



VTP 402N



DATA SHEET



rev. 1.1
19 December 2022

PLC with integrated operator panel

- LCD monochromatic alphanumeric 20x2
- Compact PLC compatible with the standard serial communication protocol Modbus RTU
- Contact programming with Ladder language
- Function for Recipe management, Step Motor, P.I.D. Regulator, Print etc ...

Kernel Sistemi
Kernel Sistemi s.r.l. , via Vignolese n. 1138
41126 Modena - ITALY
Tel. 059 469 978 - Fax 059 468 874
www.kernelgroup.it

INDEX

1	HARDWARE CHARACTERISTICS.....	3
1.1	Electric Characteristics.....	3
1.2	Mechanics Characteristics.....	4
1.3	Rear View.....	4
1.4	Side View 1.....	5
1.5	Inputs and Outputs : VTP_402 R.....	6
1.6	Inputs and Outputs : VTP_402 S.....	7
1.7	Serial Ports.....	8
1.8	Analog.....	8
2	SOFTWARE CHARACTERISTICS.....	9
3	CONTACTS.....	10

1 HARDWARE CHARACTERISTICS

This chapter describes the hardware characteristics of VTP_402N :

1.1 Electric Characteristics

ELECTRIC CHARACTERISTICS	
Power supply voltage	24 Vdc +/- 10 %
Maximum Permitted Power Supply	27 Vdc
Current Consumption	Under 150 mA without loads [Power Supply = 24 Vdc]
Microprocessor	ARM STM 200
Program Memory	128 KByte
Pages Memory	256 KByte
EEprom	64 KByte
Cycle Time	Programmable (min 1 msec.)
Digital Inputs	14 digital inputs PNP at 24 Volts of which 4 fast input (20 KHz for encoder reading) with programmable anti-noise filter (value 1 ... 16)
Analog Inputs	4 configurable analog inputs with 12 bits resolution [0 ... 4095] : → 2 inputs for voltage, current, PT100 or TMC → 2 inputs only for voltage or current
Digital Outputs	10 outputs : 8 PNP static 24 V and 500 mA [S] OR relay outputs [R] + 2 static outs at 1.0 A
Analog Outputs	2 analog outputs 0...10 V with 12 bits resolution [0 ... 4095]
Plugged RAM	2048 words copied automatically into plugged RAM any 100 msec
RTC	Internal Real time clock buffered by a rechargeable battery
Current analog input Impedance	250 Ohm
Voltage analog input Impedance	10 KOhm
Serial Lines	4 serial lines (COM 1, COM 2, COM 3, COM 4) : <i>COM 1</i> : It's in RS 232 mode and can be used with many different standard communication protocols for connect other devices (thermoregulators, inverters or network connection) <i>COM 2</i> : It's in RS 232 mode and can be used with many different standard communication protocols for connect other devices (thermoregulators, inverters or network connection) <i>COM 3</i> : It's in RS 485 mode and can be used with many different standard communication protocols for connect other devices (thermoregulators, inverters or network connection) <i>COM 4</i> : It's in RS 485 / RS 422 mode and can be used with many different standard communication protocols for connect other devices (thermoregulators, inverters or network connection)
ETH	No
Mini USB	No
USB Pendrive	No

