fluid and water technology
Technical Data Sheet rev.01_1209
www.fwtsystems.it

P96+

CONTROLLERS

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P96+ is a microprocessor based series with digital controls and LCD display. Easy Programming, reliable measurements, and versatile features to control other external equipment. P96+ series provides excellent quality and is recommended for applications where high quality requirements are a must. P96+ feature two versions:
PW96+ enclosed into ABS plastic water and fire-proof housing for wall mounting.

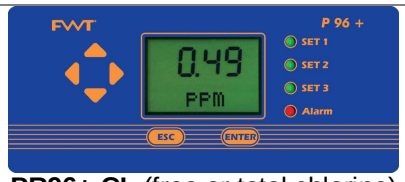
Measuring parameters

Free (residual) or total chlorine, pH, Redox, Dissolved Oxygen, Conductivity.

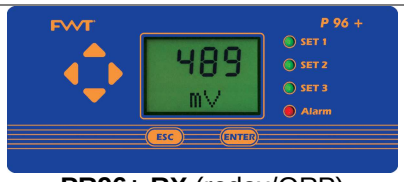
MAIN FEATURES

- Large custom LCD display alphanumeric 3 ½ digit
- 3 independent Set-points ON-OFF with 3 voltage free outputs
- Timer output for sensor cleaning (in place of 1 set point)
- Alarm output for over-dosing time (in place of 1 set point)
- Suitable to host a contact from Proximity switch
- 4÷20mA programmable proportional output for dosing pump
- RS232 port and software for PC control (on request only PW+)
- RS485 converter long distance control (on request only PW+)
- Universal power supply 100÷240 Vac or 9÷24Vdc
- Latest CPU and data logging storage programming
- Menu programming - Level control or remote relay
- 4÷20 mA output for chart recorder
- Galvanic isolation for mA outputs
- Proportional time / pause output (PWM)
- TTL programmable proportional output (only PW+)
- Programmable High/low Hysteresis and delay

PR96+ PH

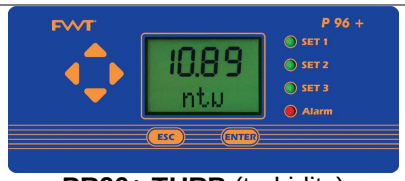


PR96+ CL (free or total chlorine)



PR96+ RX (redox/ORP)

PR96+ CD (conductivity)



PR96+ TURB (turbidity)

PR96+ OXY (dissolved oxygen)

TECHNICAL CHARACTERISTICS

	P96+PH	P96+CL*	P96+RX	P96+TURB	P96+OXY
Range:	0÷14.00 pH	0÷10/20* ppm	0÷1999 mV	0÷20/40 NTU (	0÷20.00 mgO_2
Resolution[1]:	0,01 pH	0,01 ppm	1 mV	± 0,1 NTU	0,01 mgO_2
Hysteresis**:	± 0,05 pH	± 0,05 ppm	± 5 mV	± 0,5 NTU	0,05 mgO_2
Zero[2]:	± 10%	± 20%	± 20%	± 10%	100% O_2
Gain[3]:	± 25%	-----	-----	± 20%	-----
Connections:	BNC	wiring terminal	BNC	wiring terminal	wiring terminal
Input probes:	10^{12}Ohm electrode	Amperometric chlorine cell	10^{12}Ohm electrode	Turbidity cell FWT	Oxygen sensor FWT

*Free or Total chlorine: P96+Cl_2 can either work with membrane sensors CLS or open cells CLC series
** Hysteresis programmable for each set-point

	P96+CD				P96+MP	P96+VM
Range:	0÷200.0mS	0÷20.00mS	0÷2000 uS	0÷200.0 uS	0÷200.0 m3/h	0÷1999 l
Resolution[1]:	100 uS	10 uS	1 uS	0,1 uS	0,1 m3/h	1 l/h
Hysteresis:	0,5 mS	50 uS	5 uS	0,5 uS	0,5 m3/h	-----
Zero[2]:	± 10%	± 10%	± 10%	± 10%	-----	-----
Gain[3]:	± 25%	± 25%	± 25%	± 25%	-----	-----
Connections:	wiring terminal				wiring terminal	wiring terminal
Input probes:	constant K1	constant K1	constant K5	constant K5	Pulse water meter	Pulse water meter

1- Display resolution; **2-** Zero: potentiometer range from calibration point; **3-** Gain calibration: electrode adjustment gain

