

STAINLESS STEEL ACS FULL WIRELESS ELECTRIC BALL VALVE TYPE LYVA-FW

FEATURES

The LYVA-FW is a stainless steel full wireless electric valve designed for automatic shut-off of small-diameter fluid lines. The LYVA-FW, with full feed-through, is ideal for applications in smart buildings, smart agriculture, marinas..., where it is costly or complex to install a cable network. Operation of the actuator powered by 2 long-life 1,5V lithium batteries, with opening/closing control and long-range remote monitoring compatible with LoRaWAN[™] 868 MHz protocol. Accompanied by a bubble BOX-type LoRaWAN[™] 868 MHz compatible gateway (receiver), it makes it very easy to install. Low power consumption. LYVA-FW has NSF certification for food contact and ACS drinking water approval.



AVAILABLE MODELS

LYVA-FW : stainless steel body.

Diameters and connections: G 1/2" to G 1" (manual override).

Voltages : 2 x 1.5V lithium batteries - 3000 mAh.

Wiring diagram : wireless.

Operating time : 1 to 60 seconds

LIMITS OF USE

Use prohibited on Group I gases in accordance with EC directive 2014/68.

Use prohibited in explosive atmospheres.

Electrical protection :	IP 67
Fluid WP :	0 - 10 bar up to 1"
ΔP max :	10 bar up to 1"
Fluid WT°:	0°C / +90°C
Ambiant WT°:	-10°C / +55°C



DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	OBJET	Standard
Pressure Equipment Directive 2014/68/EC	A4 § 3	Material shades	EN 1503-1
EC Low Voltage Directive 2014/35	category I	Threaded connection	ISO 228
Food fluids	NSF certificate	Drinking water	ACS

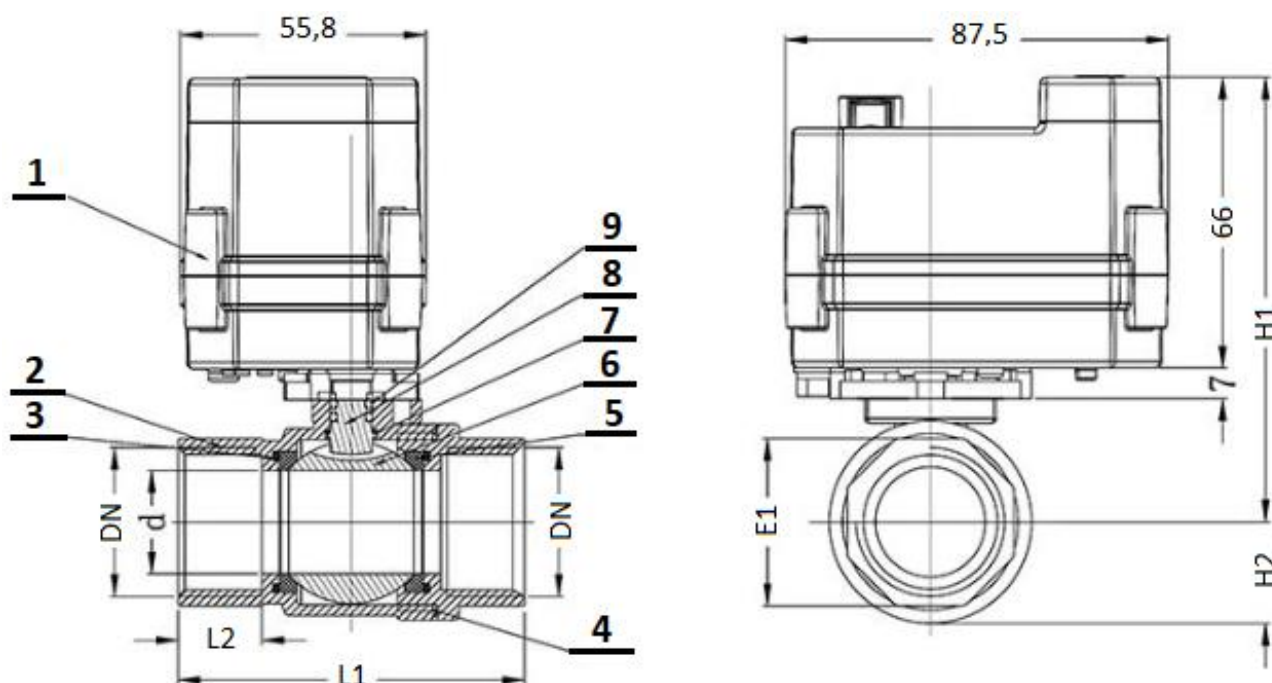
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		Ref.	TDS8930FW
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CONSTRUCTION

