



# DP 120



## DATA SHEET



rev. 1.7  
24 November 2022

## PLC with integrated operator panel

- Fixing system on DIN rail inside the panel
- USB master port for connecting USB pendrive
- Contact programming with Ladder language
- Four serial communication ports
- Optional Ethernet port

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# 1 HARDWARE CHARACTERISTICS

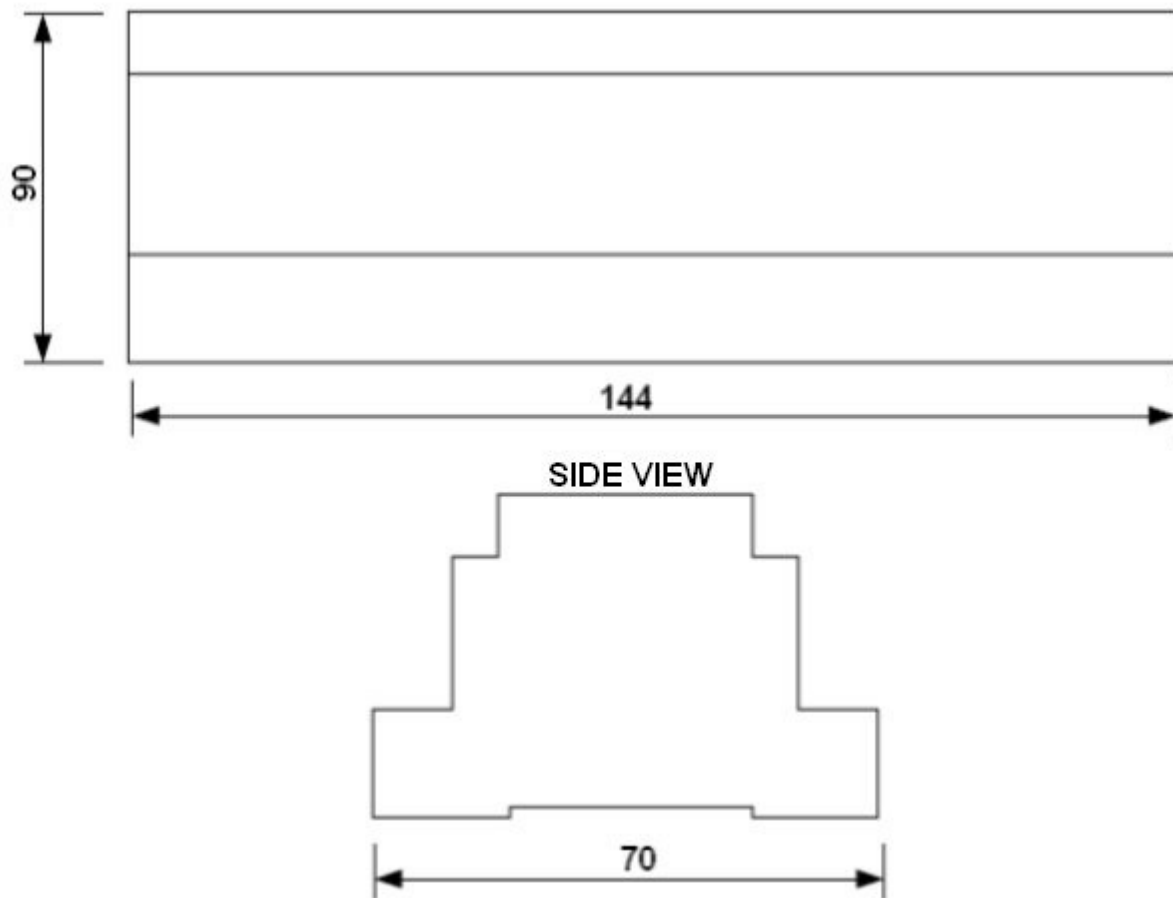
This chapter describes the hardware characteristics of DP\_120 :

