



MEASURING SOLUTIONS



## APT-GSM-UT-2

Transmission-measurement device

The APT-GSM-UT-2 device is used for logging water meter readings and events, alarming about events, and transferring data using GSM in GPRS technology via any APN. The device features 4 pulse inputs for connecting up to measurement or 4 alarming devices. It enables detecting and logging events, and sending information about events via text messages. An embedded NFC module enables forced data transmission output with mobile devices with a dedicated configuration app installed. Battery power supply enables installation of the device without the need for connecting additional power supply. The operating time at default setting is up to 5 years. The housing has a high-protection class (IP67), which allows users to install the device for example in water meter wells.

### APPLICATION

The device is compatible with pulse water meters and alarm devices which feature pulse outputs.

It is used for logging meter readings, detecting events, alarming about events, and transferring data using the GSM network.



### KEY FEATURES

- 4 pulse inputs that enable connecting water meters or any alarm devices which feature pulse outputs
- All pulse inputs are configurable
- Detecting and logging events and information about events
- Logging measurement data from devices with pulse outputs
- Information about events can be sent as a text message to an indicated phone number (max. 3 phone numbers)
- Transferring measurement data and signalling events to a telemetric server via the GSM network
- Configuration of specific parameters of the device over NFC and GPRS (the full configuration is performed in Metis 2)
- Proper water meter selection test
- RTC
- Battery-powered
- Open housing sensor
- Housing with IP67 protection class



### FUNCTIONALITIES

#### Pulse inputs

Individual configuration of pulse inputs enables:

- Logging water usage, which is then used to calculate the flows and generate events.
- Logging of events dependent on the functionality of the water meter or its pulse module.
- Logging of events from alarm devices with pulse outputs

#### Signalling of events

The device enables recording internal events detected during self-diagnosis and events of external devices connected to the pulse inputs of the device. Each pulse input can be configured to log events from the water meter or the alarm device.

#### Internal events of the device :

- Low battery voltage
- Supply disconnection
- Device reset
- Sample buffer overflow
- Event log overflow
- Device configuration change
- Housing breached
- Battery replacement
- Event log overflow
- Text message limit exceeded

#### Events of external devices :

- Maximum flow
- Minimum flow
- Reverse flow
- Measurement unchanged
- Leakage
- Configurable water meter events (4 event types)\*
- Configurable alarm device events (4 event types)\*\*

#### Proper water meter selection test

The device features an internal memory with a capacity for 250 reading increments for one of the selected devices with a configurable sampling period set at 10 s, 30 s, 1 min, 2 min, 5 min, 10 min, 15 min, 20 min, 30 min, 1 h, 2 h, 4 h, 6 h, 8 h, 12 h, or 24 h. Gathering those values enables analysis of water usage value, calculation of average flows and comparison of the results to nominal values or the measurement range defined for a selected water meter connected to the device.

\* Events generated by a water meter with pulse outputs or its pulse module (the events undefined by the manufacturer)

\*\* Events generated by alarm devices with pulse outputs



## RTC

APT-GSM-UT-2 features an RTC (real time clock) which can be synchronised with a telemetry server or a mobile terminal/device.

### Instantaneous and saved readings

The device can transmit instantaneous readings (current water usage) and saved readings. The maximum number of readings stored for one water meter is 25. The reading memorisation period can be chosen from the following values: 1 h, 2 h, 3 h, 4 h, 6 h, 12 h, and 24 h.

### Data transmission

Measurement data and alarm events are transmitted via the GSM network as GPRS data packets to a specified telemetry server. Data transmission follows a predefined schedule or can be forced by predefined events. The data transmission period may be set to one of the following values: 1 h, 2 h, 4 h, 6 h, 12 h, 24 h, 2 days, 3 days, 4 days, 5 days, 6 days, 7 days, 10 days, or 1 month (on the first or the last day of the month). Transmission can also be forced over NFC by a mobile device with the configuration app installed. Information about events can be sent to the user via text messages output to the phone numbers added to the device configuration settings.

### NFC (near field communication)

Communication with the device during its configuration is possible with NFC-enabled mobile devices. Forcing transmission requires authorisation by entering the access code of the device. The access to device settings is possible only via mobile devices which have previously received appropriate permissions. This provides appropriate protection of the device against unauthorised modification of the configuration settings.