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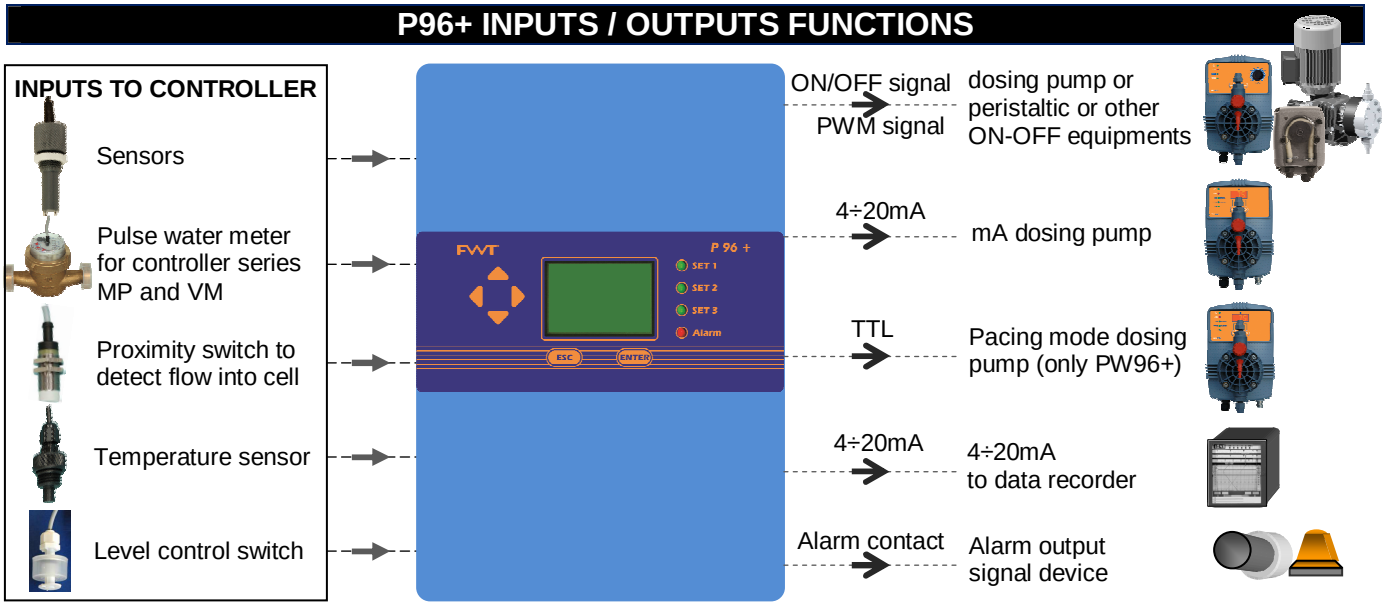
PROGRAMMING FUNCTIONS

Set-Points ON-OFF mode	**Output Relay 1 Output Relay 2 Output Relay 3**	3 set-points ON-OFF	*Independent setting to activate Constant / ON-OFF mode dosing pumps or other On-Off equipment.*
		Threshold	*adjusts set-point value (ON-OFF mode)*
		Hysteresis	*It selects a measuring range around set-point value, blocking output relays (ON-OFF mode)*
		Delay	*It selects a delay time (255 seconds adjustable) before activating relay output.*
		Alarm High	*It selects the maximum value of Alarm range (out of this range, unit switch-ON alarm LED)*
		Alarm minimum	*It selects the minimum value of Alarm range (out of this range, unit switch-ON alarm LED)*
		Reverse	*It selects output relay working direction: reverse=ON - direct=OFF*
		PWM Proportional mode with modular pulses output mode (time/pause)	*Proportional time/pause pulses output will activate a Constant / ON-OFF mode dosing pumps or other equipment. PWM default value fixed at 1,00 pH*
		Timeout (over dosing time)	*Allows to select a maximum time in which the system must reach required set-point.*
mA output signal	**mA1 output**	*Allows to select measurement value corresponding to minimum and maximum mA output analogical signal. It activates a dosing pump suitable to process a remote mA signal. Programmable on any mA point at any rate.*	
	mA2 output	*Fixed current signal 4÷20mA. It activates a chart recorder or a Data logger.*	
TTL pulses (only PW)	**Pulse frequency output**	*It selects pH value corresponding to min and max frequency pulse rate, see "system settings" menu. It* activates *a dosing pumps suitable to give out 1:1 pacing: 1 pulse=1 injection. Pulse output frequency is adjustable.*	
System Settings	**Fluximeter**	*It activates (ON) or deactivates (OFF) flow switch (proximity switch) input.*	
	Auto temperature	*It activates (ON) or It activates (OFF) automatic temperature probe compensation (only by using FWT temperature sensor probe STEMP2N.*	
	Manual temperature	*It selects manual temperature compensation. 0÷100℃ (AutoTemp=OFF)*	
	Level Control	*It sets Level Control signal Normally Open (N.O.) or Normally Closed (N.C. remote control for other external equipment)* ***ONLY PW VERSION***	
	Time out dosing	*Over dosing time: to reach required set-point within a selected time period adjustable 999min*	
	Password	*Password to lock instrument menu*	
	TTL frequency	*It selects min and max frequency output signal. Free contact type (PW96+).*	
	Start-up Delay	*Delay time after the start-up; during this period (minutes) the instrument "blocks" relay outputs.*	

