Pietro Fiorentini

AQUALOG MASTER

AQUALOG MASTER is a **RTU designed for the automated management of critical systems**, such as pumping stations, water treatment plants, and flow, pressure and level regulation systems.
Thanks to its advanced features, **AQUALOG MASTER allows intelligent management of the water network**, implementing advanced automation and optimization solutions aimed at reducing energy consumption and operating costs. Among the distinctive features are the dynamic regulation of pressure in real time within the districts, according to different modes - including the one based on the values detected at the critical point - and the Discovery mode, which allows the high frequency detection of water hammers.

- Water reservoirs
- Water treatment plants
- District metering areas
- Pumping stations
- Control valves PRV
- Water quality samplers

Features	Values
Analogue inputs (AI)	8 inputs, 16-bit resolution, configurable: 4-20 mA / 0-10 Vdc (with 2500 V galvanic isolation on request)
Digital inputs (DI)	16 inputs, 10-30 Vdc, configurable as status inputs or meter inputs, opto-isolated with 2500 V galvanic isolation
Analogue outputs (AO)	1 output, 16-bit resolution, 0-10 Vdc
Digital outputs	8 outputs, 10-30 Vdc, opto-isolated with 2500 V galvanic isolation
(DO)	Up to 320 DI, 128 DO, 64 AI, 32 AO via modular I/O systems
Expandability	External Modem/Router, typical channels GSM/GPRS-LAN 4G/5G/wired (other communication technologies available upon request)
Communication vector	IEC 60870-5-104, IEC 60870-5-101, Modbus RTU Master/Slave, Modbus TCP/IP Master/Slave, Siemens S7
Registration No.	2 Ethernet ports (LAN TCP/IP), 2 RS485/422 serial ports, 1 RS232 serial port, 1 configurable RS232/RS485 serial port, 1 USB port
Local communication	IP 20
Case	10 – 30 Vdc
HMI	LCD display touch screen (optional)
Power supply	10 – 30 Vdc
Typical absorption	1 - 4 W
Expandable memory	USB, SD CARD (on request)
Environmental conditions	from -20°C to + +80°C
Dimensions	165x145x40 mm

Table 1 Features

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Materials and Approvals

Features	Values
Automation	PLC EMBEDDED compliant with standard IEC 61131-3
User messages	SMS / email
Alarms	Warning and management of alarms and events generated by exceeding thresholds and/or reaching physical/logical states
Datalogging	Data acquisition and logging with the following features: Basic acquisition time: 1” Basic storage time: 5’ - 1h Maximum number of variables that can be acquired: 10,000 Maximum number of samples stored: 6,000,000 Sample processing: instantaneous, min, max, average
Discovery Mode	Data acquisition with a frequency of 50 Hz for the detection of water hammer phenomena, with a time depth of 5 min
OPC connectivity	Supported via OPC SERVER
Configuration	Through the integrated WEB server or through the Rainbow Configurator SW
User Application	Using languages in a LINUX environment
Operating system	LINUX embedded

Table 2 Features and values

AQUALOG SMART is CE marked and complies with Directive 2014/30/EU (Electromagnetic Compatibility).

EMC

AQUALOG SMART competitive advantages

- PRV hydraulic valve adjustment according to 6 modes
- Pump regulation
- Dedicated algorithms for pressure optimization and energy efficiency
- Multimedia and multi-access connectivity
- Reduced energy consumption
- Modular and scalable I/O configuration
- Extended programmability through Embedded PLC

Pietro Fiorentini S.p.A.
Via E.Fermi, 8/10 | 36057 Arcugnano, Italy | +39 0444 968 511
sales@fiorentini.com