

SMART VALVE SVM-21

SMART M-BUS VALVE



Attention:

Installation should only be carried out by qualified and trained personnel
Violation and removal of the manufacturer's seals is not allowed, otherwise the warranties are void
Welding on pipes near the smart valve is prohibited. The device must be dismantled before welding
The ambient temperature should be between -25 °C and 65 °

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1. General

This guide is intended for trained specialized personnel. For this reason, no basic working steps are included.



The smart valve tamper-evident seal must not be damaged! A damaged seal will result in immediate invalidation of the factory warranty and verification or declaration of conformity.



The installation must only be carried out by a specialist company. The personnel must be trained in the installation and handling of the equipment.

1.1 Operating conditions



The temperature conditions for the smart valve depends on the application and can be found on the printing of the valve.

Climatic conditions

The ambient temperature must be between -25...65 °C.

2. Transport and storage

Unpacking

Smart valves are control valves which must be handled with care. To protect against damage and soiling, they should only be unpacked immediately prior to installation.

Transport

The transport of the smart valve is permitted only in the original package.

Storage

- The smart valve must only be stored in a dry location.
- Typical storage temperature +5 °C ... 55 °C
- Relative humid environment < 95 %

3. Assembly / Installation



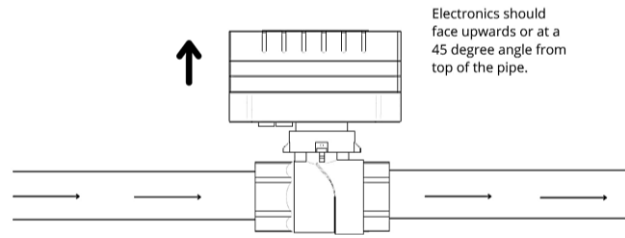
M-Bus communication cables are to be installed far away from other power lines.



When choosing the installation location, make sure that the smart valve is perfectly accessible for service and operating personnel.

3.1 Installation:

- Before installing the smart valve flushing needs to be carried out to remove any debris in the branch pipe to avoid blockage.
- The installation position of the smart valve should avoid exposure to sunlight, flooding, freezing, chemical and electromagnetic pollution, and be convenient for disassembly and maintenance.
- When installing the smart valve, the valve electronics should always be pointing upwards or at a 45° angle from top of the pipe. Never to be pointing downwards or at an angle lower than the pipe.



Smart valve installation consideration

4. Communication

4.1 M-Bus wired

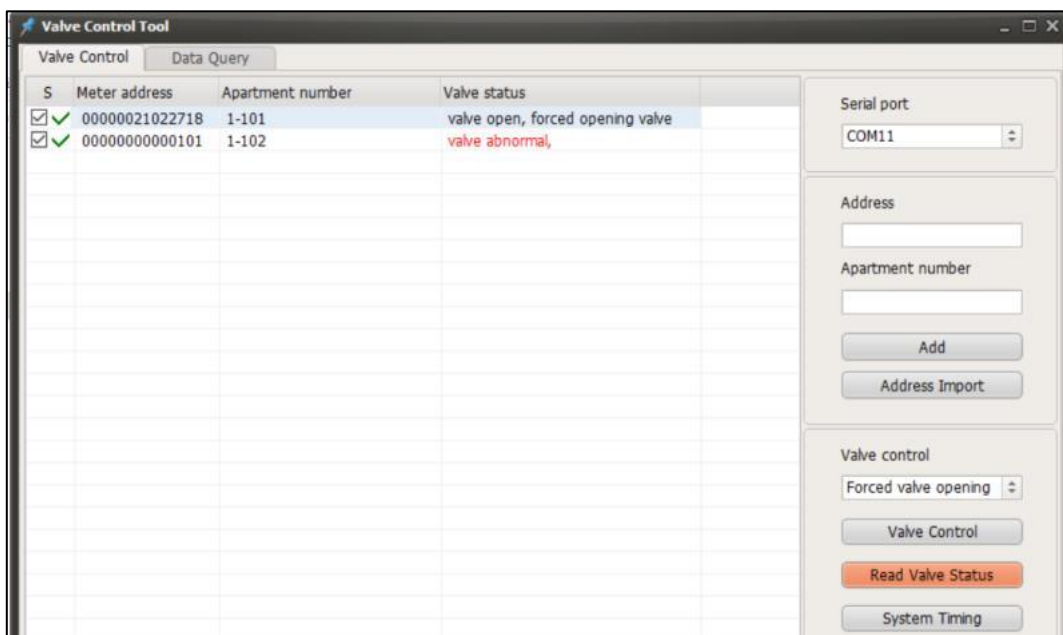


A 2 pin M-Bus line lead out of the housing. Connect the M-Bus line with the marked connections of the M-Bus Master.

