



RESOURCE-EFFICIENT AUTOMATIC IRRIGATION

with or without KNX – Jardana Irrigation Control

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Henry Kohl

- Sales Manager
- Customer and project consultant
- KNX Partner & Enthusiast

» We are
your
speakers
today!



Karim Bou Diab

- Application Engineer
- KNX & product applications support

Jardana

| Short advertising video



[Watch video on the
Elsner YouTube channel!](#) ▶

Watering in the evening is wrong!

| Thesis



Is this statement true?
What do you think?

- ✓ Yes, it is true. When the soil is hot, the water evaporates and does not reach the roots

When do you water your garden or what do you think is the best time to water?

Possible answers:

1. between 3:00 and 4:00 a.m.
2. between 3:00 and 5:00 p.m.
3. between 6:00 and 8:00 p.m.

Solution:

1. between 3:00 and 4:00 a.m. is the best time



Learning goals

| After this webinar you will be able to:

- ✓ Optimise the watering of different plant zones
- ✓ Utilise the optimal watering time
- ✓ Save on water costs
- ✓ Optimally configure the functions of the Jardana



AGENDA

1. Functions of the Jardana
2. Installation and connection
3. Irrigation systems, optimal irrigation
4. Jardana Mobile App
5. KNX application, parameters
6. Application examples

01 | FUNCTIONS OF THE IRRIGATION SYSTEM

elsner

Irrigation control Jardana

| Item Number: 70309

- Irrigation of four zones according to timer or measured soil moisture value
- Connection options for soil moisture sensors
- Can be used with app or KNX control
- Supply voltage via power supply unit (included in the scope of delivery)



Soil Moisture Sensor

| Item Number: 70313

- Up to four soil moisture sensors can be connected to one Jardana
- The soil moisture sensors are optionally available

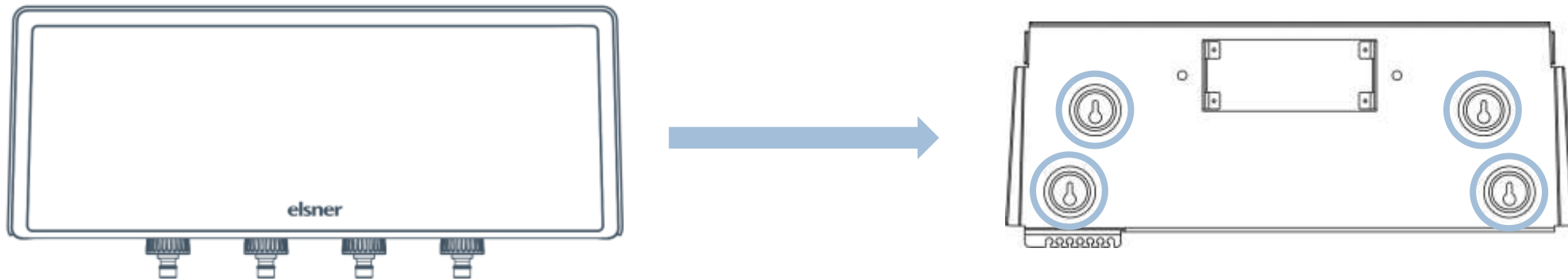


02 | INSTALLATION AND CONNECTION



Mounting the Jardana control unit

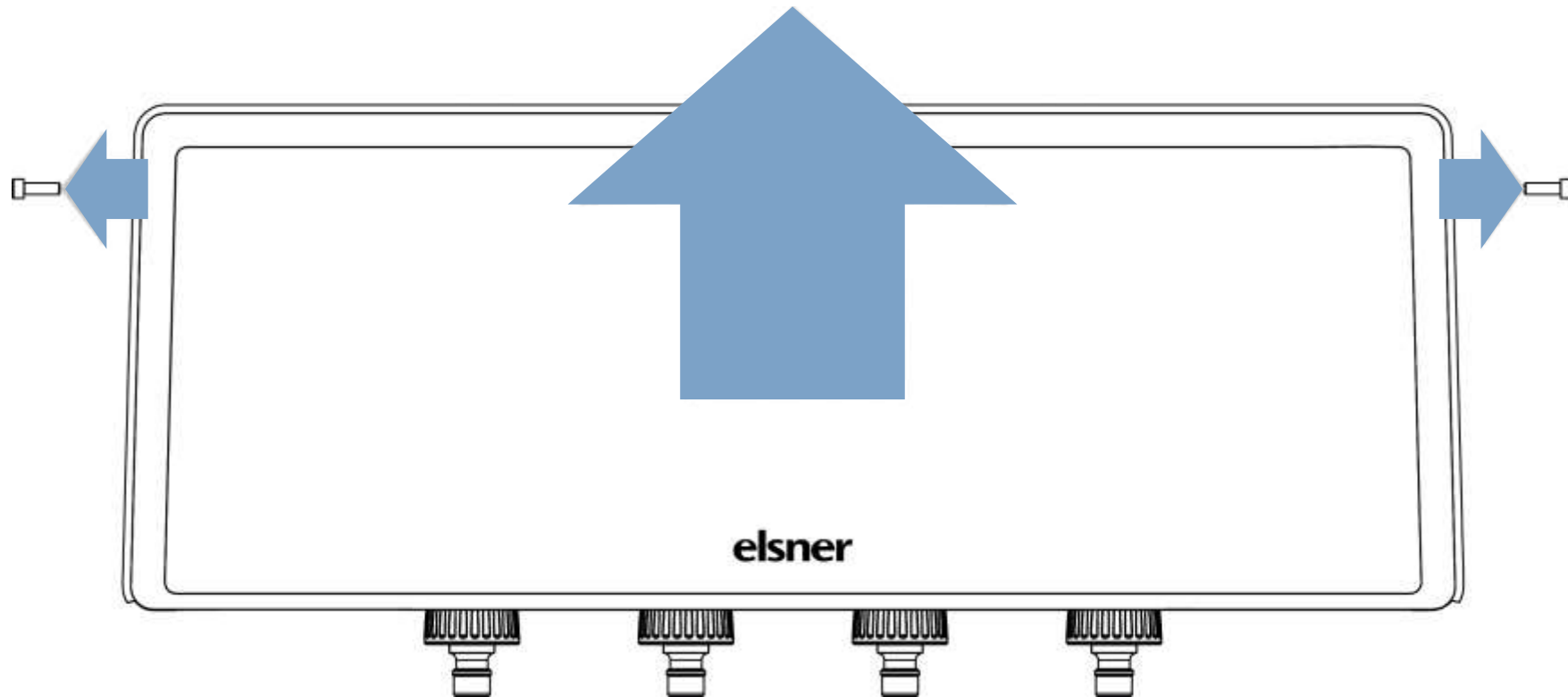
| Explanation



- The Jardana is attached to the wall with 4 screws
- Recommended mounting height: at least 50cm above the floor