1.2 Mechanics Characteristics

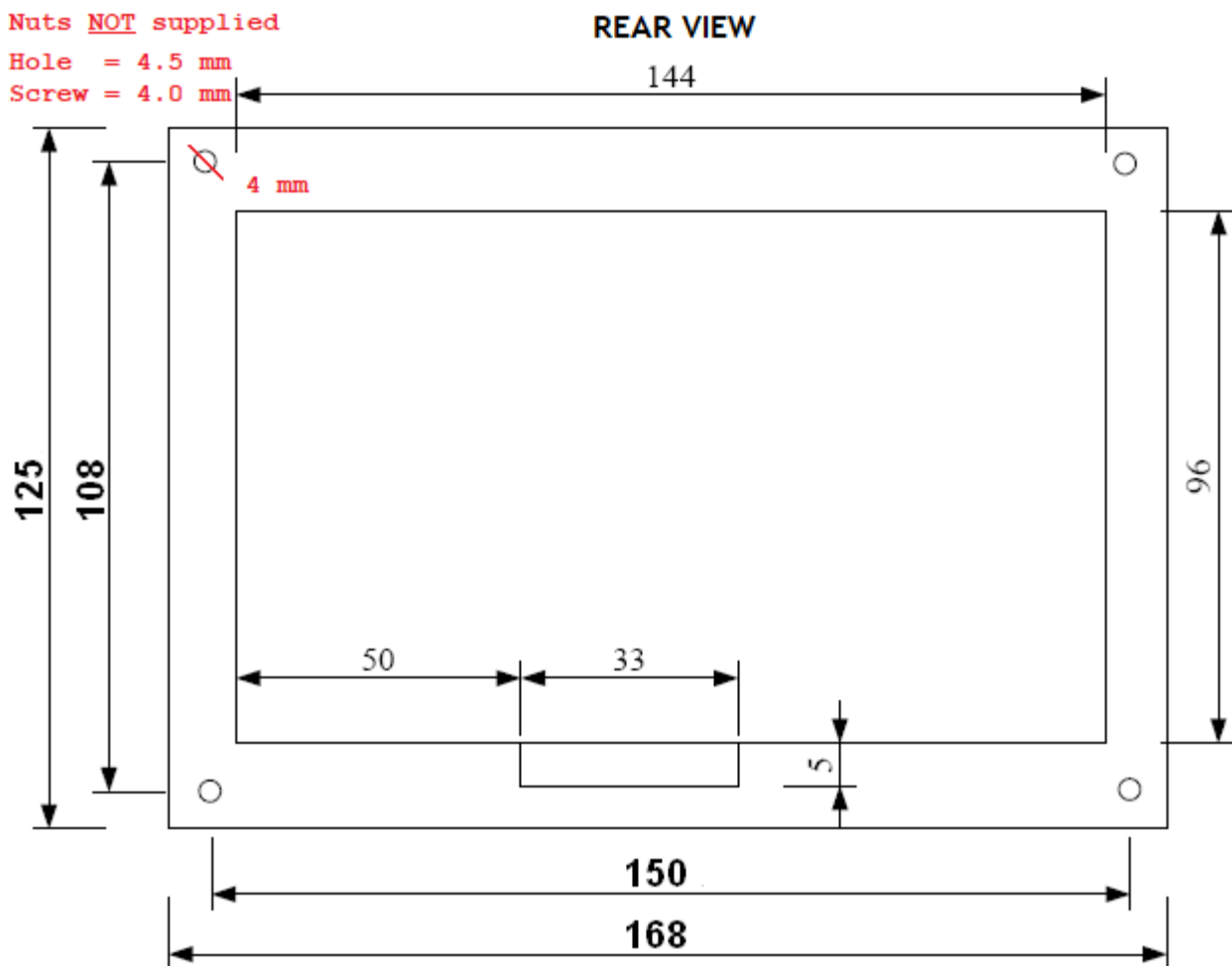
MECHANICS CHARACTERISTICS	
Temperature Range	From -10 °C to +70°C
Humidity Range	From 10 % to 90 % (non-condensing)
Operating Atmosphere	Without corrosive gas
Noise Immunity	According to rules in force
Fixing System	4 M4 pegs
Weight	736 g
Keyboard	Membrane keyboard on anodized aluminium front part with 8 function buttons (from F 1 to F 8) and 6 dedicated buttons
Display	Alphanumeric display 20 characters on 2 rows, with led's backlight 8 leds on function buttons and one alarm led On demand available also Cyrillic Display
Break Size	144x96 ; Depth 71 mm
Front Size	168x125 mm

