



# TSP 240



## Operator panel with integrated PLC

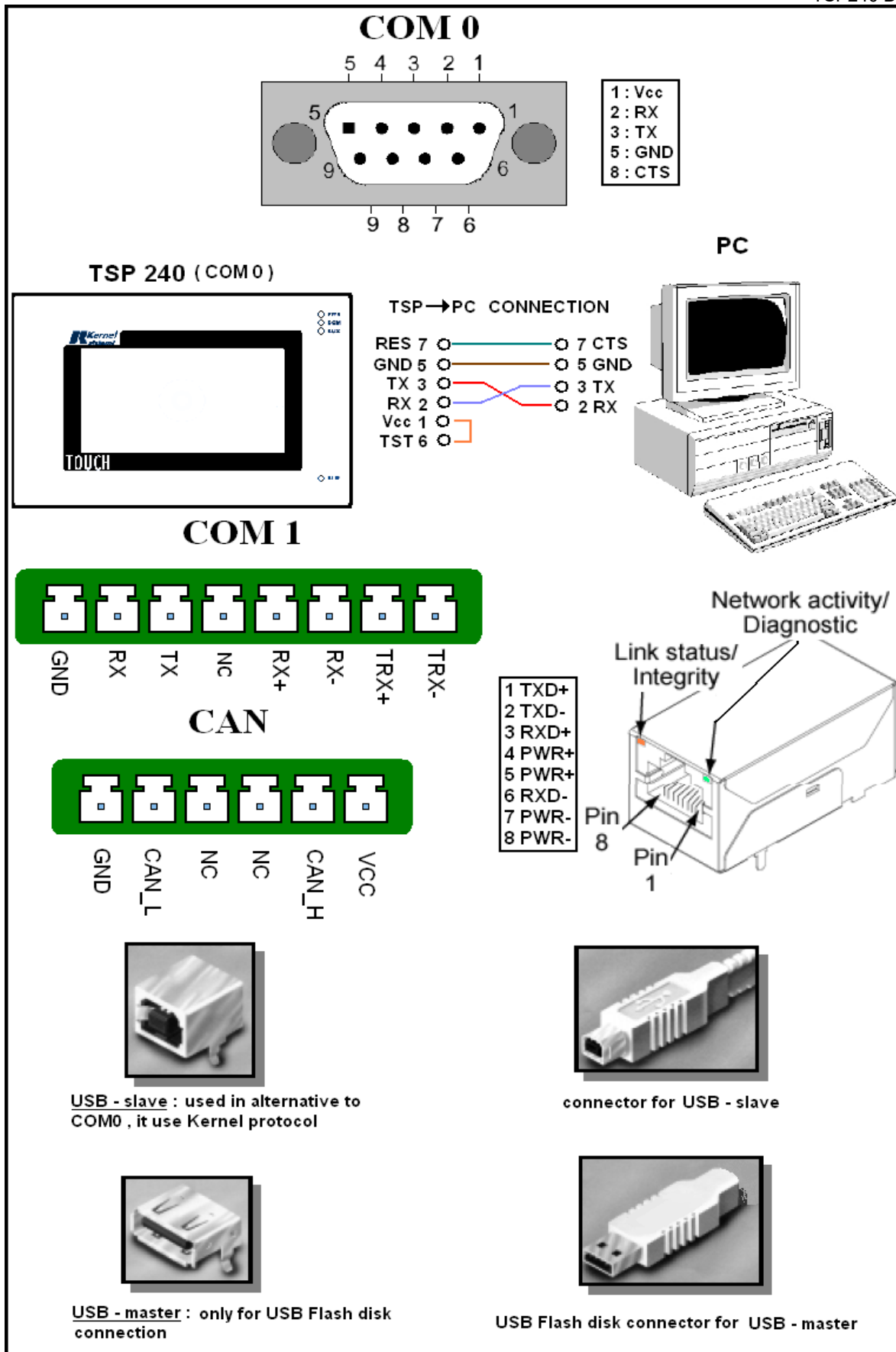
- Graphic LCD 240x320
- CAN Open Master communication protocol
- Contact programming with Ladder language
- Master USB port and slave USB port
- Touch Screen

