

PUMA

A 1 & 3-phase pump control with advanced features

PUMA is a versatile and compact single-pump control with excellent communication capabilities. It can control both 1-phase and 3-phase pumps up to 12A (5.5 kW).

The pump control unit features a robust, two-part, impact-resistant IP65-encapsulated housing, ensuring durability and protection against harsh environments.

At the same time, PUMA's compact size, measuring only 23 cm in width, allows for easy wall mounting, installation in street cabinets, and other enclosures. Its user-friendly design simplifies device connection using bottom-mounted fittings, screw terminals, and spring clamps.



Communication with PUMA Pump Control

By default, the PUMA series is delivered without a communication interface. However, you have the option to enhance it with optional LTE-M 4G or NB-IoT modems. The communication module is designed with a simple replacement mechanism to accommodate future IoT requirements.

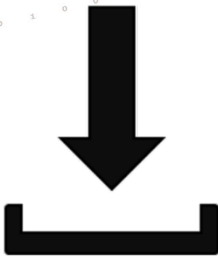
Regarding security, this pump control unit uses the ModBus TCP/IP protocol, which can be encrypted via TLS, ensuring the highest standards for secure communication. At the same time, all PUMA registers share the same data type, streamlining data transfer, as only a few telegrams are required to update the data.

User Interface and Visualization Options

To make daily operation as smooth as possible, the PUMA series is equipped with a 2.4" OLED display on the front, along with four user-friendly control buttons.

Additionally, the unit can be configured using the free configuration tool AcowaZoo, either locally via a USB port or remotely over a 4G modem connection.



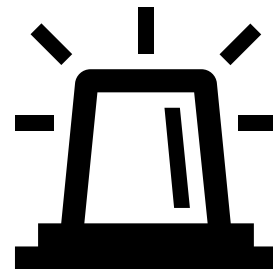


Data Collection with External Equipment

The PUMA series collects data and logs various signal types using external standard equipment with 4-20 mA / 0-10V DC or standard DI (digital input) equipment. This increases versatility and makes PUMA an ideal solution for a wide range of monitoring and logging applications.

3-Phase Monitoring

The PUMA series measures the current in all three phases, providing much more detailed and relevant data compared to traditional current coils. The unit monitors critical operating parameters, such as phase failure, ensuring complete protection of the pump installation. This enhances operational reliability and provides optimal control over system performance.



Unique Features of PUMA Pump Control

- The PUMA series can perform validated flow calculations. Similarly, it calculates pump capacity, which allows it to predict pump maintenance needs due to decreased capacity.
- The PUMA series also provides inlet flow calculation, displaying the inflow profile of the pump station - a highly useful function for detecting and managing non-revenue water inflow.
- It has the function for calculating overflow, exercise, daily deep pumping, flushing, and variable start level.
- The PUMA series also has a built-in power bank, eliminating the need for external battery backup in case of power failure.
- Emergency control function: This function is activated in case of level transmitter failure and operates based on a high-water float switch as well as after-run time, ensuring stable operation even in fault conditions.
- Firmware for pump control and associated equipment is continuously updated in accordance with the NIS2 directive.

Data Sheet

Technical data:

Dimensions	W=237mm x H=248mm x D=98mm
Weight	1350 g
Cable Connection	0,5 – 6 mm ²
Vibration (sine wave)	10-500 Hz, 1G
Free Fall	30 cm
Enclosure Rating	IP65
Power Supply	1x230V AC or 3x400V AC +10%/-20%
Frequency	50/60 Hz
Input Power Consumption	0,004 to 0,06A
Max. Fuse Rating	16A
IK Rating	6kA
System Grounding	TT
Certifications	CE

Environmental Conditions:

Humidity	10% – 95% non-condensing air
Operating Temperature	-20°C to +50°C
Storage Temperature	-20°C to +60°C
Operating Altitude	Max. 2000 m above sea level
Startup Time	10-300 sec. (built-in variable startup time)

Pump Specifications:

Voltage	1-phase 230V AC or 3-phase 400V AC
Motor Size	Max 5,5 kW
Max. Current Consumption	12A
Motor Protection	3-phase electronic current measurement
Cable/Signal Length	Max 10m

Built-in Power Supply (400V Series):

Output Current	Max. 500mA
Output Voltage	24V DC
Tolerance	+/- 20%

Analog Inputs:

Number of Analog mA Inputs	1
Electrically Isolated	No
Measurement Range	0/4–20mA
Input Impedance	Approx. 100 Ω
Measurement Accuracy	Better than 0.5% of FS
Signal Range	0-24mA
Cable/Signal Length	Max 100m

Digital Inputs:

Number of Digital Inputs	2
Electrically Isolated	No
Digital Signal	Low < 5V / < 1mA, High > 12V / > 4mA
Signal Range (Min./Max.)	0–30V DC
Cable/Signal Length	Max 100m

Digital Outputs:

Number of Digital Outputs	2
Electrically Isolated	Yes
Isolation Voltage	4 KV
Relay Type	Relay outputs
Cable/Signal Length	Max 100m

Data Sheet

Constant Load	Maks. 2A @ 230Vac – AC1, Maks. 100 W @ 230Vac – AC3, Maks. 1A @ 30 VDC
Minimum Current	5 mA @ 10 V
Max. Inrush Current	6A @ 20ms.
Switching Frequency	Max 10 Hz

Products:

Item Number	Description
1772-20225000	ACOWA-PUMA-COMPLETE-Without modem
1772-20225002	ACOWA-PUMA- COMPLETE -NB-IoT-MODEM
1772-20225003	ACOWA-PUMA- COMPLETE -ETHERNET
1772-20225042	ACOWA-PUMA- COMPLETE -4G-MODEM
1772-20220400	ACOWA-PUMA-400V- COMPLETE - Without modem
1772-20220402	ACOWA-PUMA-400V- COMPLETE -NB-IOT-MODEM
1772-20220403	ACOWA-PUMA-400V- COMPLETE -ETHERNET-MODUL
1772-20220442	ACOWA-PUMA-400V- COMPLETE -4G-MODEM
1772-20224020	ACOWA-PUMA-4G-Modem
1717-20220002	ACOWA-PUMA-NB-IoT-Modem
1772-20220007	ACOWA-PUMA-Ethernet module