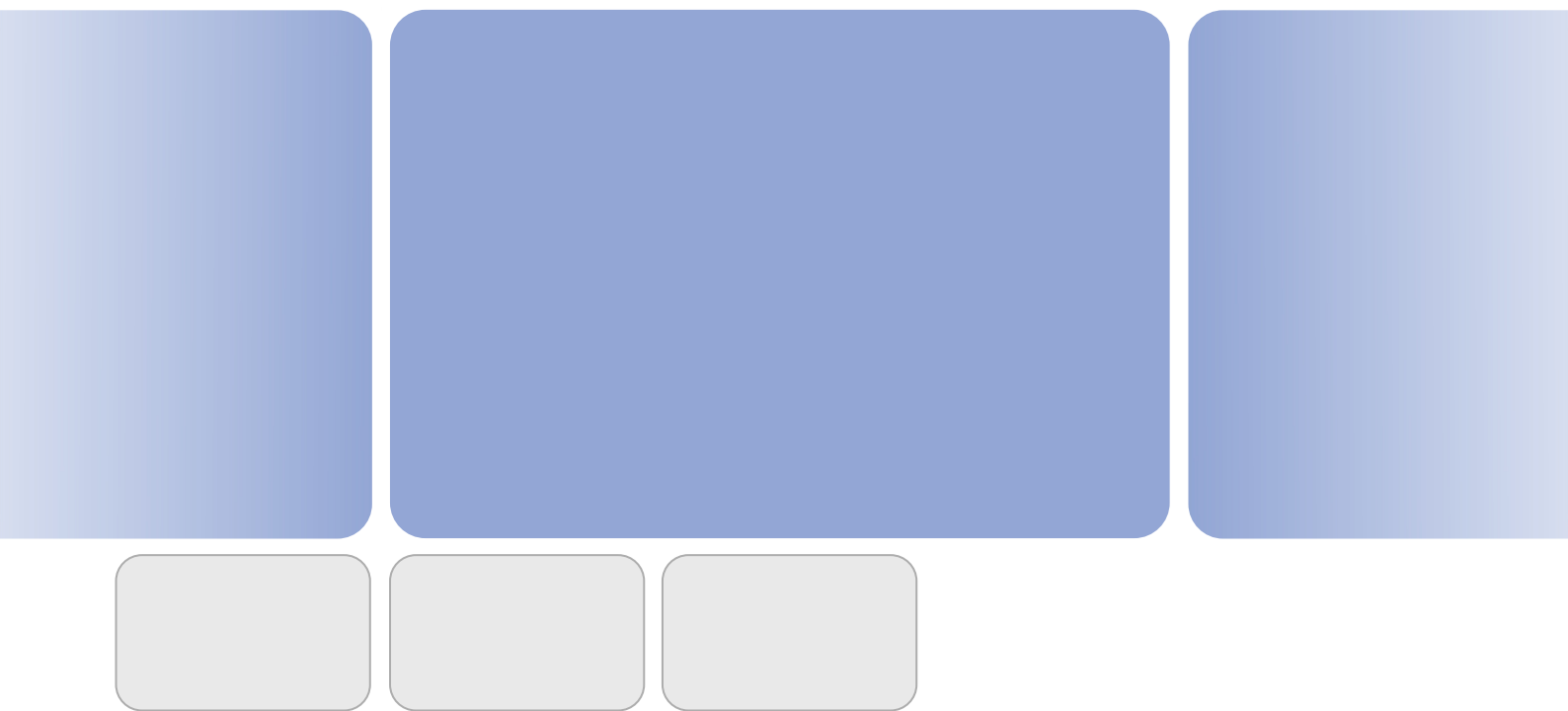
### Basic configuration of the device

- Transmission period configuration
- Configuration of saved reading periods
- Configuration of events for forced data transmission
- Configuration of events for forced text messaging
- Configuration of events for event details logging
- Proper water meter selection test configuration settings
- Pulse input configuration
- Pulse weight and measurement device serial number configuration
- Event thresholds configuration

## TECHNICAL DATA

APT-GSM-UT-2	
Data protocol format	TCP/IP
Frequency band	850 ÷ 900 MHz, 1800 ÷ 1900 MHz
GPRS multichannel transmission class	12
Compatible SIM cards	3 V / 1.8 V
Pulse inputs	4
Pulse signal type	dry (reed switch) transistor key (OC, OD)
Minimum pulse duration	10 ms
Max. pulse frequency	16 Hz
Voltage levels of logical states	V <sub>LO</sub> : 0 ÷ 0,5 V V <sub>HI</sub> : 2 ÷ 15 V
Power supply	3,6 V Li-ion battery
Operating time (configuration-dependent) ***	5 years max.
Wiring	2 x 0,14 mm <sup>2</sup>
Wiring length	4 x 1,5 m
Operating temperature	-15°C ÷ 55°C
Installation method	8 mm x 60 mm plugs (4 pcs.)
Dimensions	120 mm x 104 mm x 63 mm
Weight	< 0,5 kg
Weight	IP67

\*\*\* Specified for operation at ambient temperature of 18°C



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