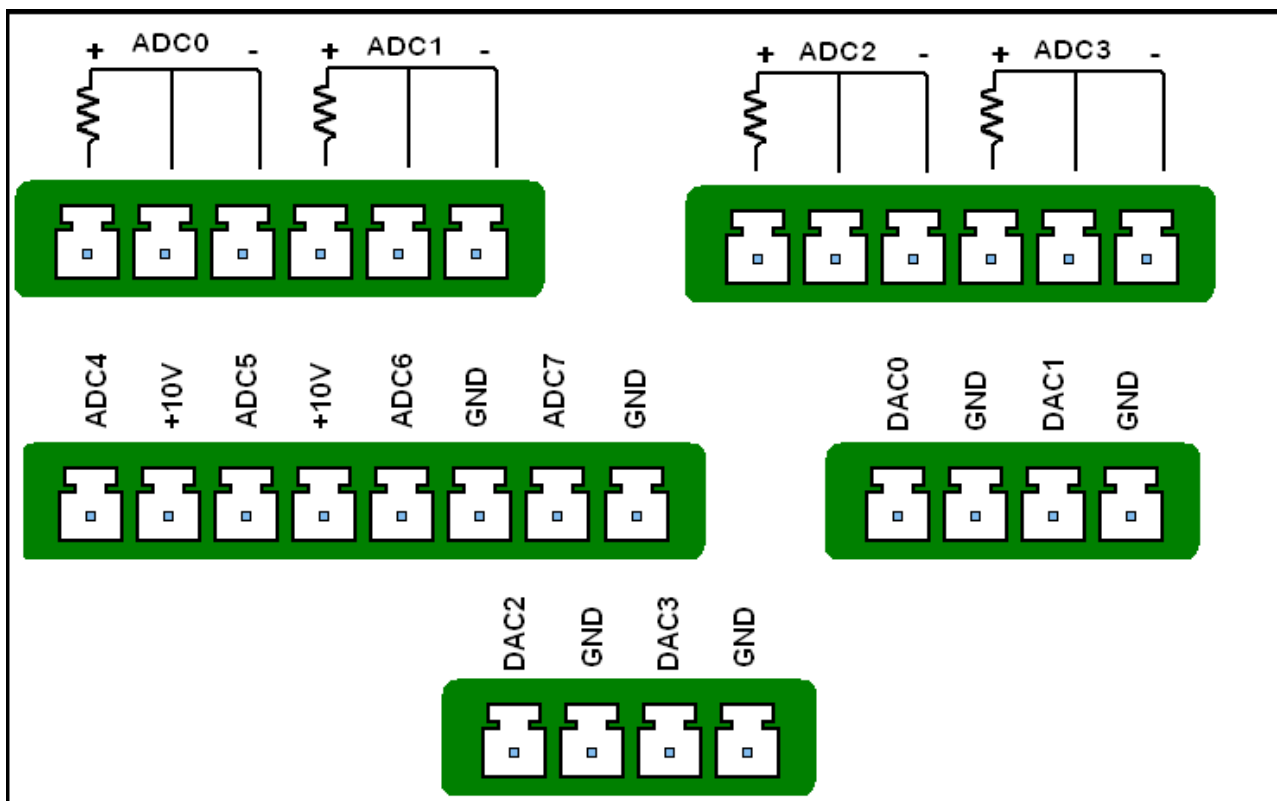
ELECTRIC CHARACTERISTICS	
Power supply voltage	Min 20Vcc ; Max 26 Vcc Min 15 Vac ; Max 21 Vac
Current Consumption	Under 500 mA without loads
Microprocessor	Fujitsu MB91467 @ 4MHz
Program Memory	256 KB
Pages Memory	500 KB
E <sup>2</sup> PROM	64 KB
Cycle Time	Programmable (minimum 1 msec.)
Digital Inputs	20 digital inputs PNP at 24 Volts of which 4 fast input (2KHz for encoder reading) with programmable anti-noise filter (value 0..255)





