

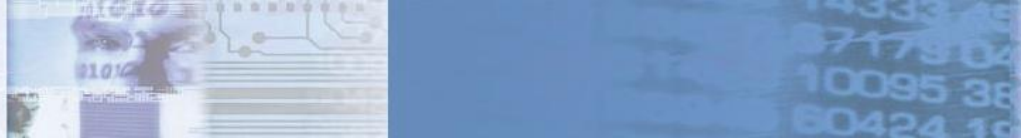
# TSP 350



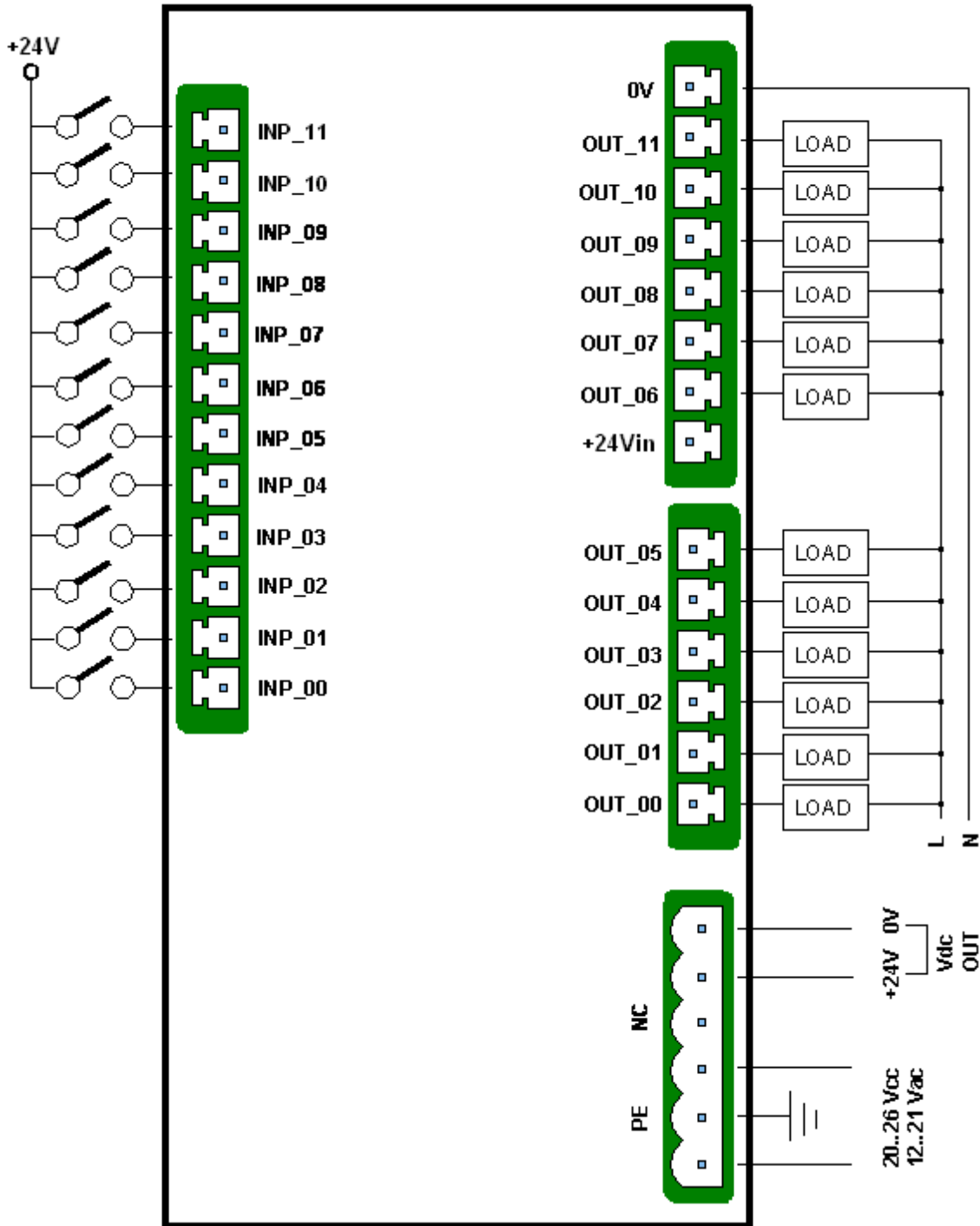
## Operator panel 256 colours with integrated PLC

