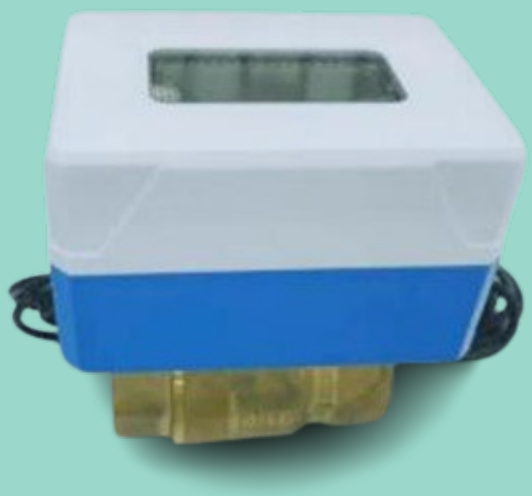
MACHINE SENS IOT

Flow+

Smart Valve



Battery operated wireless valve with embedded LoRaWAN® technology.

Product Overview

Flow+ Smart valve is an all-in-one battery-operated wireless valve embedded with LoRaWAN® technology to enable remote monitoring, operation, and control of fluids.

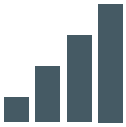
This smart valve eliminates the need of manual intervention at customer locations and provides operators a secure and instant solution to remotely turn on/off water services on lines difficult to reach, or where the utility is looking to reduce operational labour costs associated with field visits.

Precise fluid flow control, durable construction, and additional capability of remote monitoring and management makes it a reliable and cost-effective solution for fluid flow control for water treatment, irrigation, and HVAC systems.

Flow+ Smart valve is available in various sizes and configurations to meet specific application needs.

Product Features

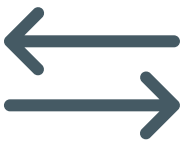
Wireless Communication through LoRaWAN ® technology



High Range link: Strong signal penetration (even with urban area or inside buildings)

Secure operation with top-down encryption

Battery Operated Smart Valves. Useful life up to 3 Years



Bi-directional communication for remote operation and control

Industrial grade construction for durability and longevity

Centralized Control & Monitoring through Web App

Integration with Existing Building Management System

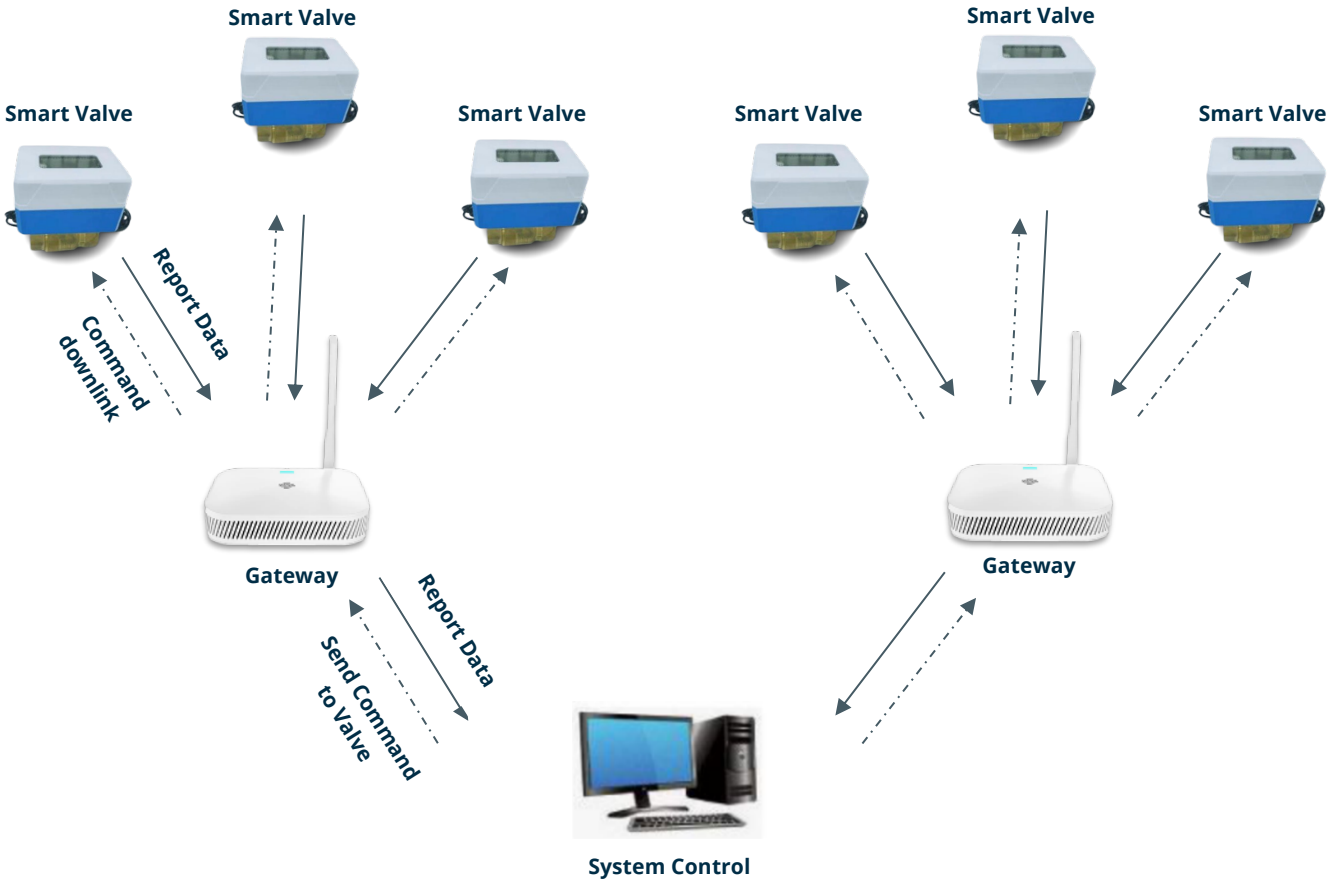
Get in touch with us!

