/Export	●
Contact and variable check in real time mode on ladder ( Debug Online )	●