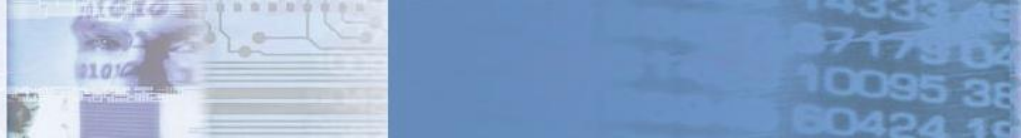
- Graphic LCD 320 x 240 256 colours
- Open Master communication protocol
- Contact programming with Ladder language
- Function for Recipe management , P.I.D. Regulator, etc ...

ELECTRIC CHARACTERISTICS	
<b>Power supply voltage</b>	<b>Min 20Vcc ; Max 26 Vcc Min 15 Vac ; Max 21 Vac</b>
<b>Current Consumption</b>	<b>under 600mA without loads</b>
<b>Microprocessor</b>	<b>Fujitsu MB91467 @ 100MHz</b>
<b>Program Memory</b>	<b>128 KB</b>
<b>Pages Memory</b>	<b>128 KB</b>
<b>E<sup>2</sup>PROM</b>	<b>64 KB</b>
<b>Cycle Time</b>	<b>Programmabile (min 5 msec.)</b>
<b>Digital Inputs</b>	<b>12 digital inputs PNP at 24 Volts with programmable anti-noise filter ( 4 fast inputs for encoder connection untill 10KHz)</b>