1.3 Rear View

Nuts **NOT** supplied

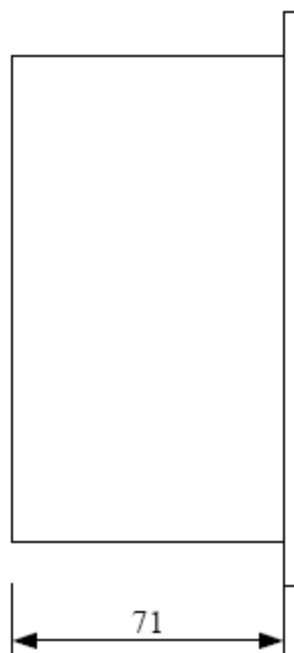
Hole = 4.5 mm

Screw = 4.0 mm

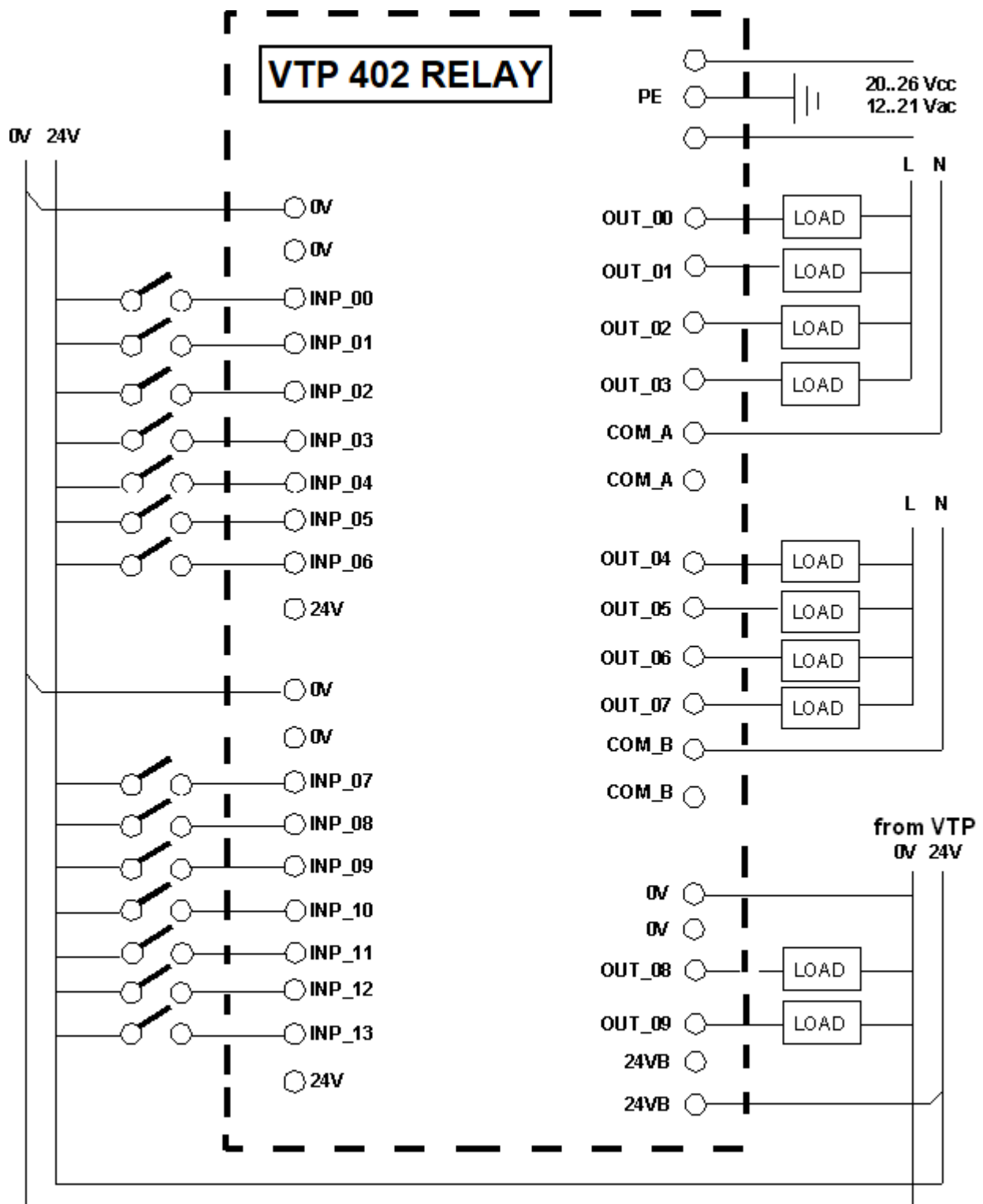


1.4 Side View 1

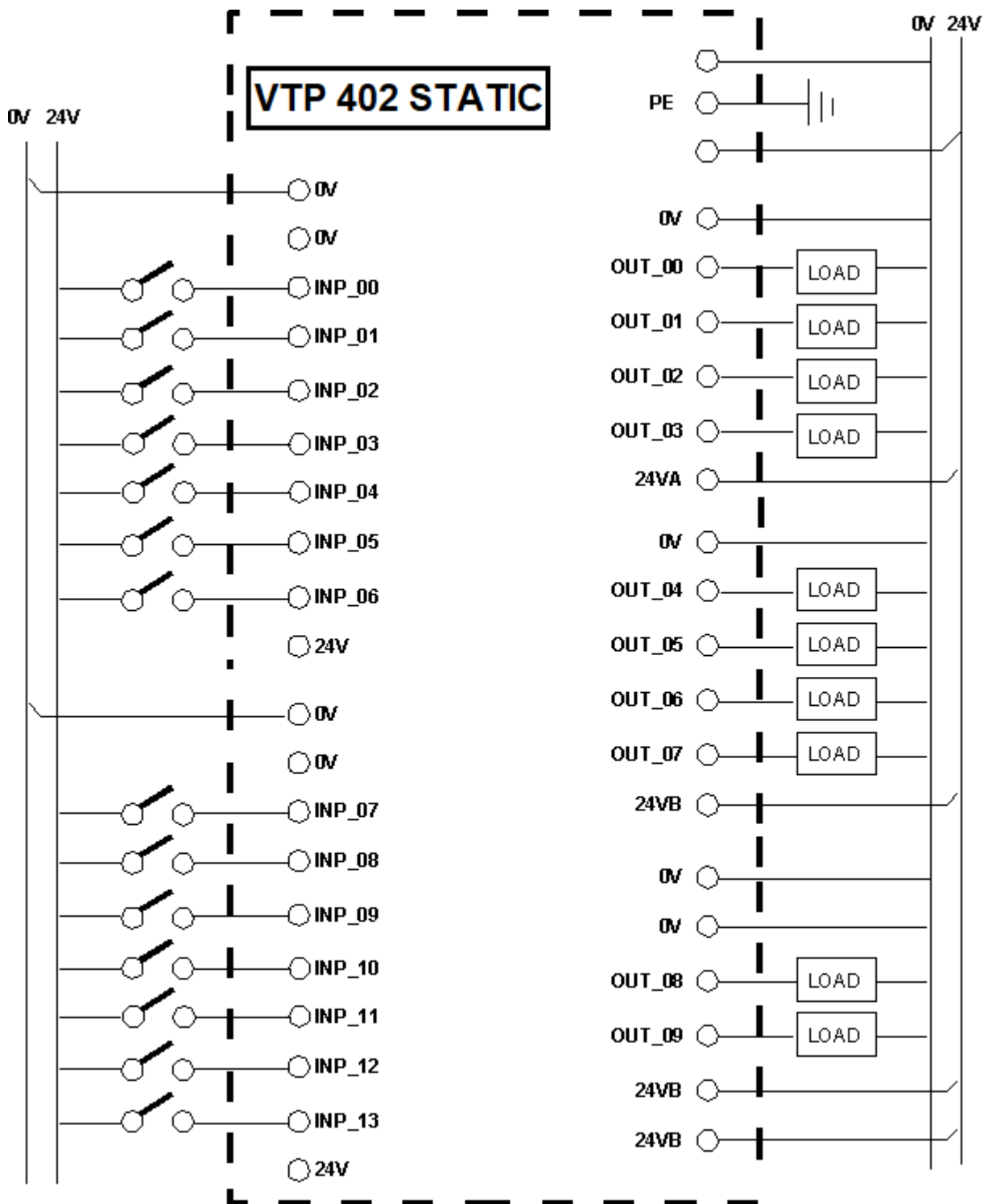
SIDE
VIEW



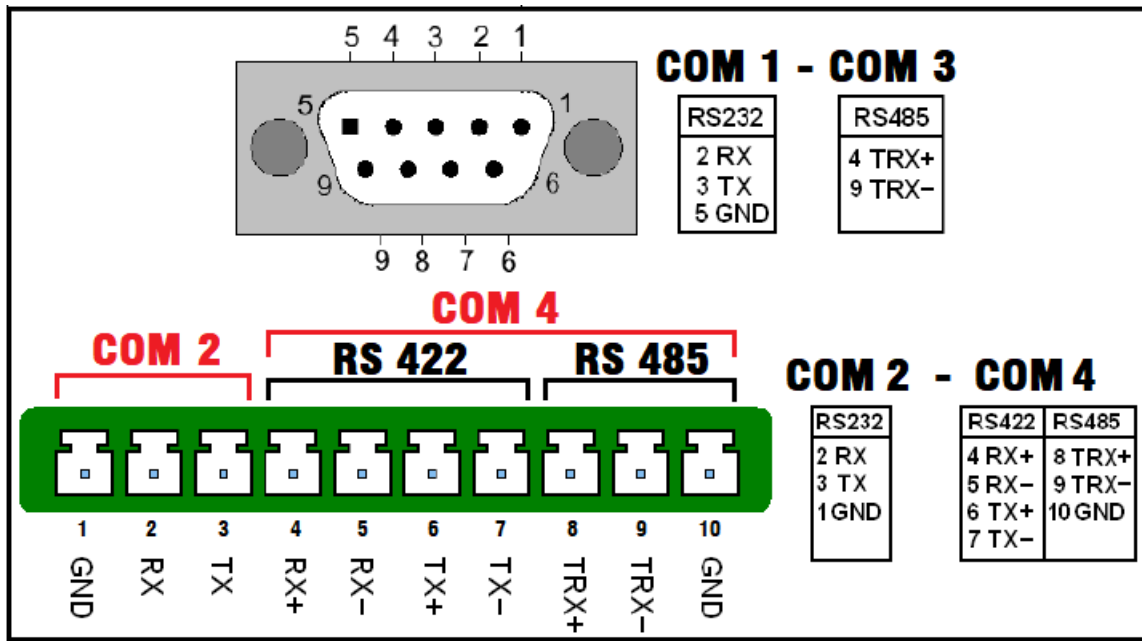
1.5 Inputs and Outputs : VTP_402 R



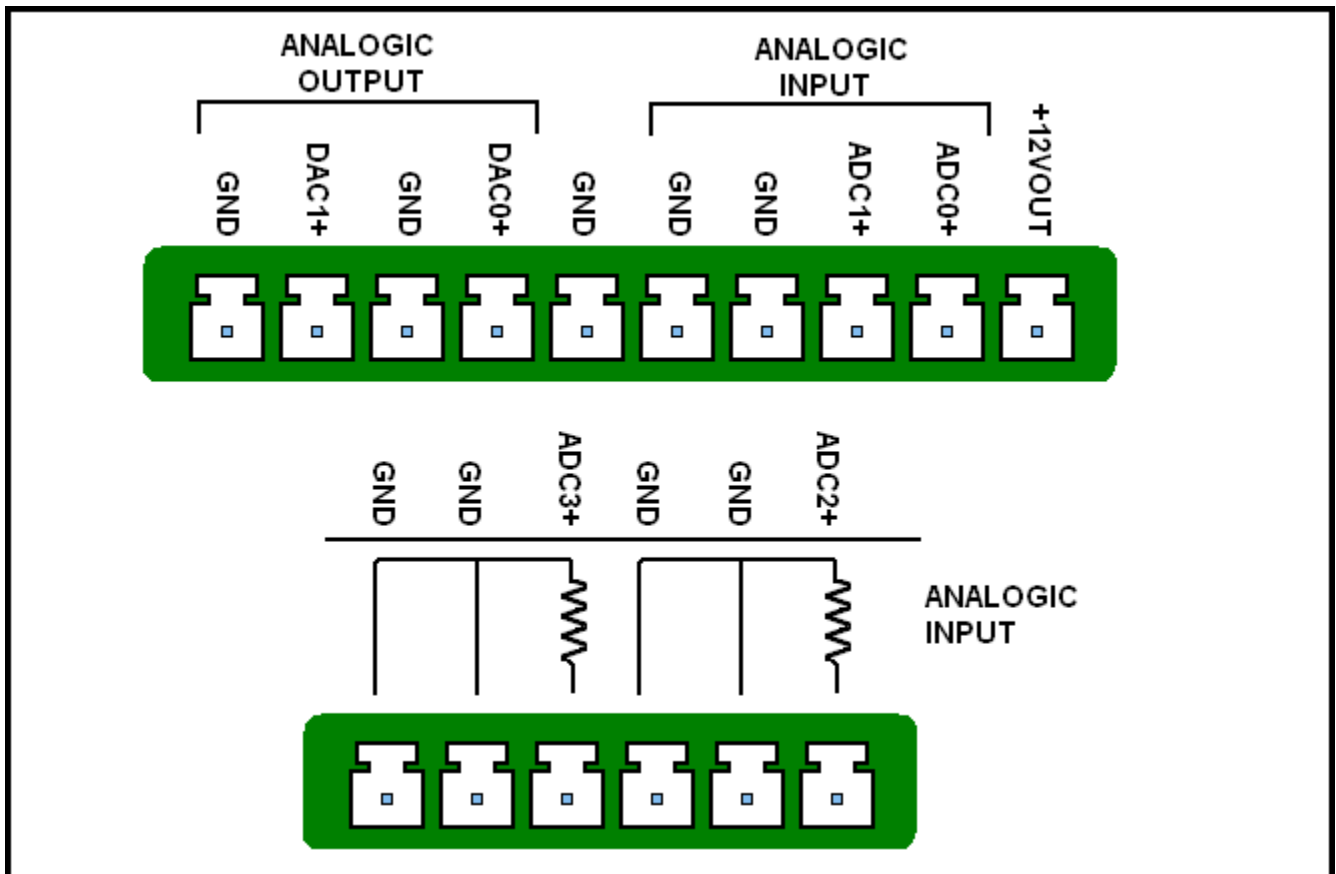
1.6 Inputs and Outputs : VTP_402 S



1.7 Serial Ports



1.8 Analog



2 SOFTWARE CHARACTERISTICS

SOFTWARE CHARACTERISTICS	
Programming Languages	AWL / Ladder