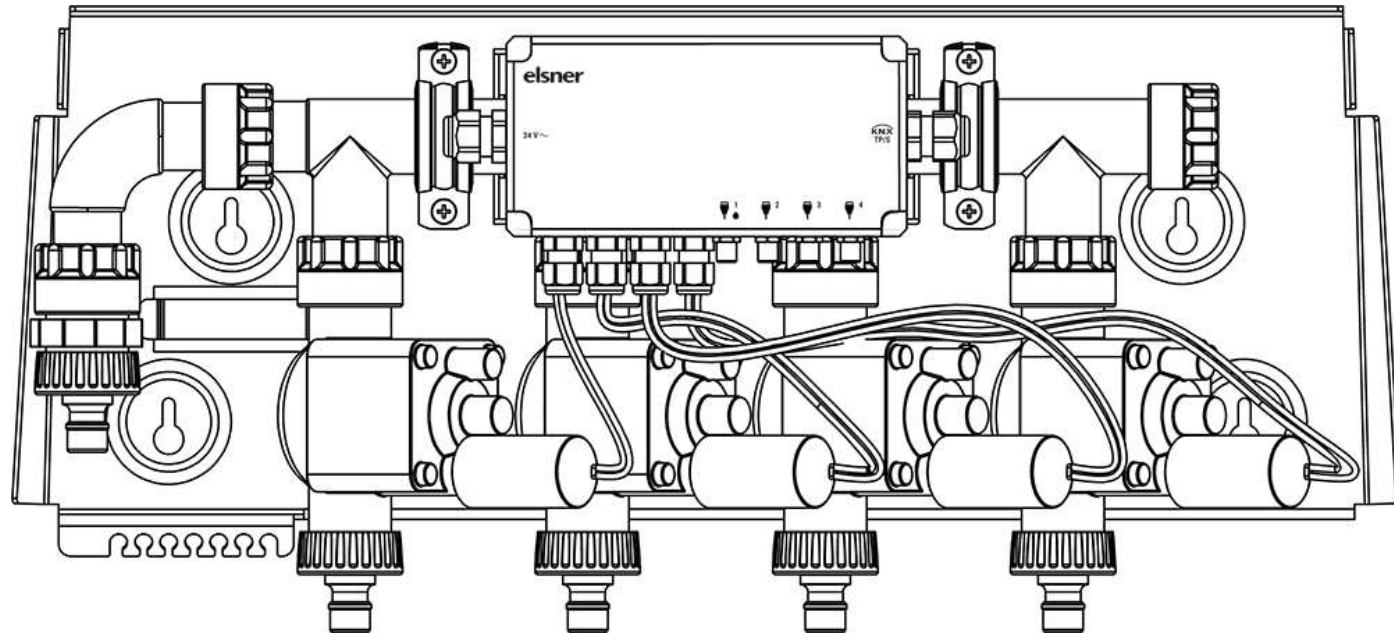
Mounting the Jardana control unit

| Explanation



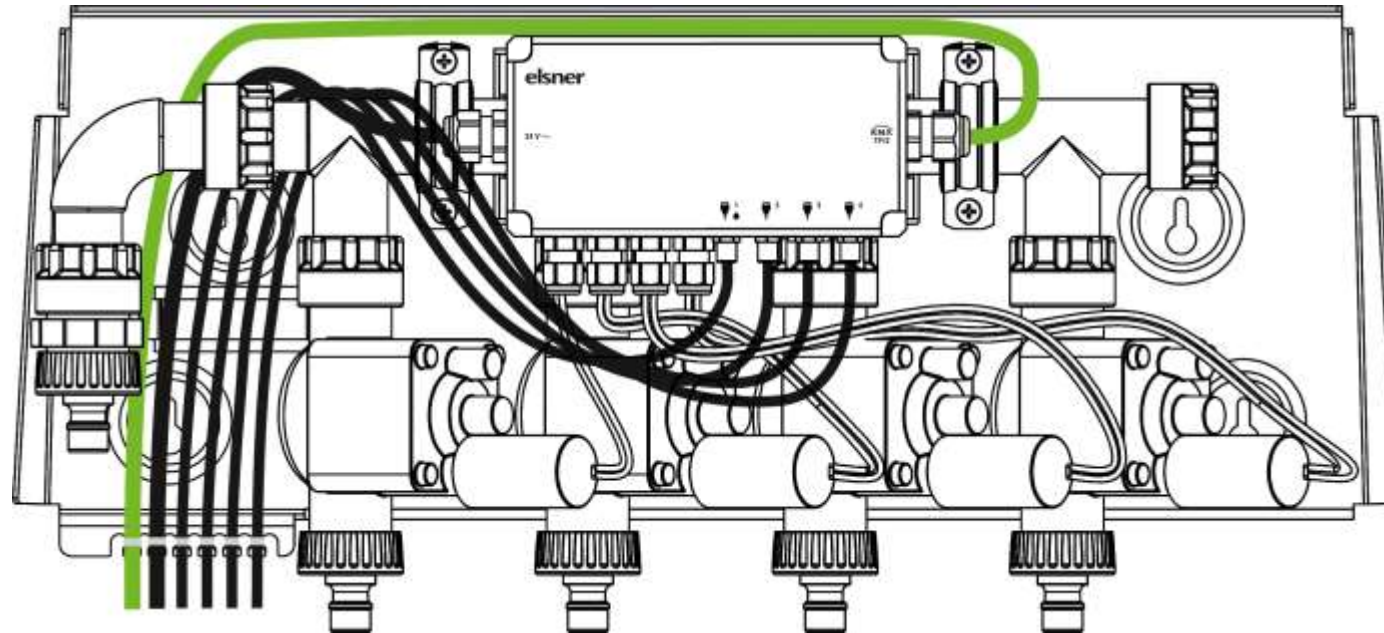
Mounting the Jardana control unit

| Explanation



Connection

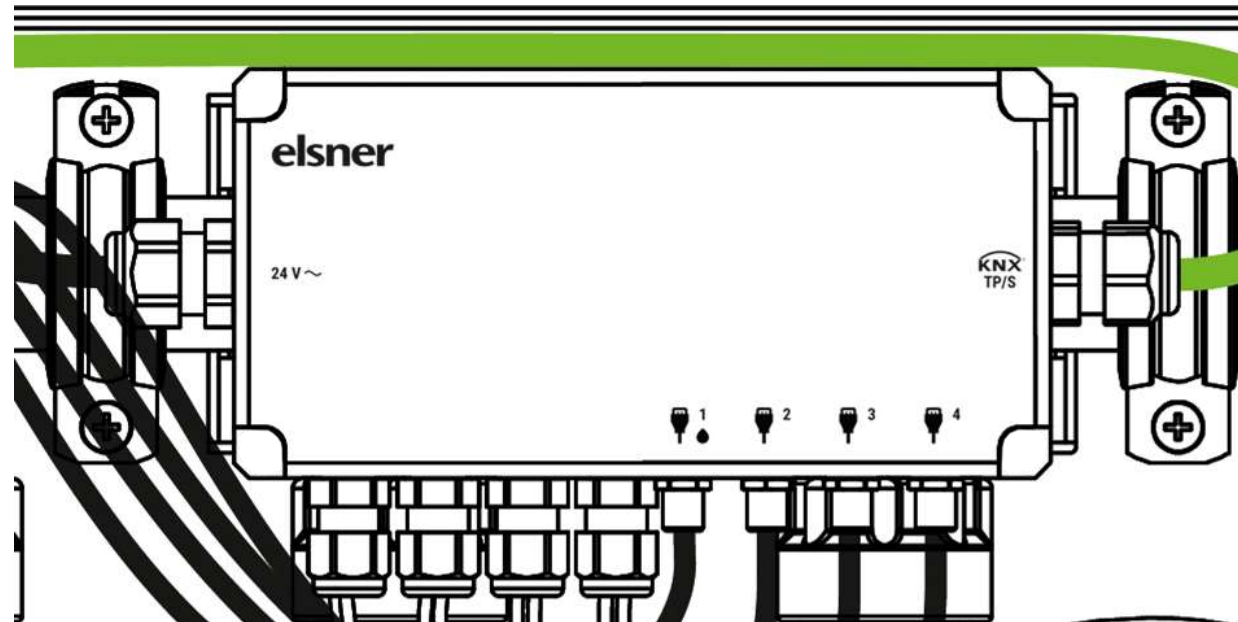
| Overview



KNX bus connection

| Overview

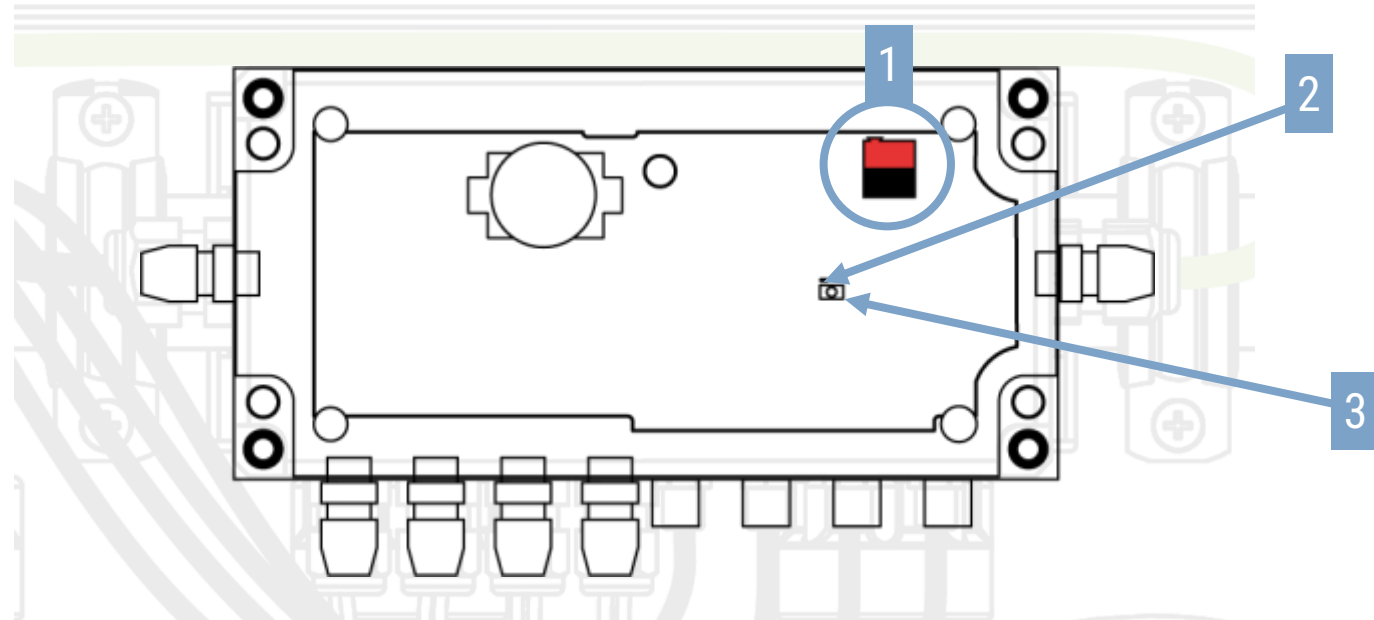
- Open the electronics unit
- Remove the dummy plug
- Insert the supplied cable gland
- Run KNX-TP cable



