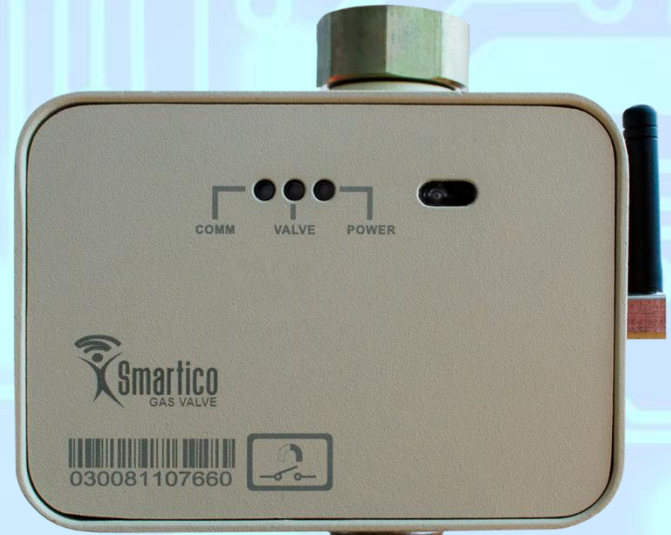




The Gas Shutoff Valve LoRaWAN "Smartico V-LR" was designed for remotely shut off the gas supply in the low pressure gas network. The shut-off valve was made with autonomous power supply. It has a special valve activation mechanism that allows safe recovery of gas supply. Places of installation of protective seals are provided to prevent unauthorized access to the power source and exclude the possibility of dismantling the valve from the connecting gas pipeline.

Specifications	
Compliance with LoRaWAN	1.0.2 Class A
Frequency plan of LoRaWAN	EU868 / US915
Power of transmitter, dBm	14 / 20
Network Registration Method	ABP/OTAA
Real time clock	built-in
Magnetic sensor	built-in
Motion detector	built-in
Data archive	daily, events
Built-in battery	3.6V Li-SOCl ₂ D
Capacity, mAh	18000
The number of "open-closed" cycles, times / month	> 10
Maximum flow rate Q _{max} , m ³ /h	25
Overpressure of the ambient, kPa	< 50
Ambient temperature, ° C	-25...+75
Gas temperature, ° C	-25...+55
Service life, years	> 8



KEY FEATURES:

- Closing the valve if unauthorized external intervention was happened and transmitting an alarm message to the dispatcher's software.
- Operation mode displayed by leds.
- Monitoring and transmission of the following parameters:
 - battery discharge;
 - operability of internal sensors;
 - strikes and changes in position;
 - opening the case;
 - current valve state.
- Built-in non-volatile memory, events archiving, built-in real-time clock.
- Data transmission in the unlicensed frequency range.
- Remote blocking of gas supply from the dispatcher console.
- Encryption of data transmission.
- Response time - less than 1 s.
- Small dimensions, ease of installation.
- Battery life up to 15 years.

FIELDS OF APPLICATION:

- Applied for both in the residential and in the manufacturing sector;
- Construction of systems with automatic gas supply management;
- Temporary or permanent interruption of gas supply in case of subscriber debt.

ADVANTAGES OF THE SYSTEM BASED ON LoRaWAN:

- Unlimited network scaling;
- Long range communications (up to 15 km with direct visibility);
- Autonomy of the end devices (more than 10 years from the built-in batteries);
- Adaptive data transmission rate and power trim to save battery;
- Interference immunity (the possibility of demodulating a signal with a level of up to 20 dB below noise and interference);
- The use of an unlicensed frequency range that does not require additional costs;
- Two-level data encryption at the gateway and application level;
- The ability to expand and change functionality without significant investments;
- Flexible adjustable functionality reporting and software analytics;
- Export data to any analytical and billing systems.

