

**Thank you for choosing a NIVELCO instrument.  
We are sure that you will be satisfied throughout its use!**

## 1. APPLICATION

**UNICONT PSW-100** is a low-cost pump control unit suitable for fully automatic level control tasks in domestic sewage shafts, wetwells, flood storages, drainage sumps and pools. The special ultrasonic sensor, **MICROSONAR UTP-241** performs continuous level measurement and delivers output current (4 – 20mA signal) to the **UNICONT PKK-312** type user programmable controller incorporated in the **PSW-100** unit. The relay output of the current controlled controller directly controls the single phase pump acting in the sump, well, etc. and operates in differential level switch mode as default, the low and high levels are programmable. By the help of a **NITIME JEL-121** programmable timer automatic pump cycling can be performed in accordance to the selected operation/break ratio. The IP68 protected ultrasonic sensor provides maintenance-free operation, in case of any technical failure or any other reason when the shaft become full, the water cannot soak into the submersible sensor. When the failure is resolved and the necessary cleaning is done, the device is able to perform proper measurement.

## 2. TECHNICAL DATA

### 2.1 GENERAL DATA

TYPE		PSW-1□□-□
Nominal input voltage		230 VAC +10/-15%
Switching levels		Freely programmable in 0.4 – 3 m range
Timed pump cycling		Freely programmable: max.100 days
Protection	Miniature Circuit Breaker	CLS 4-C10/2 10A two-pole
	Motor-protective Relay *	Z-MS-2p-10 6.3-10 A
Controller	Contact	NC contact
	Switching rate	250 V AC, 8 A, AC1
Electrical connection		max. 4 mm <sup>2</sup> wire cross section
Mechanical connection		Wall mountable
Ambient temperature		-25°C ... +45°C
Medium temperature		-25°C ... +60°C
Ingress protection		IP 65
Mass		≈ 0.45 kg

\* in case of PSW-1\_2 types the Motor-protective Relay is instead of the Circuit Breaker.

### 2.2 ACCESSORIES

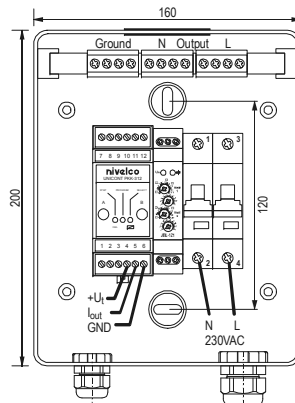
- MICROSONAR UTP-241-4X14
- 2 pcs. M20x1.5 cable glands
- 2 pcs. M20x1.5 female cable gland nuts
- 4 pcs. Protection-caps
- MICROSONAR UTP-241-4X14 User's manual
- UNICONT PKK-312 User's manual
- NITIME JEL-100 User's manual
- UNICONT PSW-100 User's manual
- Declaration of Conformity
- Warranty Card

### 2.4 ORDER CODE

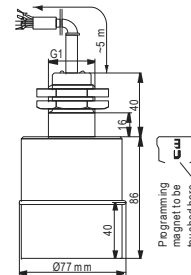
P S W - 1 □ □ - 1

TIMER	CODE	PROTECTION	CODE
Without	0	Miniature Circuit Breaker	1
With	1	Motor-protective Relay	2

### 2.3 DIMENSIONS, WIRING



PSW-1



UTP-241-4X14

NIVELCO

# UNICONT

## PSW-100 PUMP CONTROLLER

User's manual



Manufacturer:  
**NIVELCO Process Control Co.**  
H-1043 Budapest, Dugonics u. 11.  
Phone: 889-0100, Fax: 889-0200  
E-mail: sales@nivelco.com  
www.nivelco.com

### Wiring of the pump:

- N – blue terminal
- L – black terminal
- Ground – green terminal

### Wiring of 230V supply voltage:

- Neutral – Circuit Breaker 2
- Phase – Circuit Breaker 4
- Ground – green terminal

### Wiring of ultrasonic sensor:

- +U<sub>p</sub> (brown) – PKK-312 / 4
- I<sub>out</sub> (green) – PKK-312 / 5
- GND (yellow) – PKK-312 / 6
- Shield (blue) – green terminal

The wiring of the pump cable should be done with using the enclosed cable glands, considering the specific possibilities, choosing a suitable wiring place from the prepared places in the instrument-box.

## WIRING OF MICROSONAR UTP-241-4X14

COLOUR OF WIRE	FUNCTION	PLACE TO BE WIRED
Brown	+U <sub>power</sub>	PKK-312 / 4 point
Green	I <sub>out</sub>	PKK-312 / 5 point
Yellow	GND	PKK-312 / 6 point
White	PRG	<b>DO NOT WIRE! IT SHOULD BE INSULATED!</b>
Blue	Shield	Grounding

### 3. MOUNTING

The **PSW-100** unit is wall-mountable.

The unit should be mounted with two round- (cheese-) headed screws.

After the mounting, the protective caps should be installed – inside the instrument-box – to meet the requirements of IP65 rating.

#### **ATTENTION!**

***Only the ultrasonic sensor can be mounted inside the sewage shaft,  
since the control unit is only IP65 rated!***

### 5. PUTTING INTO OPERATION, CONFIGURATION, PROGRAMMING

The instrument is operation-ready after the mounting and the wiring of the sensor. To satisfy special user's needs in a specific application, there may be required some changes to be done in the default settings.

Configuration of the timer could be performed in accordance to the user's manual of **JEL-100**.

Custom setting of the switching levels could be performed in accordance to the user's manual of **PKK-312**.

#### Default settings:

Turn-ON level of the pump measured from the face of the sensor	1 m	I <sub>OUT</sub> = 5.71 mA
Turn-OFF level of the pump measured from the face of the sensor	2.5 m	I <sub>OUT</sub> = 11.43 mA
Timed pump cycle	1 min operation	24 hours break
Rated current of the Motor-protective Relay	6.3 A	

### 6. MAINTENANCE, REPAIR

The unit does not require regular maintenance. All repairs will be carried out at the manufacturer's premises.

### 7. STORAGE

Ambient temperature: -30 ... +60 °C. Relative humidity: max. 98%

### 8. WARRANTY

NIVELCO provides warranty of 3 (three) years for its own manufactured products in compliance with details described in the Warranty Card.

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*2012. February*

*NIVELCO reserves the right to change technical data without notice!*