KNX bus connection

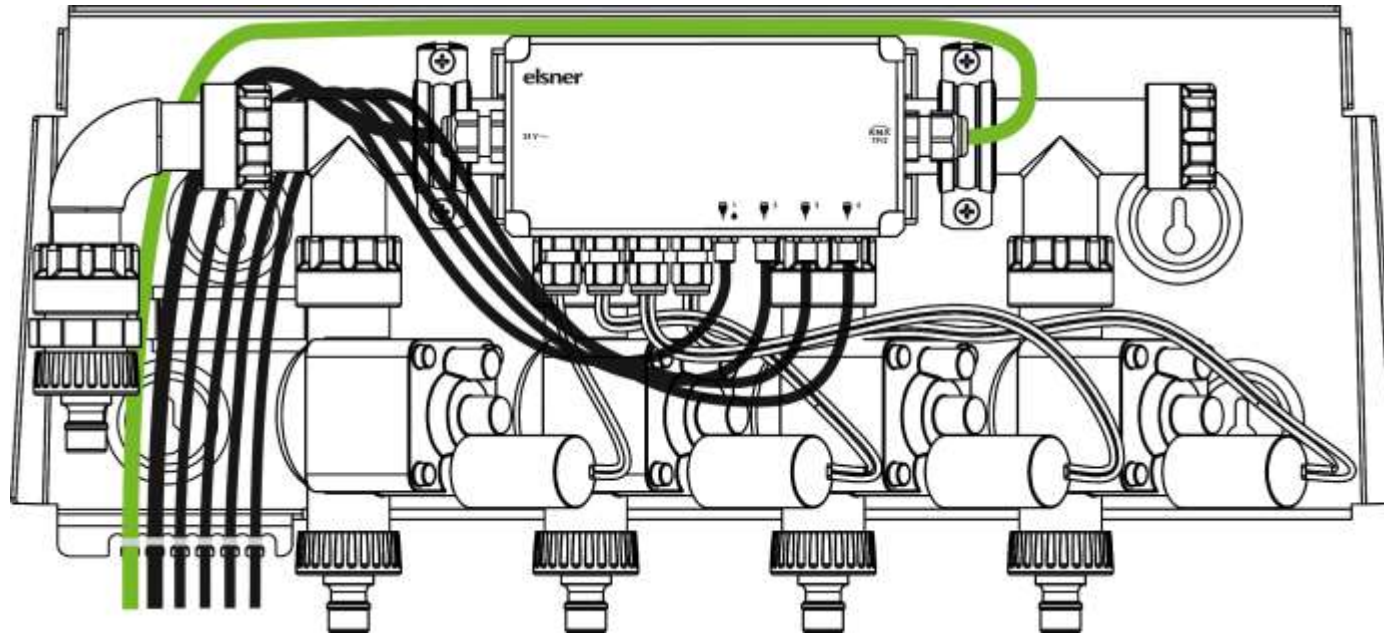
| Overview

1. KNX plug terminal
2. Programming LED
3. Programming button



Connection: organising cables

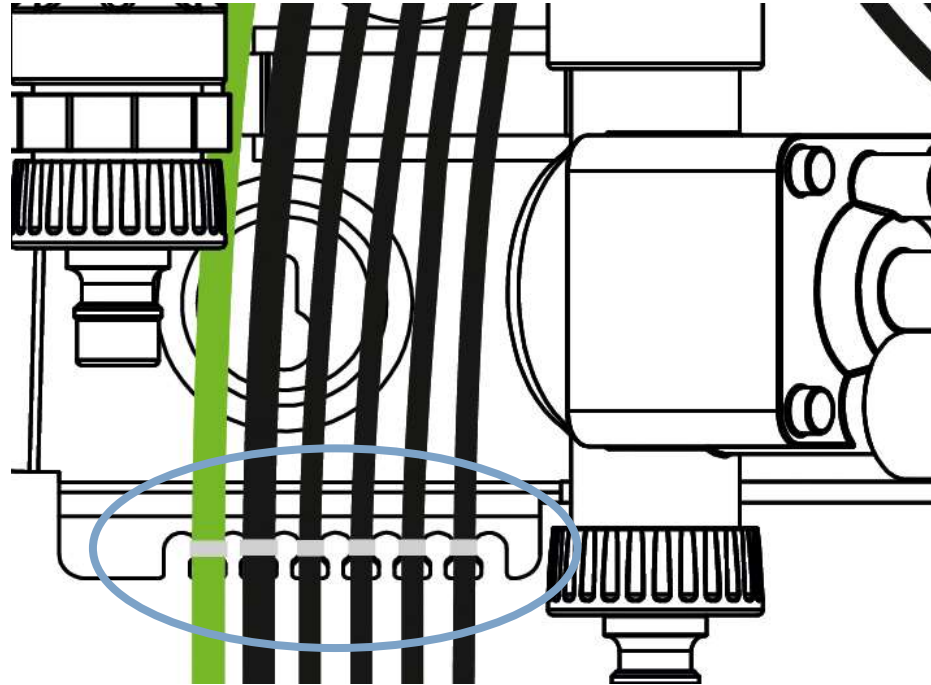
| Overview



Connection: Leitungen ordnen

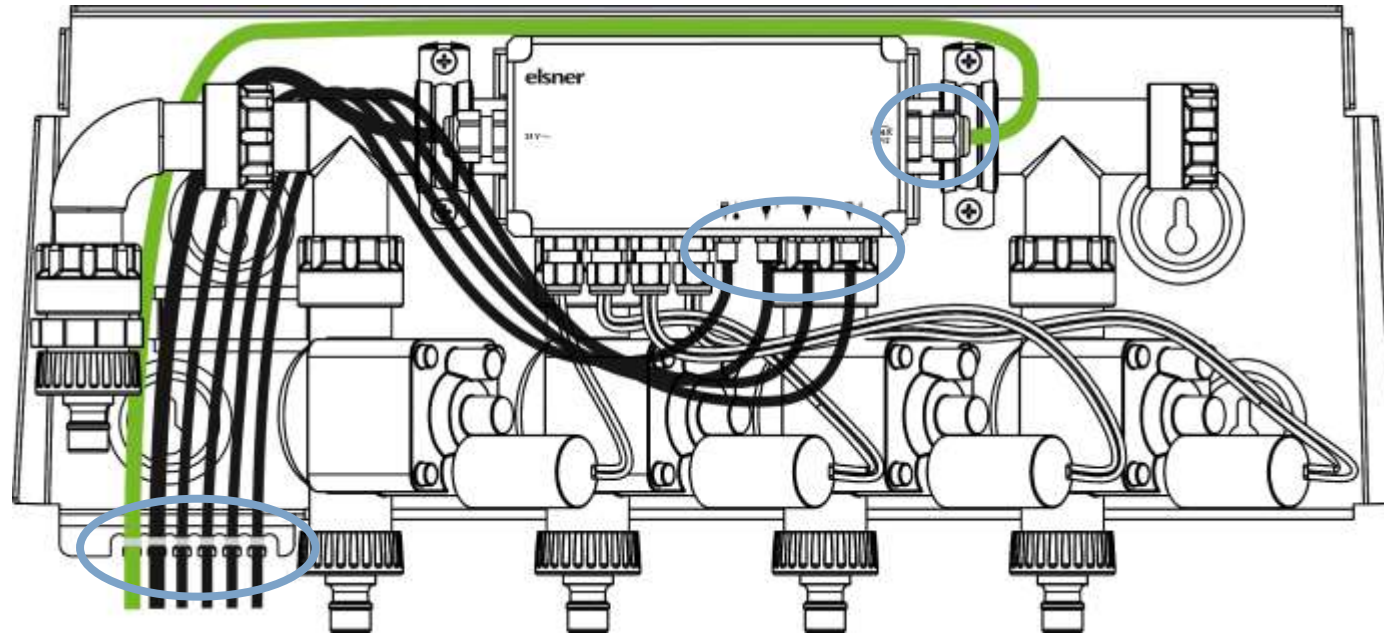
| Overview

Organise the cables and fasten them to the wall bracket with the cable ties.