Timers	<ul style="list-style-type: none"> • 256 timers at 16 bit with 1/100 sec resolution. Timers are configurable like : excitation delay, disexcitation delay or one pulse <ul style="list-style-type: none"> • 8 timers “free running” with a resolution of 1 msec, individually activated with system flag
Counters	256 counters at 16 bit configurable like increase or decrease
Memory	8192 DATA MEMORY 16 bit general purpose, some with special meaning, numbered from DATA.00 to DATA.8191
FLAG	2048
SYS	233
RTF	1536 Retentive Flags
NVDATA	2048 Non-Volatile DATA
Developed Functions	<ul style="list-style-type: none"> • Weekly Programmer • Recipes Management • Encoders Management • P.I.D. Temperature Regulator • ...
Memory area check in real time mode on data table (Debug)	Yes
Ladder's subroutines Import / Export	Yes
Contact and variable check in real time mode on ladder (Debug Online)	Yes



3 CONTACTS

GENERAL

Tel: 059 469978
website: www.kernelgroup.it
e-mail: info@kernelgroup.it

COMMERCIAL

Sig.ra Linda Mammi
Tel: 059 469978 Int. 207
e-mail: sales@kernelgroup.it
Skype: mammi.kernel

ADMINISTRATION

Sig.ra Paola Morandi
Tel: 059 469978 Int. 201
e-mail: amministrazione@kernelgroup.it
Skype: morandi.kernel

PURCHASING and PRODUCTION

Sig. Stefano Catuogno
Tel: 059 469978 Int. 204
e-mail: produzione@kernelgroup.it
Skype: catuogno.kernel

TECHNICAL OFFICE

Sig. Alessandro Muratori
Tel: 059 469978 Int. 205
e-mail: alessandro.muratori@kernelgroup.it
Skype: muratori.kernel

Support
Tel: 059 469978 Int. 209
e-mail: support@kernelgroup.it
Skype: support.kernel

Sig. Morisi Luca
e-mail: luca.morisi@kernelgroup.it
Skype: morisi.kernel

Kernel Sistemi s.r.l. , via Vignolese n. 1138
41126 Modena - ITALY
Tel. 059 469 978 - Fax 059 468 874
www.kernelgroup.it