- Standardized according to EN 13757-3
- Galvanic isolation
- Polarity reversal protection
- Power consumption: One M-Bus load
- Primary or secondary addressing
- Baud rate 2400 baud
- Protocol: M-Bus

5. Software

5.1 User interface



5.2 Smart valve control screen

5.2.1 Valve status check

Valve Control		Data Query	
S	Meter address	Apartment number	Valve status
<input checked="" type="checkbox"/>	00000021059486	G01	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059487	G02	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059490	G03	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059488	G04	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059489	G05	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059616	101	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059615	102	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059619	103	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059612	104	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059614	105	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059484	106	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059613	107	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059482	108	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059621	109	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059483	110	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059480	111	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059481	112	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059485	113	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059479	114	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059526	115	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059618	116	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059536	201	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059531	202	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059534	203	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059533	204	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059537	205	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059527	206	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059530	207	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059528	208	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059532	209	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059529	210	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059535	211	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059617	212	valve open, forced opening valve

FE FE FE 68 46 38 96 05 21 00 00 00 81 27 90 1F 01 00 20 00 18 00 18 00 00 00 00 84 73 12 00 62
20 00 18 00 18 00 00 00 84 73 12 00 62 73 12 00 03 00 00 00 00 00 00 64 43 04 11 11 01 17
00 00 00 00 00 00 64 44 04 11 11 01 17 20 49 01 8D 16 FE FE FE 68 46 60 95 05 21 00 00 00 81
16 FE FE FE 68 46 60 95 05 21 00 00 00 81
[2021-12-12 15:58:44]Receive: 27 90 1F 01 00 20 00 18 00 18 00 00 00 03 73 12 00 80 72 12 00
00 18 00 00 00 03 73 12 00 80 72 12 00 05 00 00 00 00 00 00 64 19 43 09 11 01 17 20 49 01

5.2.2 Valve close command

Valve Control		Data Query	
S	Meter address	Apartment number	Valve status
<input checked="" type="checkbox"/>	00000021059486	G01	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059487	G02	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059490	G03	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059488	G04	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059489	G05	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059616	101	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059615	102	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059619	103	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059612	104	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059614	105	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059484	106	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059613	107	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059482	108	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059621	109	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059483	110	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059480	111	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059481	112	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059485	113	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059479	114	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059526	115	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059618	116	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059536	201	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059531	202	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059534	203	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059533	204	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059537	205	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059527	206	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059530	207	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059528	208	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059532	209	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059529	210	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059535	211	valve close, forced closing valve
<input checked="" type="checkbox"/>	00000021059617	212	valve close, forced closing valve

27 90 1F 01 00 20 00 18 00 18 00 00 00 08 74 12 00 76 73 12 00 04 00 00 00 00 00 00 00
76 73 12 00 04 00 00 00 00 00 00 00 22 28 11 11 01 17 20 4A 02 C7 16 FE FE FE 68 46 38 96 C
17 20 4A 02 C8 16 FE FE FE 68 46 60 95 05 21 00 00 00 81 27 90 1F 01 00 20 00 18 00 18 00 00
81 27 90 1F 01 00 20 00 18 00 18 00 00 00
[2021-12-12 16:22:22]Receive: 00 26 73 12 00 94 72 12 00 06 00 00 00 00 00 00 00 05 07 06 10 1
00 06 00 00 00 00 00 00 00 58 06 10 11 01 17 20 4A 02 3D 16

5.2.3 Valve open command

S	Meter address	Apartment number	Valve status
<input checked="" type="checkbox"/>	00000021059665	213	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059620	214	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059670	215	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059669	216	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059611	217	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059622	218	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059667	219	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059594	301	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059598	302	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059599	303	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059604	304	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059608	305	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059607	306	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059602	307	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059603	308	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059593	309	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059588	310	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059589	311	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059596	312	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059597	313	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059587	314	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059538	315	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059590	316	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059601	317	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059591	318	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059592	319	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059629	401	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059632	402	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059581	403	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059585	404	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059584	405	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059582	406	valve open, forced opening valve
<input checked="" type="checkbox"/>	00000021059625	407	valve open, forced opening valve

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FE FE FE 68 46 38 96 05 21 00 00 00 81 27 90 1F 01 00 20 00 18 00 18 00 00 00 84 73 12 00 62
20 00 18 00 18 00 00 00 84 73 12 00 62 73 12 00 03 00 00 00 00 00 00 00 64 43 04 11 11 01 17
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00 18 00 00 00 00 03 73 12 00 80 72 12 00 05 00 00 00 00 00 00 00 64 19 43 09 11 01 17 20 49 01
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6. Maintenance



Smart valve may not be disconnected from the integrator.
After repair work, perform software testing to ensure valve operation.

7. Disposal



The smart valve contains a lithium battery, which is not rechargeable. Do not use force to open the battery. It must never come into contact with water, short-circuited or exposed to temperatures over 75 °C.
Empty batteries and no longer required electronic devices or components are hazardous waste.

This device must not be disposed together with the domestic waste.
Return it to the manufacturer for recycling.

Kimans Inc.

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