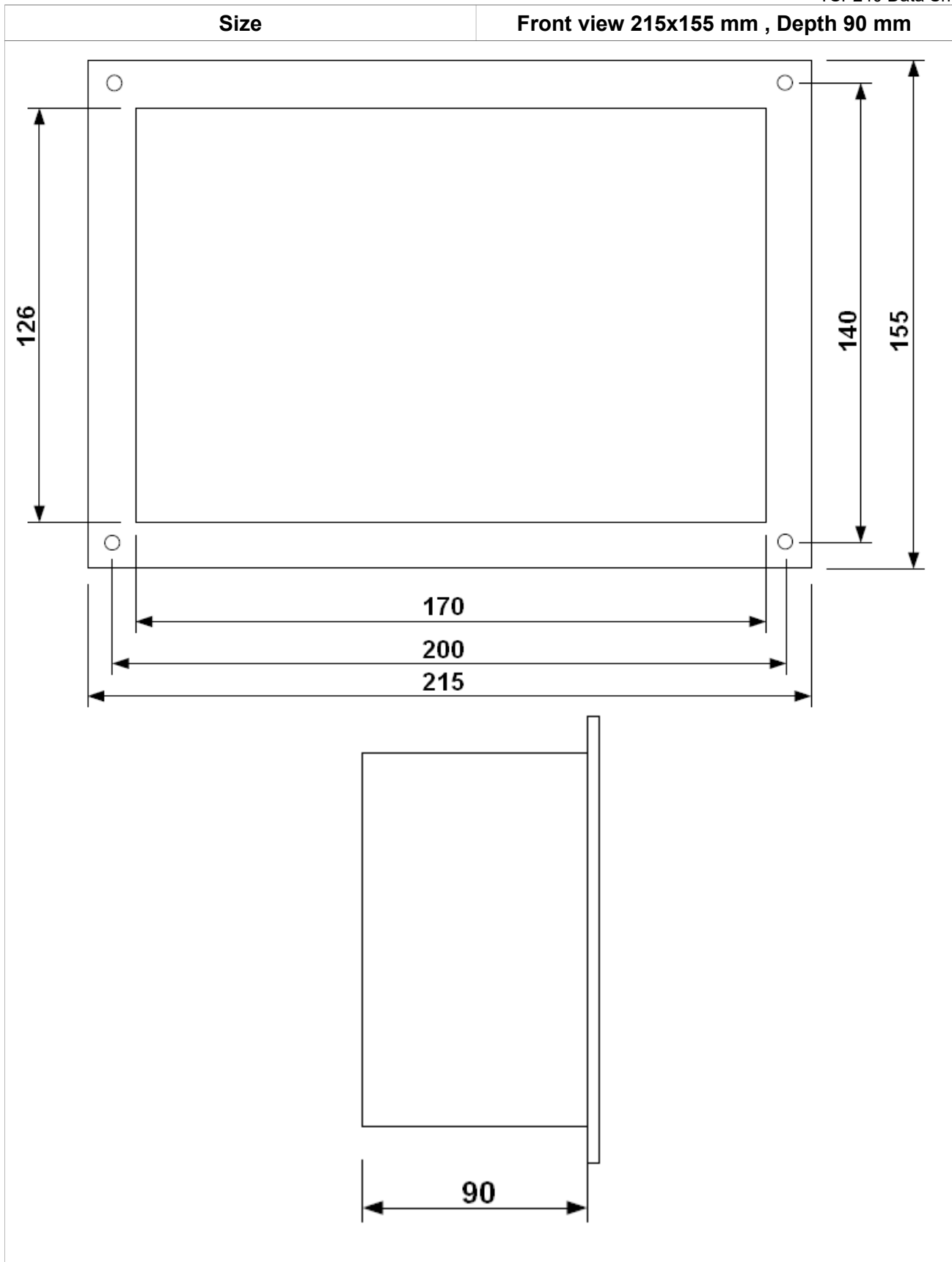
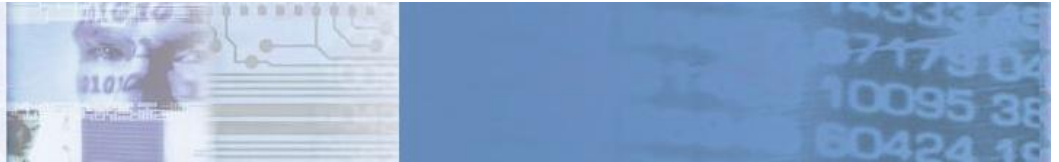
<b>Analog Inputs</b>	<b>8 analogic inputs with 10 bit resolution [0...1023] . 4 ADC configurables for PT100 , termocouple , voltage or current and 4 ADC configurables only for voltage or current.</b>
<b>Digital Outputs</b>	<b>16 outputs PNP 24 V at 500 mA</b>
<b>Analog Outputs</b>	<b>4 analogic outputs -10...+10V with 12 bits [0...4095] resolution</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>
<b>Communication Ports</b>	<p><b>2 serial lines (COM 0 , COM 1 ) , 1 CAN port , 1 USB slave port , 1 USB master port , 1 Ethernet port .</b></p> <p><b><u>COM 0</u> : Available only in RS232 mode , in alternative to this can be used the USB salve port . This port might support many different communication protocols . It's used also for upload the application program or the operative system .</b></p> <p><b><u>COM 1</u> : Used in RS232 , RS485 o 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) .</b></p> <p><b><u>CAN</u> : with CAN-OPEN protocol</b></p> <p><b><u>USB master</u> : only for USB keys reading .</b></p> <p><b><u>USB slave</u> : Used in alternative to COM1 , it use only the Kernel protocol . It's used also for upload the application program or the operative system .</b></p> <p><b><u>Ethernet</u> : only if requested .</b></p>





### MECHANICS CHARACTERISTICS

Temperature Range	from -10 °C to +70 °C
Humidity Range	from 10 to 90% (non-condensing)
Operating Atmosphere	Without corrosive gas
Noise Immunity	According to rules in force
Fixing System	Four M4 pegs
Weight	1,1 Kg
Keyboard	Touch screen with high resolution .
Display	Monochromatic graphic display 240x320 (40 characters on 30 rows) backlight LED. 4 signalling LEDs.







SOFTWARE CHARACTERISTICS	
Programming Languages	AWL / Ladder
<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>CAN Open protocol 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>	●