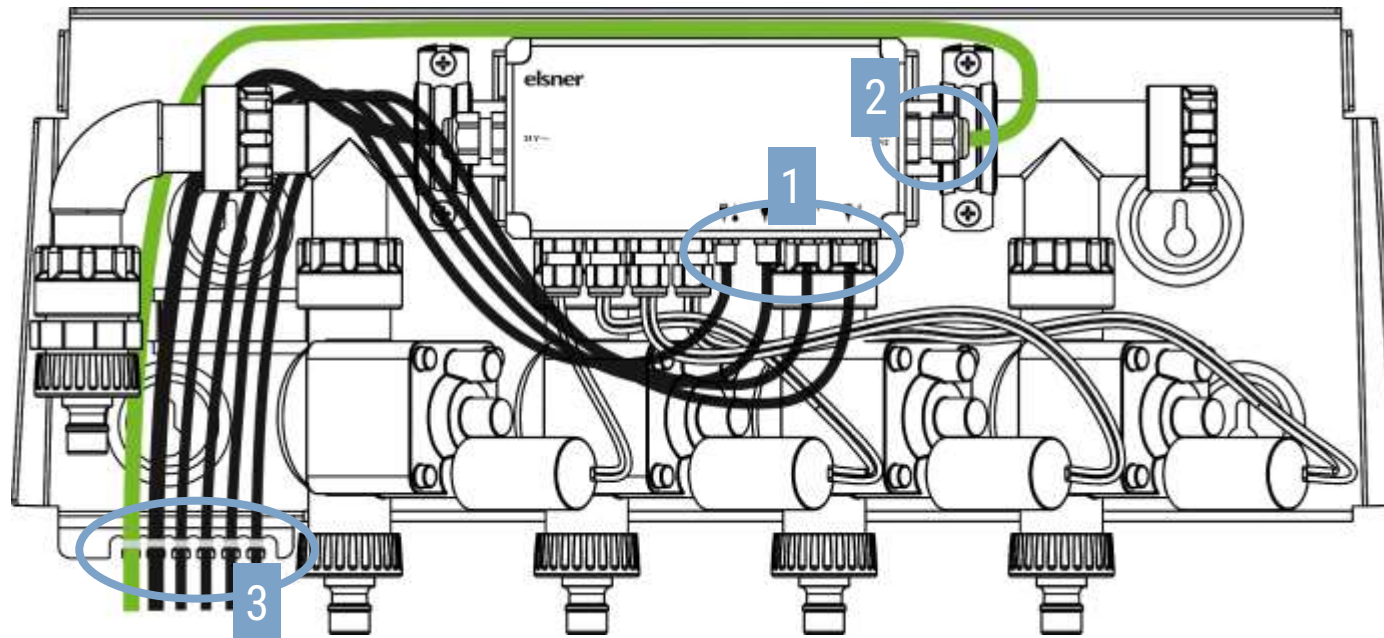
Connection

| Overview



Connection

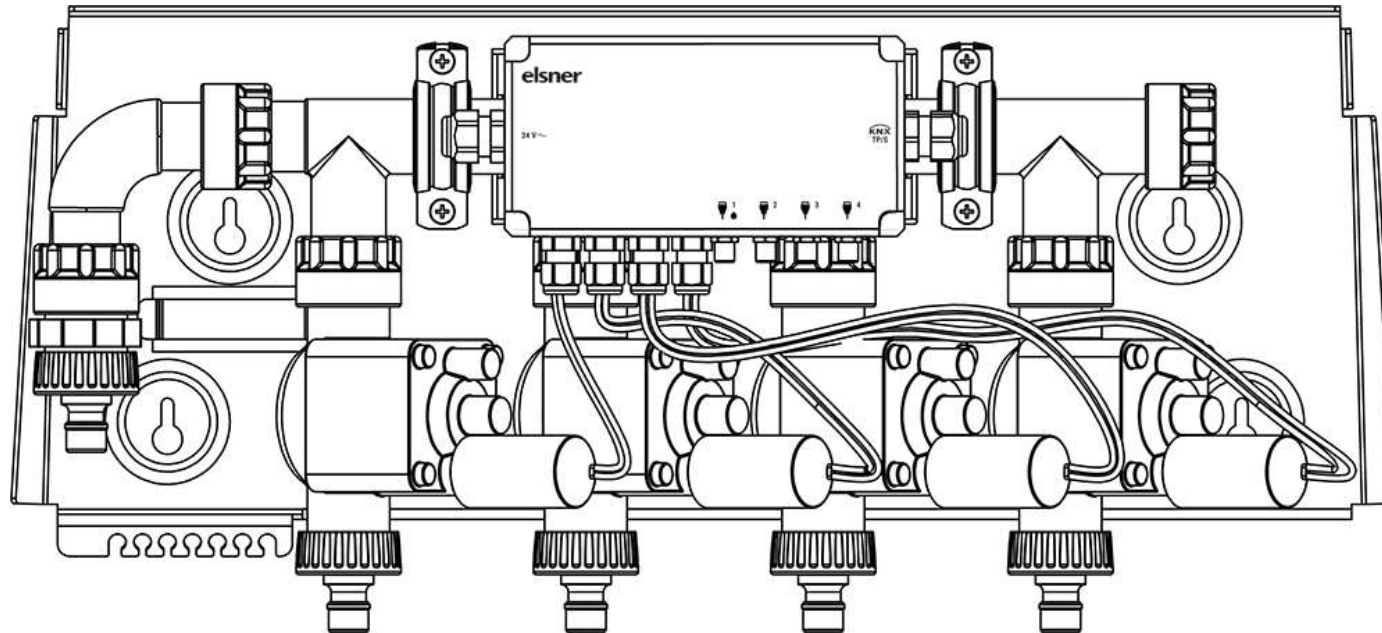
| Overview



1. TMI soil moisture sensors (optional)
2. KNX bus (optional)
3. Arrange and fasten cables

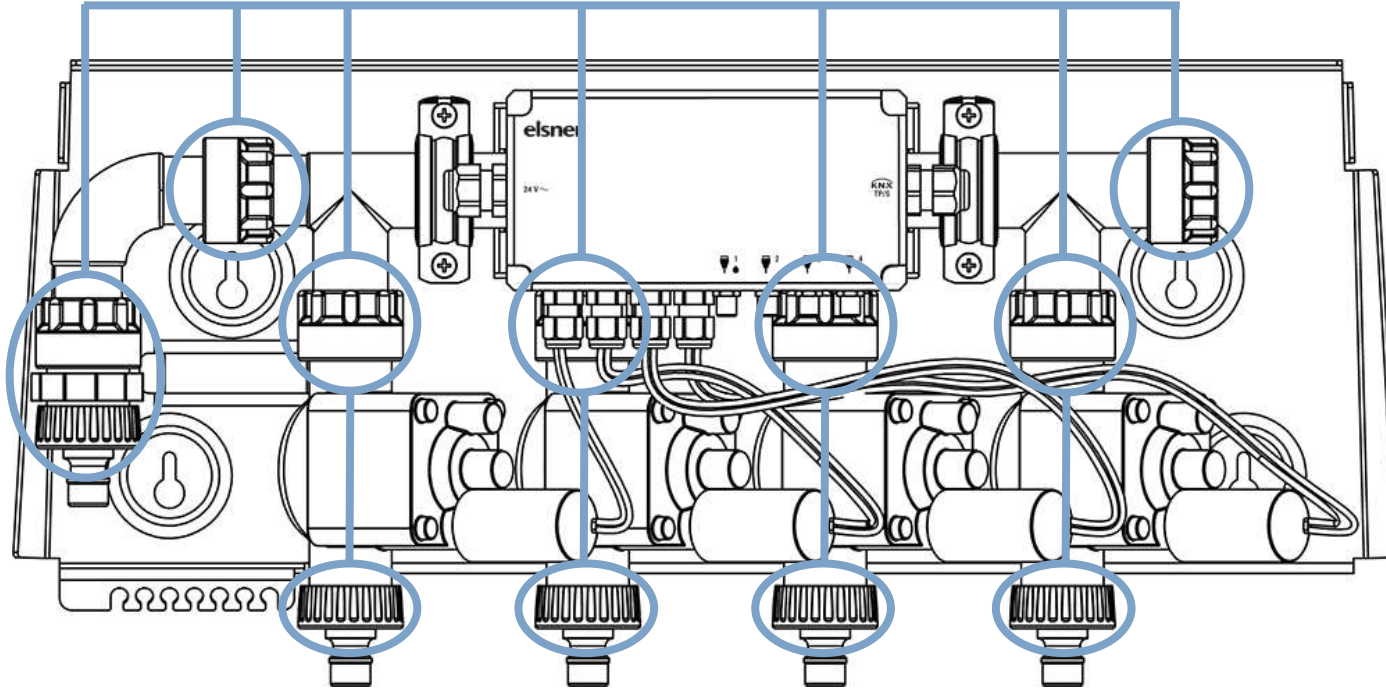
Water connection

| Explanation



Water connection

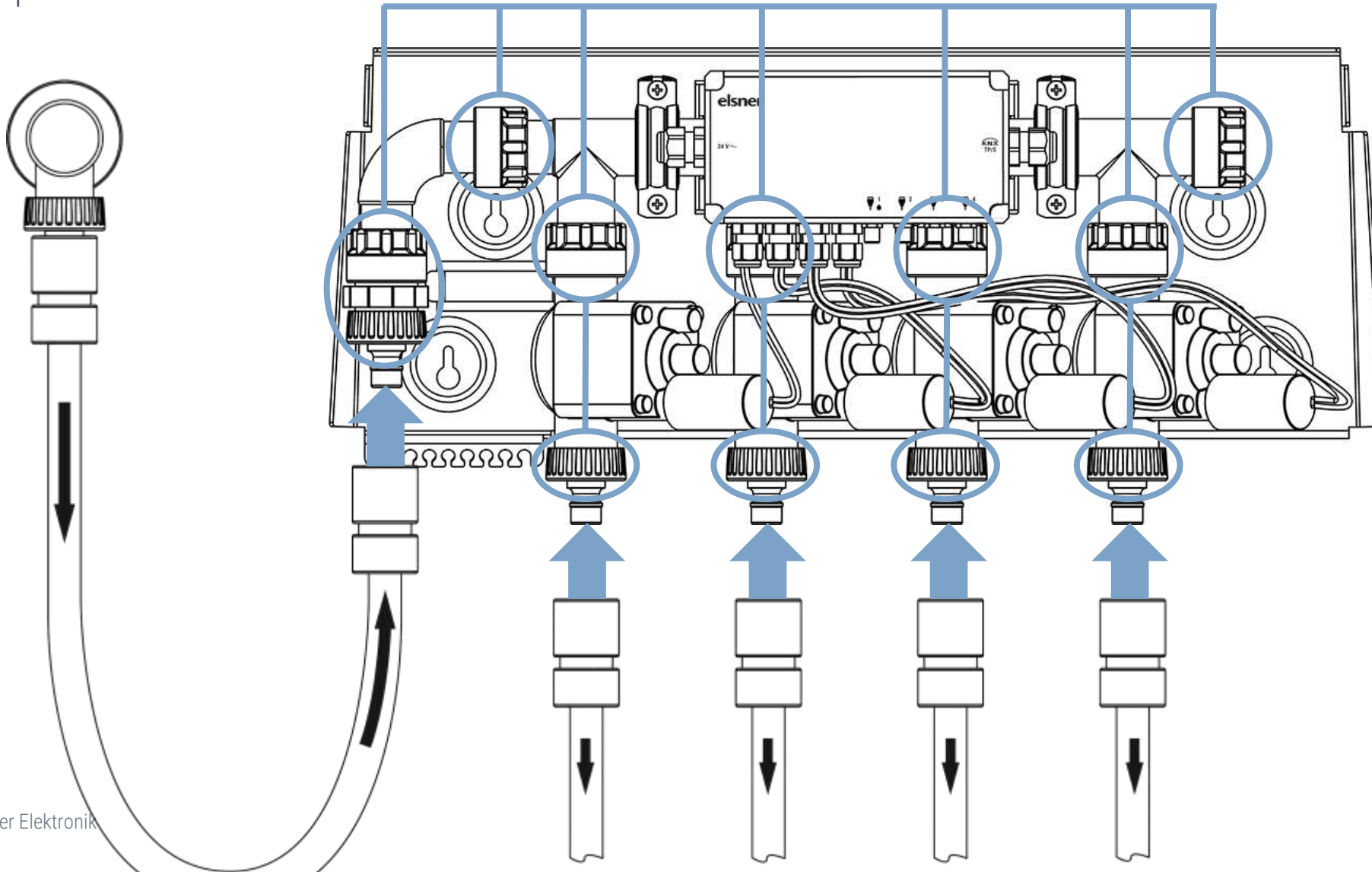
| Explanation



Check all the screw connections of the watersupply. They must be hand-tight.

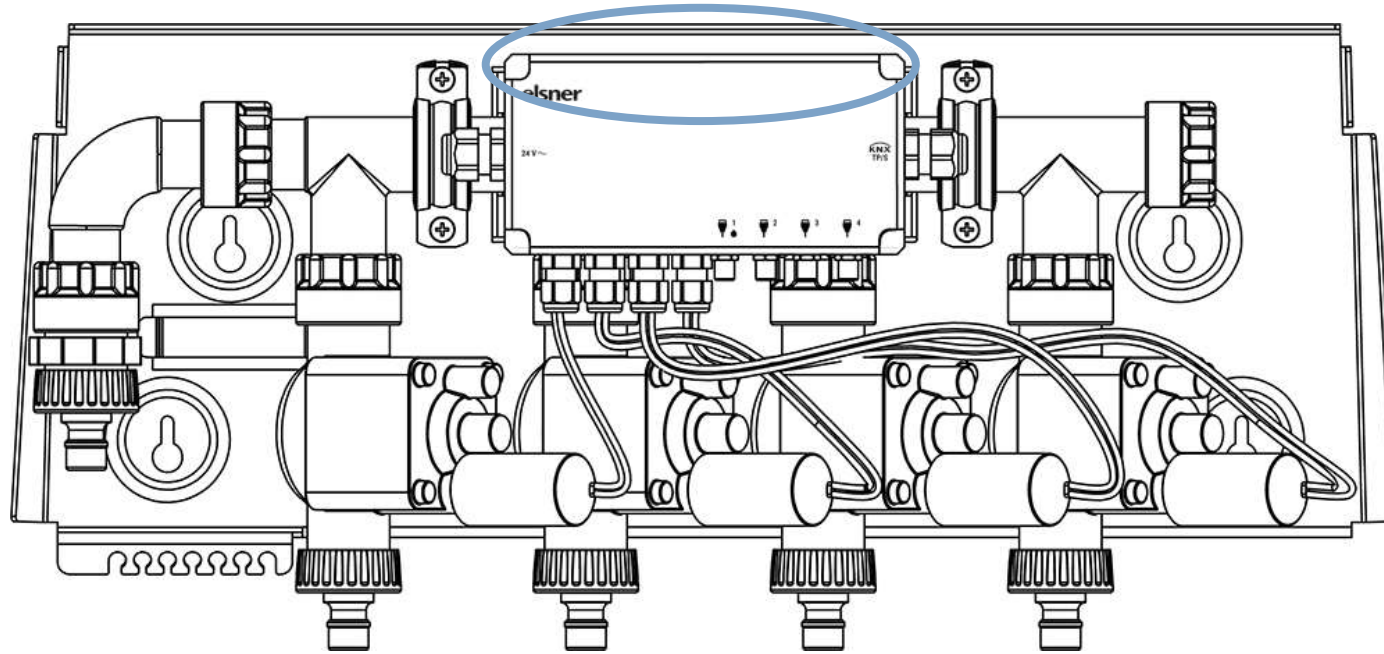
Water connection

| Explanation



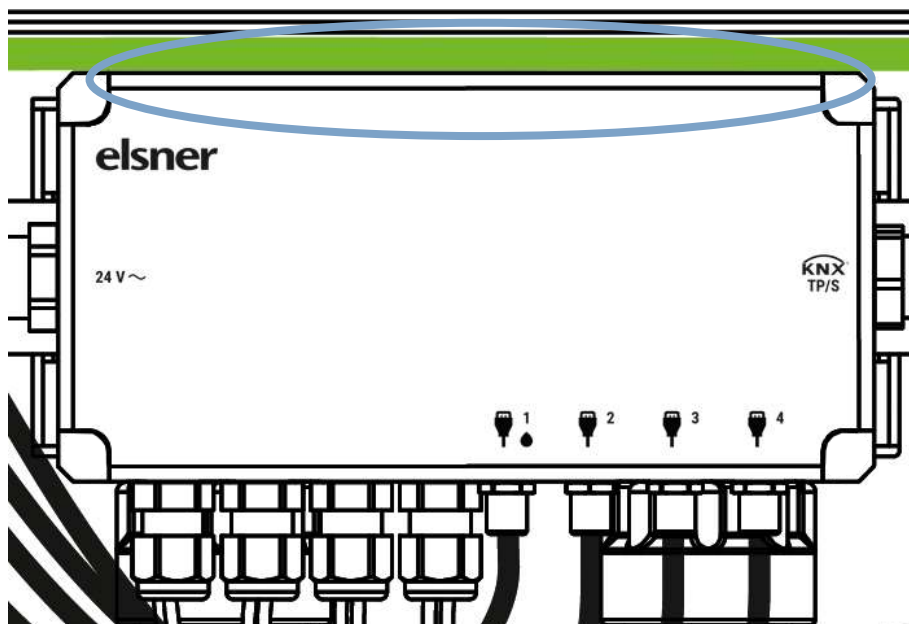
Commissioning

| Explanation



Commissioning

| Status LEDs



First start



Loading



Restore access time