www.machinesensiot.com info@machinesensiot.com

Communication Technology

The Flow+ Smart Valve employs cutting-edge communication technology, LoRaWAN which provides low power consumption as well as long range signal propagation to enable real-time control and monitoring. This technology supports both Class A and Class B operation, offering flexibility and precision in fluid flow control.

Notably, the Class B mode facilitates instantaneous communication between the valve and the remote controller, allowing for adjustments and optimal performance. This sophisticated communication approach guarantees that the valves consistently operate at peak efficiency, delivering a dependable and cost-effective solution for fluid flow control.



Our smart gateway receives near real-time data from all the valves within range, converts the raw data into an easy-to-use JSON format, and then publishes it using MQTT protocol. Data can be sent to any local or cloud MQTT broker via Ethernet, LTE (4G), or WIFI.

Get in touch with us!

www.machinesensiot.com info@machinesensiot.com

Specifications

Technical	
Pipe Section	DN10, DN15, DN 20, DN25, DN32, DN40
Body	Brass
Armature, Plunger and Core	Stainless Steel
Valve Type	Ball Valve
Operating temperature	-20 °C to +70 °C
Seal material	EPDM
Maximum fluid pressure	25 Bar/363 Psi (DN10 to DN32) 20 Bar/290 Psi (DN40 to DN80)
Minimum differential pressure	125 mBar/1.81 Psi
Maximum differential pressure	10 Bar/145 Psi
Maximum fluid temperature	-20 °C to +140 °C
Fluid support	Liquids, compressed air, oil free, dry neutral gases
Tamper	Enclosure opening is reported in uplink
Power Supply	One or Two (replaceable) Lithium batteries 3.6V
Battery life	Typical useful life up to 3 Years*
Environment	Outdoor Rated
IP Class	IP65
Mounting	Horizontal or Vertical
Manual Override	Yes (local)
Board Protection	Supplied with conformal coating
Form factor	All in one
Wireless Communication	
Technology	LoRaWAN®
Frequency	EU868 (868 Mhz) license free
Range	2KM in urban environment 22+ floors in a building
Security	128 AES Encryption
Antenna	Internal
Maximum output power	+14 dBm
Data Rate	290 bps – 50Kbps

Get in touch with us!

www.machinesensiot.com info@machinesensiot.com

Data Read	Open/Close Status, Battery level, Enclosure tampering, Radio signal health
Data Write	Open/Close command, Transmit frequency, Schedulers, Time synchronization, counter set
Data Format	JSON
Device Class	Class A
Activation Method	OTTA (Over-The-Air-Activation)
Certifications	
Regulatory	CE
Environmental	RoHS

** Battery life depends on Rx/Tx frequency and number of Open/Close operations*