

# PUMA

## Single-pump controller

PUMA pump control is a universal compact single-pump control with the possibility of communication.

PUMA can operate both 1-phase and 3-phase pumps up to 12A (5.5KW).

PUMA is built in a two-part impact-resistant IP65 encapsulated housing. The PUMA cabinet can easily be mounted on a wall, in street cabinets and other enclosures due to its compact size of only 24cm in width.



PUMA pump control can be delivered, as standard without communication interface, or as an option 4G or NB/IoT modem which uses Modbus TCP/IP protocol for communication to either the AcowaCore/AcowaDash platform or to the user's own SCADA-system.

PUMA measures the level in the well via standard 4-20mA analog level transmitter and can start and stop the pump automatically. PUMA has integrated standard functions for inlet flow calculation, flow and capacity calculation as well as "Running blind" control via the high-level float switch. PUMA has a unique function for current measurement on all 3 phases as well as phase sequence detection.

### Selected Features:

- Advanced single-pump control
- Possibility of either 4G or NB/IoT communication interface with "FAST RESPONSES"
- Modbus TCP/IP protocol for communication with AcowaCore or users SCADA-system
- Unique function for current measurement on all 3 phases as well as phase sequence detection.
- Operation via graphic 2.4 "OLED display
- Validated flow calculation, where the pump's "true" capacity is calculated
- Inlet flow calculation showing the inlet profile to the pump station
- "Running blind" function via level float switch if the pressure transmitter is faulty.

### Applications

- Control of pumping stations

### Products

Item number	Description
1772-2205000	PUMA pump control
1772-20225042	PUMA pump control with 4G modem
1772-20225002	PUMA pump control with NB/IOT modem
1772-20220042	PUMA 4G modem
1717-20220002	PUMA NB/IOT modem

## Datasheet

### Specifications

Dimensions	W=237mm x H=248mm x D=98mm
Weight	1350g
Wire connection	0.5 – 6mm <sup>2</sup>
Vibration (sinusoidal)	10-500Hz, 1G
Free fall drop	30 cm
Enclosure class	IP65
Power supply	1x230V AC or 3x400V AC +10%/-20%
Frequency	50/60Hz
Input power consumption	0,004 to 0,06A
Max. fuse	16A
IK max	6kA
System earth	TT
Certificates	CE

### Environment

Humidity	10% – 95% non-condensing air
Operating temperature	-20°C to +50°C
Storage temperature	-20°C to +60°C
Functional altitude	Max. 2000m above sea level

### Built-in power supply

Output voltage	24V DC
Output current	Max 38mA
Tolerance	+/- 20%

### Analog input

Number of analog mA inputs	1
Electrically insulated	No
Measuring 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 insulated	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 insulated	Yes
Insulation voltage	4 KV
Relay type	Relay outputs
Cable/signal length	Max. 100m
Constant load	max. 2 A @ 230Vac – AC1 max. 100 W @ 230Vac – AC3 max. 1 A @ 30
Minimum current	5 mA @ 10 V
Maximum start-up current	6A @ 20 ms.
Switch speed	Max. 10 Hz
Number of digital outputs	2

### Pump

Supply voltage	1-phase 230V AC or 3-phase 400V AC
Motor size	Max. 5,5kW
Maximum power consumption	12A
Motor protection	3-phase electronic current measurement
Cable/signal length	Max. 10m