window (60 s)



Access Point Modus

No connection is
established during the
first start

Other starts



Loading



Restore access time
window (60 s)



Access Point Modus

depending on the setting



Station mode

A connection is not
established during the
restore time window

View inside

| Jardana



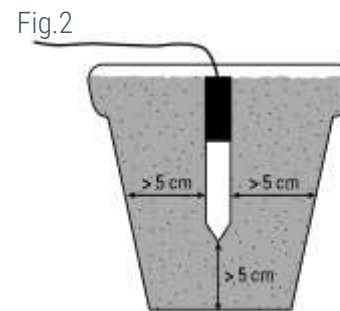
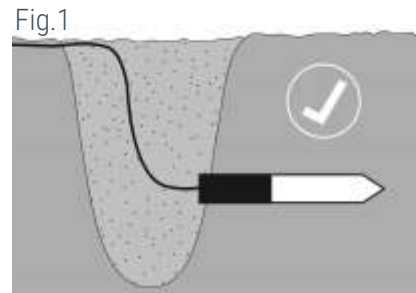
Installation of TMi soil moisture sensors

| Correct placement

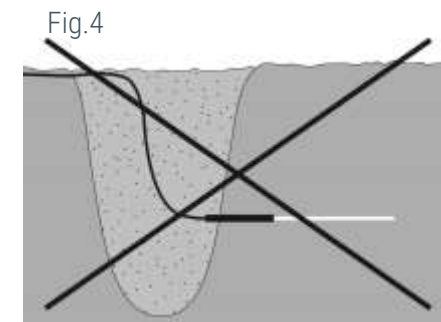
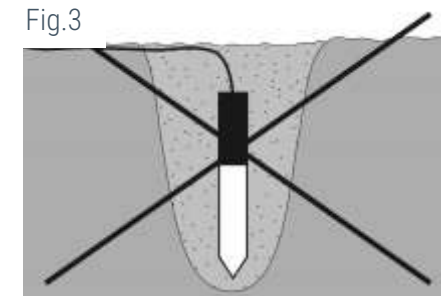


Moisture sensor
(green area with
conductive tracks)

Well placed



Unfavorably placed



| Do you have any questions about
the functions or installation?