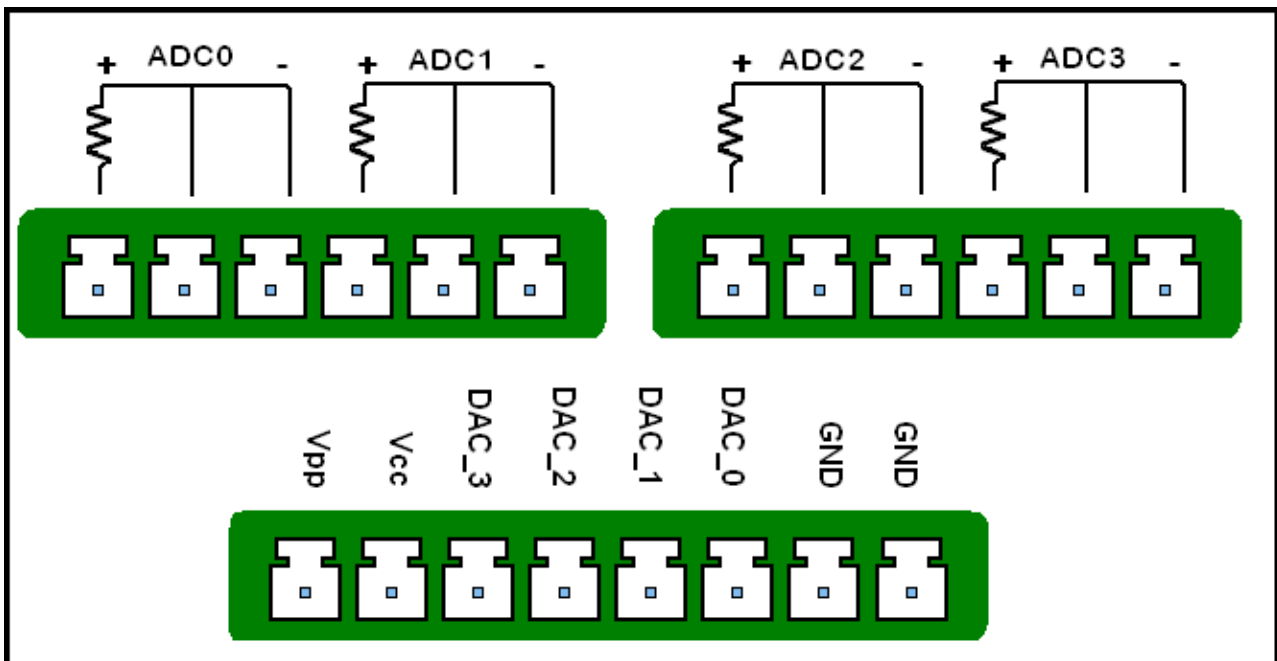


**I/O Connections**





<b>Analog Inputs</b>	<b>4 configurable analog inputs for voltage, current , PT100 or TMC a 10 bits</b>
<b>Digital Outputs</b>	<b>12 static outputs PNP 24V at 500mA</b>
<b>Analog Outputs</b>	<b>2 analog outputs 0/10 V at 8 bits and 2 analog outputs -10/+10 V at 12 bits</b>
<b>Plugged RAM</b>	<b>96 words any 100 msec automatically copy into plugged RAM (for a term of 1 year)</b>
<b>RTC</b>	<b>Extern real time clock with plugged calendar and clock with rechargeable battery . (for a term of 1 year)</b>



**Communication Ports**

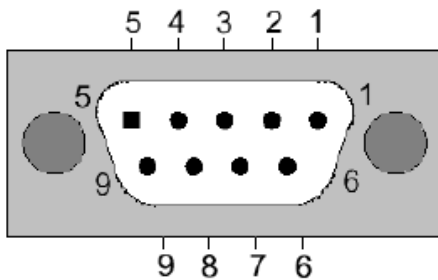
3 serial lines (COM 0,COM 1,COM 2) and a CAN port

**COM 0** : 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 .

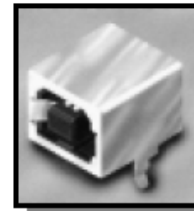
**COM 1** : Used in RS485 or RS422 mode , might support many different communication protocols and it's normally used like interface with other devices (I/O expansions , termoregulators , inverters or for network connection) .

**COM 2** : 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) .

**COM 0**

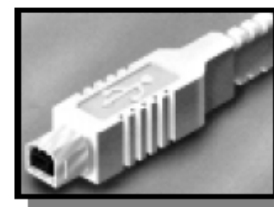
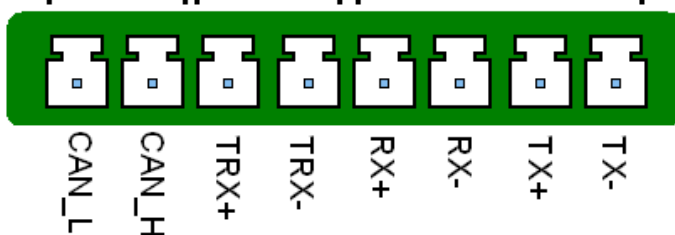