## 1.1 Electric Characteristics

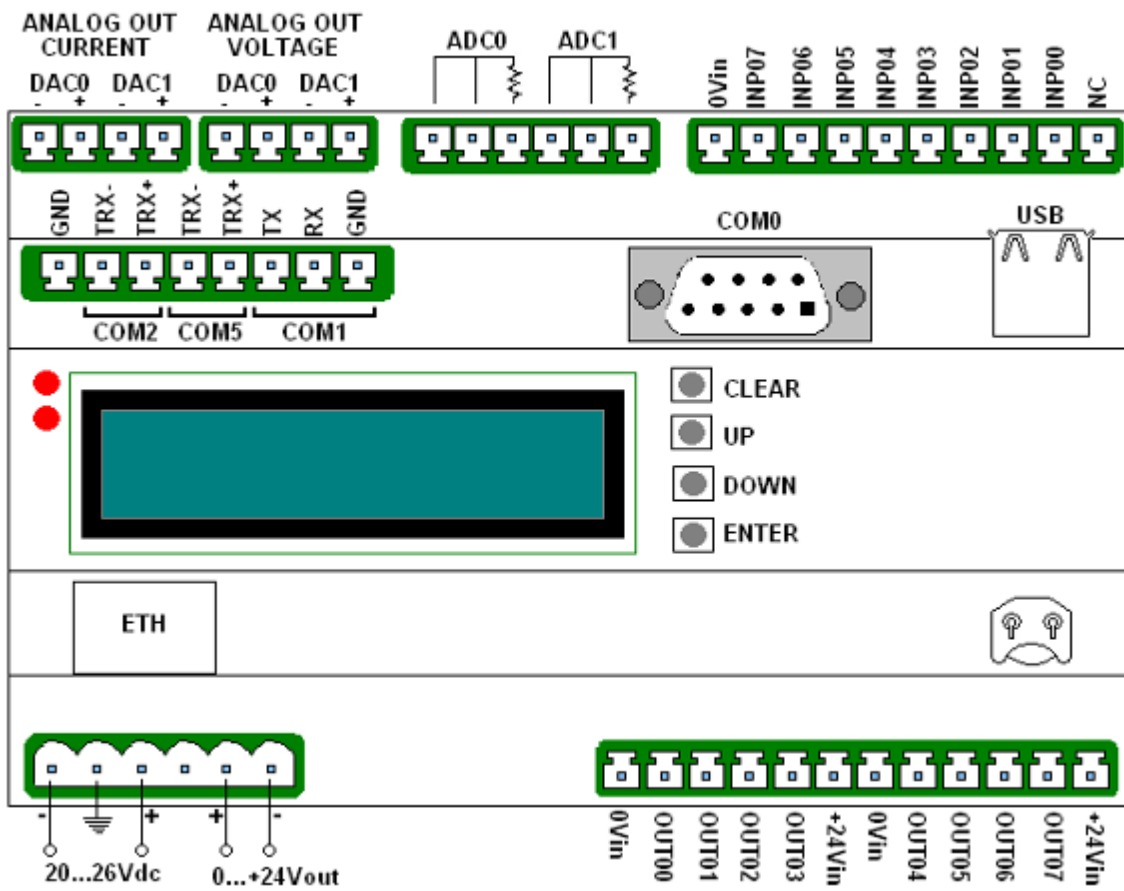
ELECTRIC CHARACTERISTICS	
Power supply voltage	24 Vdc +/- 10 %
Maximum Permitted Power Supply	27 Vdc
Current Consumption	Under 150 mA without loads [Power Supply = 24 Vdc]
Microprocessor	ARM STM 200
Program Memory	128 KByte
Pages Memory	256 KByte
EEprom	64 KByte
Cycle Time	Programmable (min 1 msec.)
Digital Inputs	8 digital inputs PNP 24 Volts including 4 fast (until 20 KHz for encoder reading) with programmable anti-noise filter (value 1 ... 16)
INTERRUPT Input	INP.07
Analog Inputs	2 analog inputs with 12 bits resolution [0 ... 4095] ; for PT100, PT1000, thermocouple (J or K) otherwise voltage (0 ... 10 V) or current (0 ... 20 mA)
Digital Outputs	8 static outputs 24 Vdc 500 mA
Analog Outputs	2 analog outputs 0 ... 10 V with 12 bit 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	<p>4 serial lines (COM 0, COM 1, COM 2, COM 5) :</p> <p><b>COM 0</b> : It's in RS 232 in the DB9 connector ; it can be used with many different standard communication protocols for connect other devices (thermoregulators, inverters or network connection) besides it's used for upload applications or operative system</p> <p><b>COM 1</b> : 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)</p> <p><b>COM 2</b> : 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)</p> <p><b>COM 5</b> : 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)</p>
ETH	<p>Optional</p> <p>[ Available Protocols : MODBUS TCP SLAVE and KERNEL SLAVE ]</p>
Mini USB	No
USB Pendrive	Yes

### 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	On din rail
Weight	n.d.
Keyboard	Keyboard with 4 function keys located on the front
Display	Monochrome graphic display 144 x 32 pixels + 1 alarm LED + 1 communication LED
Size	Front View 144x70 ; Depth 90 mm



1.3 I/O Connections



## 2 SOFTWARE CHARACTERISTICS

SOFTWARE CHARACTERISTICS	
Programming Languages	AWL / Ladder
Timers	<ul style="list-style-type: none"> <li>• 256 timers at 16 bit with 1/100 sec resolution.</li> </ul> Timers are configurable like : excitation delay, disexcitation delay or one pulse <ul style="list-style-type: none"> <li>• 8 timers “free running” with a resolution of 1 msec, individually activated with system flag</li> </ul>
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	248
RTF	1536 Retentive Flags
NVDATA	2048 Non-Volatile DATA
Developed Functions	<ul style="list-style-type: none"> <li>• Weekly Programmer</li> <li>• Recipes Management</li> <li>• Encoders Management</li> <li>• P.I.D. Temperature Regulator</li> <li>...</li> </ul>
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

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