No°	Name	Material
1	Electrical actuator	PPO Plastic
2	Body	1.4408 stainless steel
3	O-ring	FKM
4	Seat	PTFE
5	Seat	PTFE
6	Ball valve	1.4408 stainless steel
7	Gasket	PTFE
8	Stem	1.4408 stainless steel
9	O-ring	FKM



DIMENSIONS (mm) and WEIGHT (kg)

DN	d ± 0.3	L1 ± 1	L2 ± 1	E1 ± 0.5	H1 ± 1.5	H2	Weight (Kg)
G 1/2"	15	62	14	25	91	17	0,41
G 3/4"	20	72	17	31	99,5	20	0,48
G 1"	25	79	18	38	102,5	24,5	0,58

MOUNTING

Can be mounted in any position except horizontal, with actuator upside down.
For use on liquids, installation of an upstream protection filter is recommended.

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LYVA-FW CONFIGURATION (Wireless)

1. Locate the DevEui number on the valve label.

This unique number corresponds to the address used to identify end devices.

2. Enter the following two codes (shared codes) in the gateway.

AppEui= 70B3D57ED0036D57

AppKey= B3CAD3EF63A34E256918F15862EFE150

3. Pilot instructions

Valve control data		
PORT	DATA	Note
0x0A	0X01	Valve opening
	0X02	Valve closing
0x0B	0x01-0x3C	Define the period for sending status and instructions (1-60 minutes)
	0x00	Query the current status of the sending period
0x0C	0X01-0XFF	Define valve timer restart times. This option is used to join the server after the restart. (1-254 hours, 255 means no timer restart)
	0x00	Request timer restart period

Data sent from the valve		
PORT	DATA	Note
0X0A	0XC1	The valve has been opened
	0XC2	The valve is opening
	0XC3	The valve has been closed
	0XC4	The valve is closing
	0XC5	The valve is blocked (it tries 3 times to open or close before blocking)
	0XC6	The valve is blocked when open
	0xC7	The valve is blocked when closed
	0XFF	Unknown state, e.g. when the valve is in an uncertain position after power-up, need to open or close the valve.
0x0B	0x01-0x3C	Current status of sending period
0x0C	0x01-0xFF	Timed restart cycle in progress

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4. Description of operation

After being connected to the network, if the valve is not actuated and is in the open or closed position, the valve automatically enters a hibernation state. If no button is pressed, the valve wakes up every 20 minutes and sends the current status (sending data packets once, if the data packet is not sent for three consecutive times, the valve will rejoin the network one hour later).

When the button is pressed, the current status is sent in real time.

If the connection to the network fails, the valve will retry to connect to the network 6 times, with an interval of 10 seconds each time, after the failure, there is a delay of more than 10 seconds to retry, three consecutive groups cannot connect to the network, the red LED is lit, exit network mode.

The send status period set for port 0X0B does not take effect until the next time data is sent. If the interval is set to 60 minutes before being changed to 1 minute, the interval will be changed to 1 minute after 60 minutes (maximum). You can also press the SET button to wake up the device and update the send period.

Low battery warning : When the battery is low, the red LED flashes every 2 seconds. Bit 4 of the status data sent is 1. 0XC1 is sent in normal power mode and 0XD1 is sent in low power mode.

The DevStatusReq command is used to obtain the battery status of the valve and returns data from 1 to 254, corresponding to a percentage of the power (254 = 100%; 1 = 0%).

5. LED light and button instructions



Press the SET button for 2 seconds to join the network, the red light flashes until you have successfully entered the network, then the red light goes out.

If the valve is successfully connected to the mains once, it will automatically be connected to the mains and the green LED will flash the next time it is switched on.

Briefly press the SET button to OPEN/CLOSE the valve.

When the valve is opening or closing, the green LED flashes. When the valve is fully open, the green light stays on. When the valve is fully closed, the green light goes out.

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