- 1: Vcc
- 2: RX
- 3: TX
- 5: GND
- 8: CTS



USB - slave : used in alternative to COM0 , it use Kernel protocol

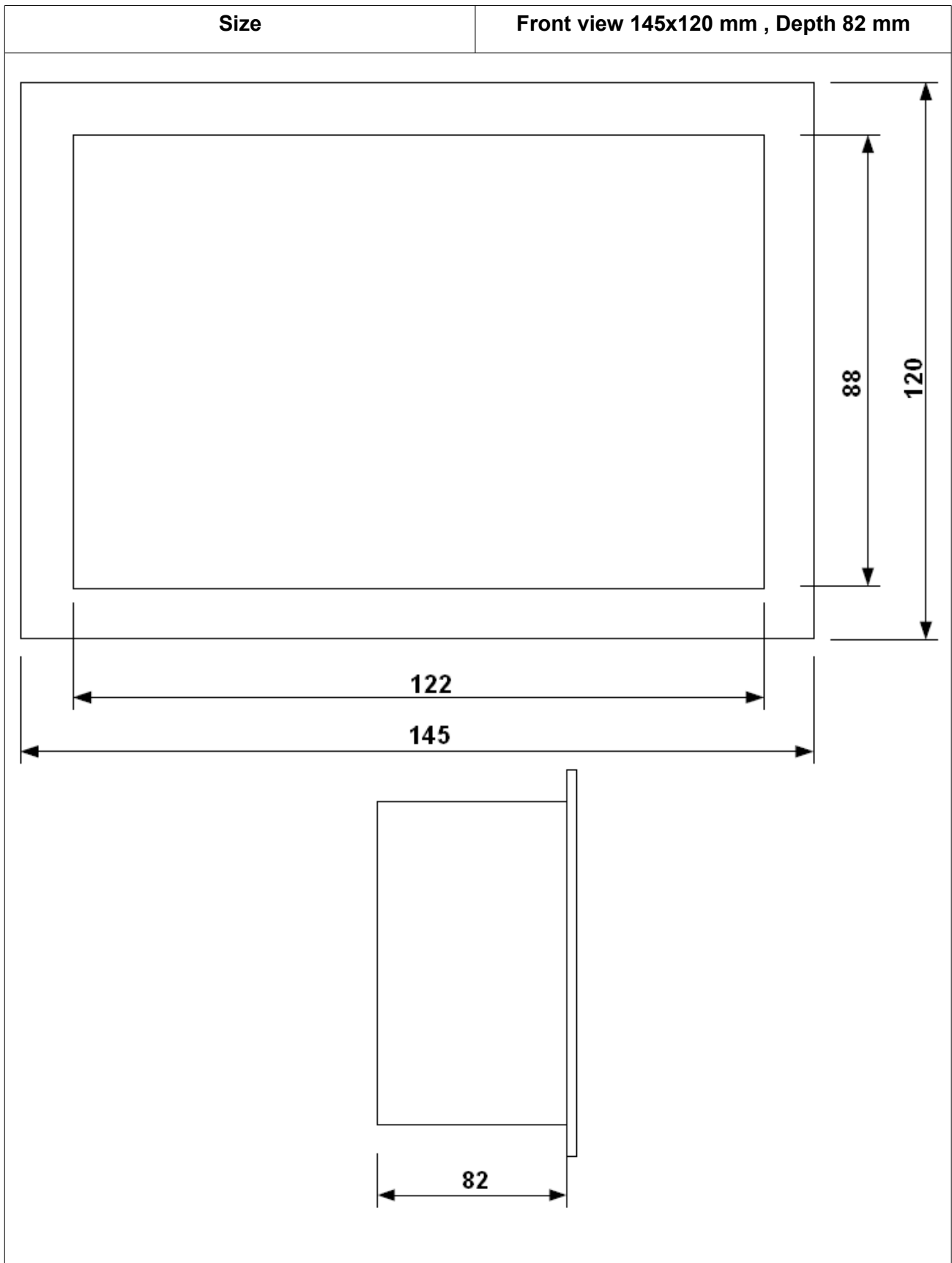
**CAN COM 2 COM 1**

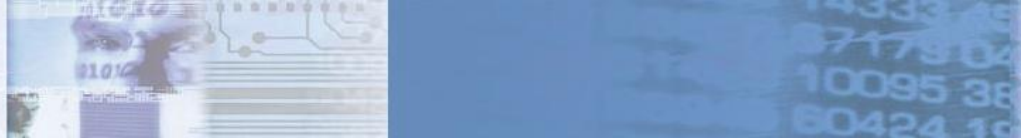


connector for USB - slave



<b>MECHANICS CHARACTERISTICS</b>	
<b>Temperature Range</b>	<b>from -10 °C to +70 °C</b>
<b>Humidity Range</b>	<b>From 10 to 90% (non-condensing)</b>
<b>Operating Atmosphere</b>	<b>Without corrosive gas</b>
<b>Noise Immunity</b>	<b>According to rules in force</b>
<b>Fixing System</b>	<b>Fixing brackets</b>
<b>Weight</b>	<b>760 gr</b>
<b>Keyboard</b>	<b>Resistive touch screen</b>
<b>Display</b>	<b>Graphic display 320X240 at 256 colours, backlight. 4 signalling LEDs.</b>





<b>SOFTWARE CHARACTERISTICS</b>	
<b>Programming Languages</b>	<b>AWL / Ladder</b>
<b>Timers</b>	<b>256 timers at 16 bit with 1/100 sec resolution. Timers are configurables like excitation delay or disexcitation delay.</b>
<b>Counters</b>	<b>256 counters at 16 bit configurables like increase or decrease.</b>
<b>Data Memory</b>	<b>12288</b>
<b>Developed Functions</b>	<ul style="list-style-type: none"> <li>- <b>Week programming</b></li> <li>- <b>Recipes management</b></li> <li>- <b>Encoders management</b></li> <li>- <b>P.I.D. regulation</b></li> </ul>
<b>Memory area check in real time mode on data table ( Debug )</b>	●
<b>Ladder's subroutines Import/Export</b>	●
<b>Contact and variable check in real time mode on ladder ( Debug Online )</b>	●