P96+ INPUTS / OUTPUTS FUNCTIONS



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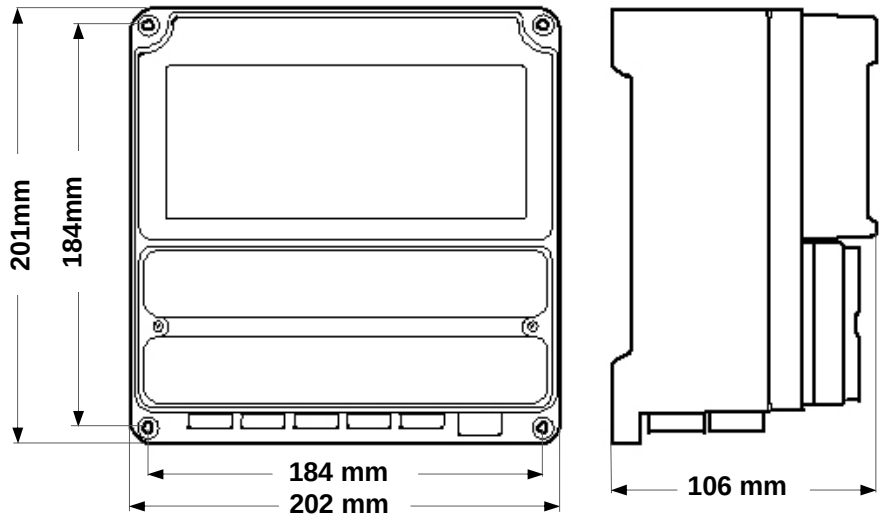
OTHER TECHNICAL CHARACTERISTICS

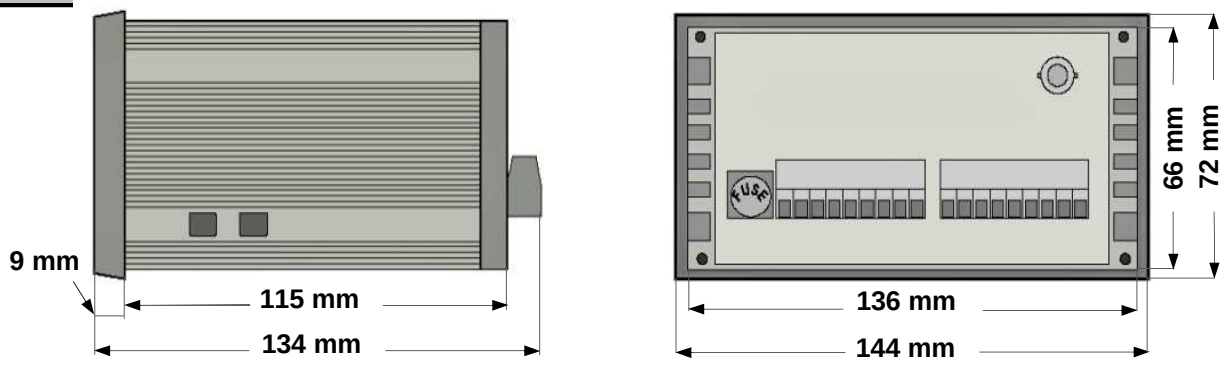
Microprocessor technology:		SMD components mounting, digital controls keypad 6 key
Linearity, Stability Reproducibility:		± 1% under standard conditions
Display:		4 digits+alphanumeric line, back-lit, display resolution ±0,01 pH
Delay:		max 255 sec., delay programmable for each set-point
Input impedance mA output:		Max 400 Ohm / mA outputs with galvanic isolation
Power supply:		Universal power supply 100÷240Vac or 9÷24Vdc
Power consumption:		5W
Fuse		1 fuse 315 mA slow blowing; PW96+ internal / *PR96+ rear side*
Temperature setting:		Automatic with probe STE2N or manual compensation 0÷100℃
Level/Remote relay control (only PW96+)		Chemical additive level or Remote control to block relays outputs
Outputs:	Output RELAY 1	Contact voltage free or Proportional pulses (PWM) 5Amax 230Vac
	Output RELAY 2	Contact voltage free or Proportional pulses (PWM) 5Amax 230Vac
	Output RELAY 3	Contact voltage free or Proportional pulses (PWM) 5Amax 230Vac
	PWM mode	Time/pause proportioning mode for each set point
	TTL output (only PW96+)	Pulse output frequency adjustment, Free contact voltage free
	FLUX sensor (proximity)	it blocks output operations in case of no flow into the sensor cell
	Resistive load	5A max 230 V AC
	Inductive load	1A 230 V AC
	mA1 output	for mA dosing pump or equipment able to process mA signal
	mA2 output	for recorder or data logger
Enclosure:	Material – Protection PW96+	Plastic ABS-V0 fire-proof – IP65, with wired connections IP56
	Material - Protection PR96+	Anodised aluminium, DIN 437000 – IP20
	Front controls	Polycarbonate adhesive
	Working temperature	0÷50 ℃



PW96+
DIMENSIONS:

Net weight: **1,15 kg**
Gross weight: **1,55 kg**

PR96+
DIMENSIONS:



Net weight: **0,85 KG**
Gross weight: **1,10 KG** (instruction booklet included)