A light blue circle graphic is positioned on the right side of the slide, partially overlapping the text.

03 | OPTIMAL IRRIGATION



Areas of application Irrigation

| Examples

- Garden at the house
- Garden plot
- Balcony
- Vegetable garden or greenhouse

Jardana can help everywhere



Irrigation Systems

| Typical types of irrigation in the garden

- Drip irrigation
- Sprinkler systems
- Spray irrigation systems
- Retractable irrigation systems

Jardana can control all types of irrigation.

When watering from a rainwater tank, ensure sufficient water pressure/pumping capacity :

- Minimum pressure for Jardana valves: 1.5 bar
- Lawn sprinklers often require 2 or even 4 bar

Only 1 valve is ever opened for watering.



Optimum irrigation

| Tips



Water requirement

- Varies depending on the species and location.
- In general: Plants in sunny places need more water than shade plants



Optimum irrigation

| Tips



Irrigation time

- Water by 6 a.m. at the latest.
- In the evening, the moisture evaporates through the heated floor and cannot be absorbed.

Tip:

- Covering the soil (e.g. with mulch) reduces evaporation and thus helps to save water



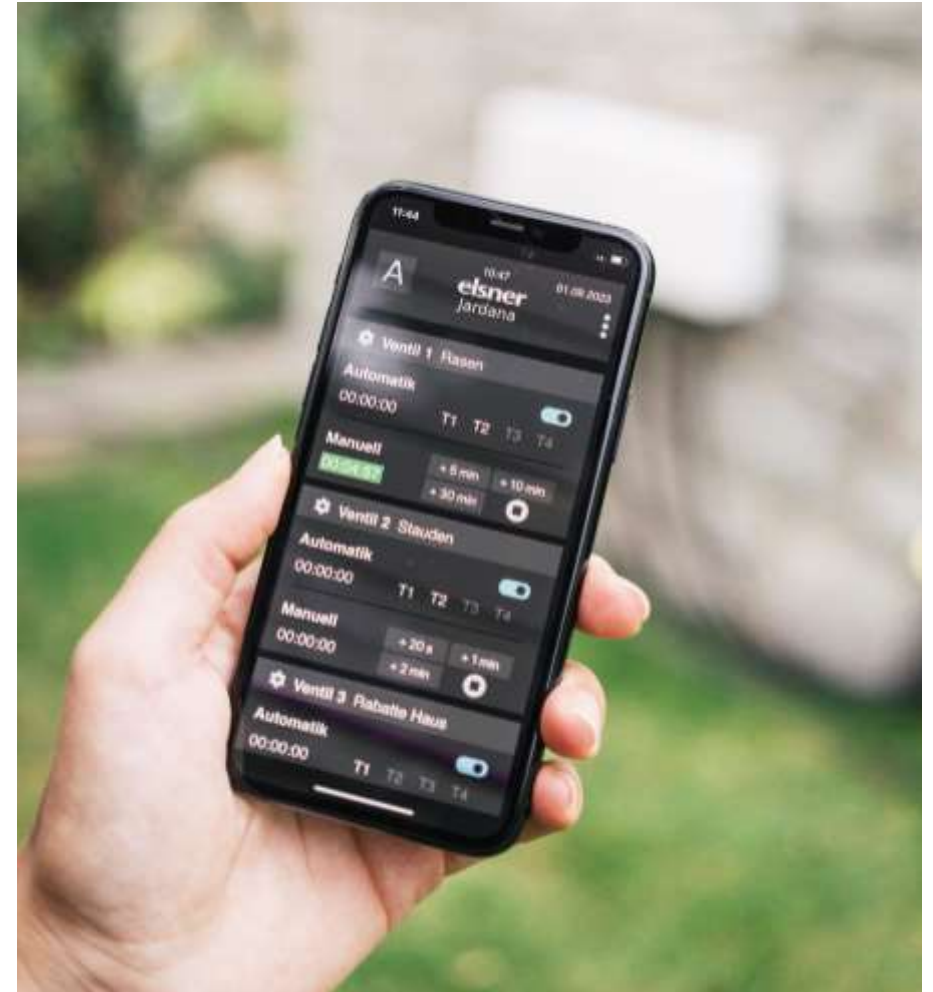
04 | JARDANA MOBILE APP



Jardana Mobile App

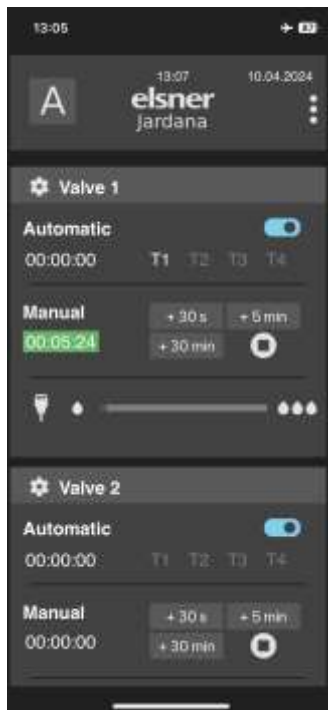
| For Apple iOS and Android

- Four timers can be set per valve
- Manual irrigation with automatic switch-off
- Automatic irrigation according to soil moisture



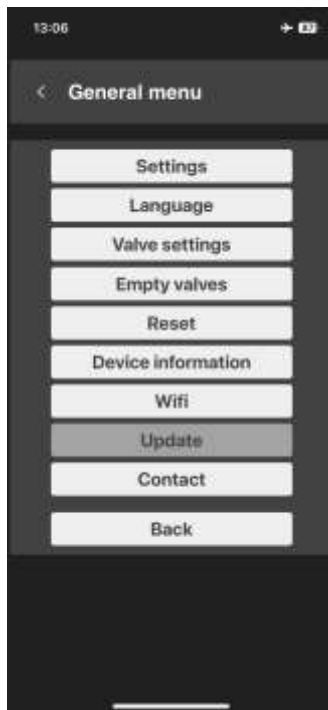
Homepage

| Jardana Mobile App



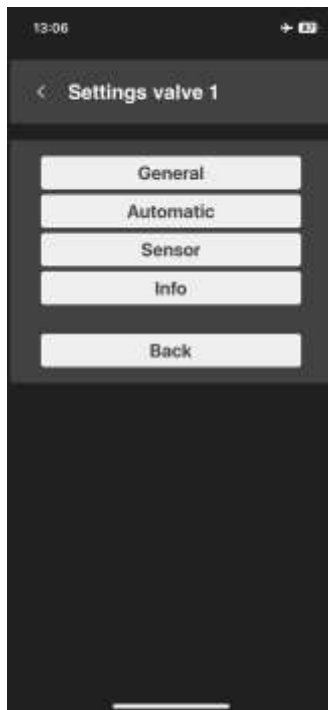
General settings / irrigation variant

| Jardana Mobile App



Adjust valves

| Jardana Mobile App



Valve 1 corresponds to irrigation zone 1

05 | KNX PARAMETER

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KNX application: General settings

ETS

1.1.7 Jardana KNX > General settings > General settings

General settings

General settings

Valves

Valves

Valve 1

Valve 2

Valve 3

Valve 4

Date and time

Object type

Summertime Rule

Bus capacity

Transmission delay of the switching and status outputs after power return

Maximum telegram quota

☒ two separate objects ☐ a common object

Europe

5 s

5 Telegrams per second

KNX application: Valve settings

ETS

1.1.7 Jardana KNX > Valves > Valves > Valve 1

General settings	Watering time
General settings	Watering is carried out for a preset time.
Valves	Maintain the
Valves	times received via communication objects
Valve 1	after power supply restoration
Valve 2	Manual watering: 30 Minutes
Valve 3	Automatic watering: 30 Minutes
Valve 4	
	Ground moisture sensor
	Use ground moisture sensor ☐ No ☒ Yes
	The measurement is in a range between 0% (dry) and 100% (wet). If the value is unknown, 0% is transmitted.
	Send pattern measurement on change and periodically
	Cycle 10 min
	from a change of 5%
	Maintain the
	threshold value received via communication object
	after power supply restoration
	Only start automatic watering, if ground moisture level is below
	40%

KNX application: Valve settings

ETS

1.1.7 Jardana KNX > Valves > Valves > Valve 1

General settings

General settings

Valves

Valves

Valve 1

Valve 2

Valve 3

Valve 4

Watering time

Watering is carried out for a preset time.

Maintain the times received via communication objects

after power supply restoration

Manual watering: 30 Minutes

Automatic watering: 30 Minutes

Ground moisture sensor

Use ground moisture sensor: ☐ No ☒ Yes

The measurement is in a range between 0% (dry) and 100% (wet). If the value is unknown, 0% is transmitted.

Send pattern measurement: on change and periodically

Cycle: 10 min

from a change of: 5%

Maintain the threshold value received via communication object

after power supply restoration

Only start automatic watering if ground moisture level is below: 40%

Set the duration for **manual watering**. Manual watering starts as soon as communication object "Valve X: Start/stop manual watering (0=Stop / 1=start)" receives a 1 and no other watering is being performed. If a 0 is received (or the Stop button in the App is pressed, watering ends, even if the time has not yet lapsed.

Set the duration for manual watering.

The duration of manual watering can be changed via the communication object "Valve X: Maximum manual watering time [min]".

| Do you still have questions
about the KNX parameters??

06 | APPLICATION EXAMPLES



Irrigation according to a time programme

| Application example 01



- Four zones with different irrigation systems/water requirements
- Irrigation at set times, independent of soil moisture
- Manual control via app possible (stop irrigation, extend irrigation)



Irrigation according to time programme with rain detection

| Application example 02



- Four zones with different irrigation systems/water requirements
- Irrigation at set times
- A soil moisture sensor at input 1 detects rain
- Irrigation for all zones is blocked when the soil at the sensor is moist enough
- Manual control via app possible (stop irrigation, extend irrigation)

Irrigation according to time programme & soil moisture in the zones

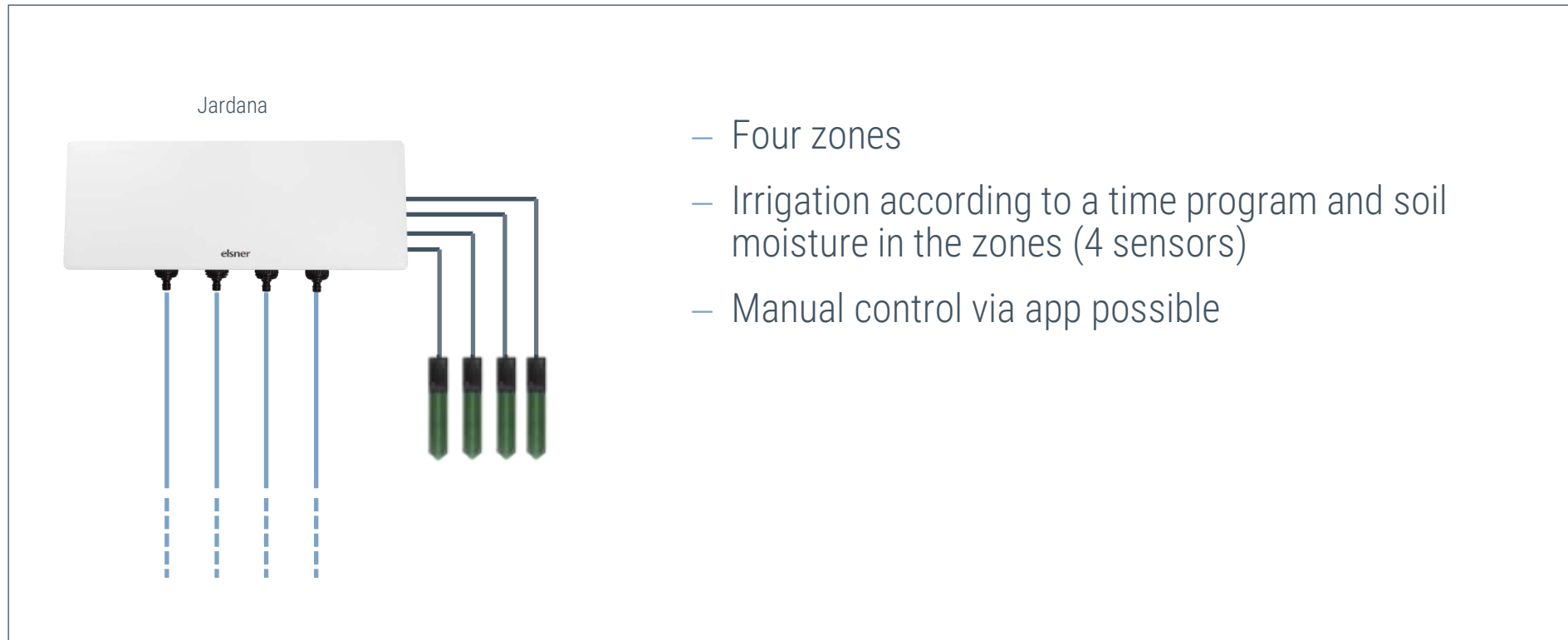
| Application example 03



- Four zones with different irrigation systems/water requirements
- Irrigation at set times
- Four soil moisture sensors measure in the four zones
- If the soil in a zone is moist enough, irrigation is blocked there
- Manual control via app possible (stop irrigation, extend irrigation)

Automated irrigation

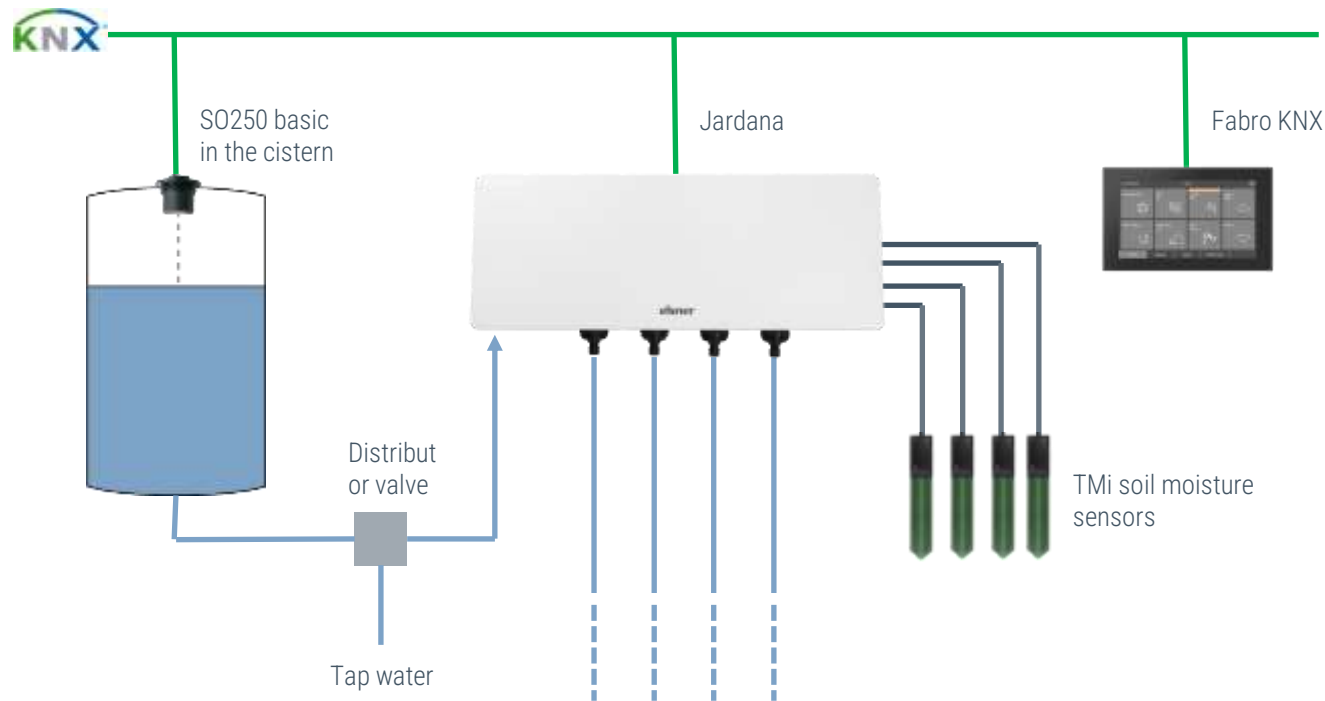
| Simple irrigation control – standalone operation



- Four zones
- Irrigation according to a time program and soil moisture in the zones (4 sensors)
- Manual control via app possible

Irrigation with KNX control

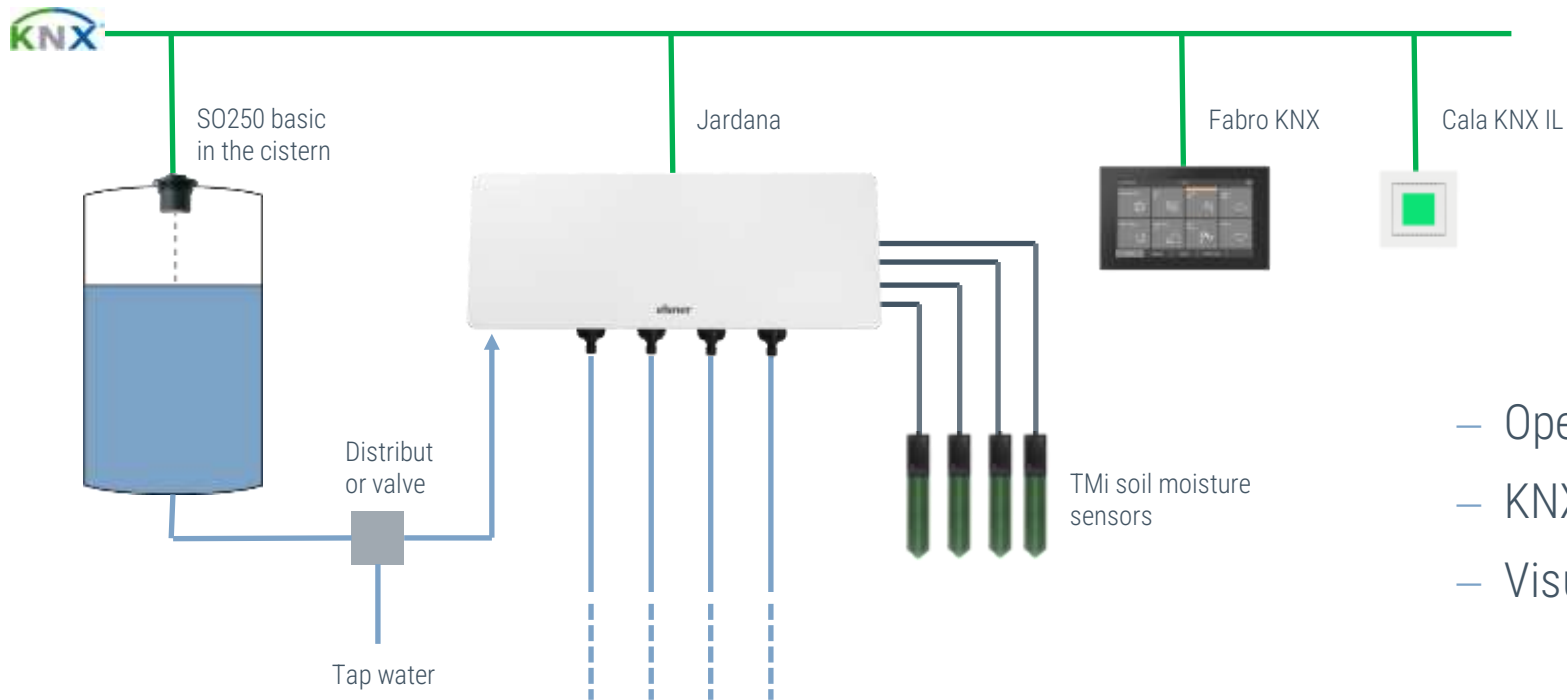
| Simple irrigation control – KNX integration



- Four zones
- Irrigation according to time programme and soil moisture in the zones (4 sensors)
- KNX controls water source
- Manual control via app possible
- Operation also via Fabro KNX display

Irrigation with KNX extension

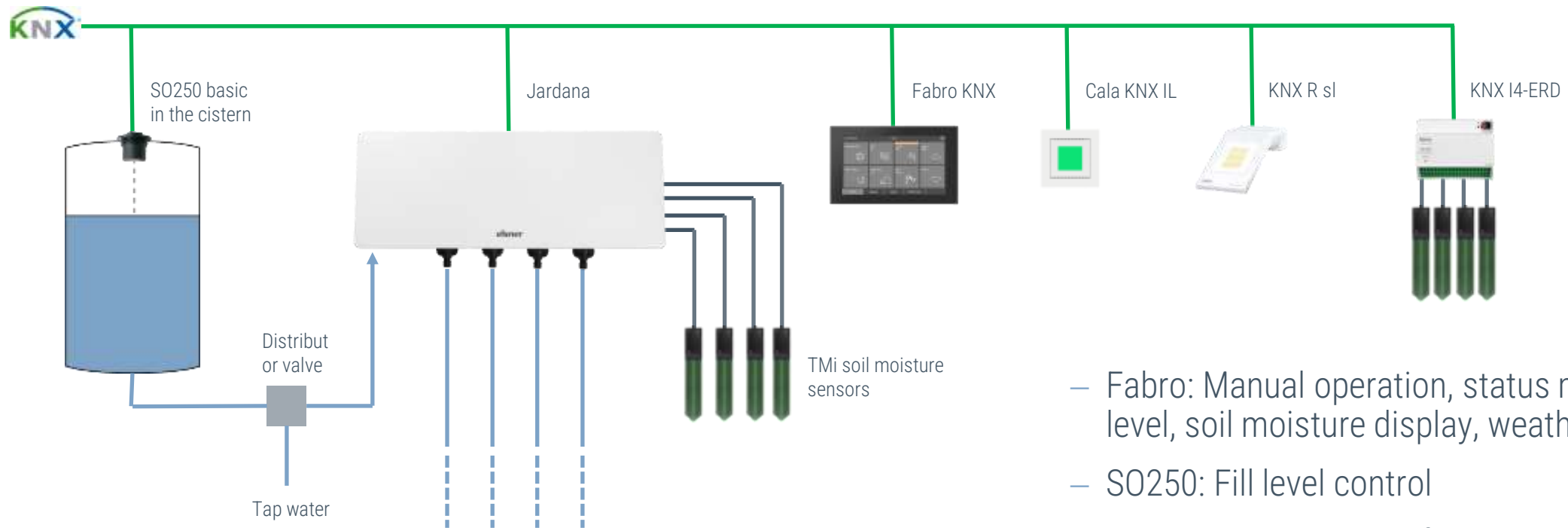
| with tank level status indicator



- Operation via Fabro KNX display
- KNX controls water source
- Visual display of water level in cistern

Irrigation with KNX extension and logic

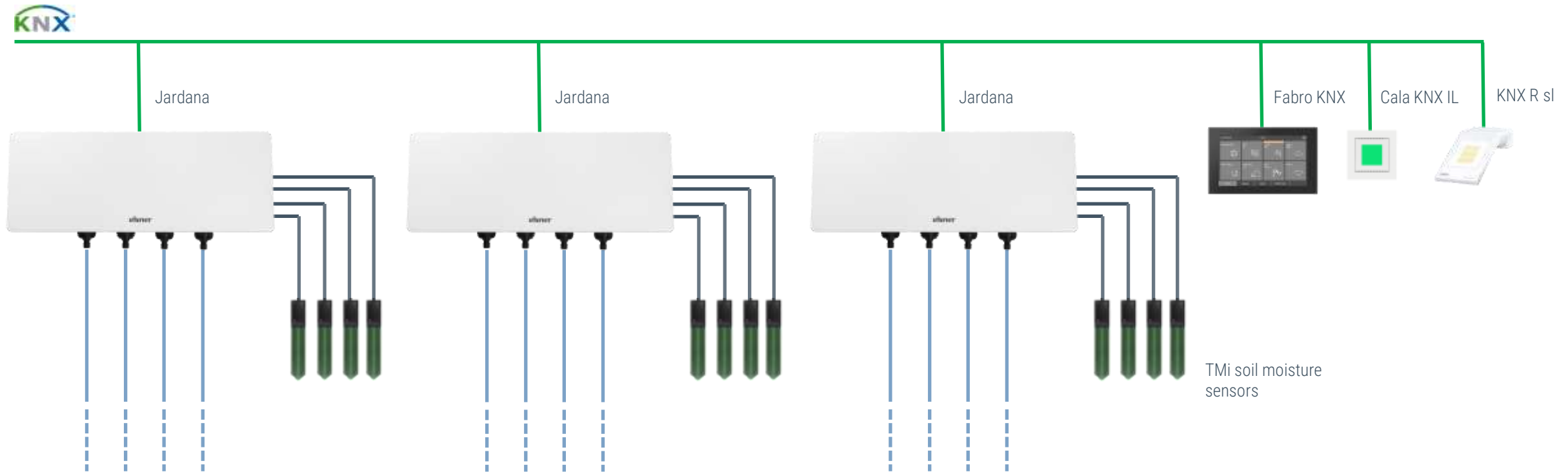
| Irrigation lock with rain sensor KNX R sl



- Fabro: Manual operation, status messages, fill level, soil moisture display, weather data
- SO250: Fill level control
- Cala KNX IL: Separate fill level display (e.g., technical room)
- KNX R sl: Rain sensor with blocking signal

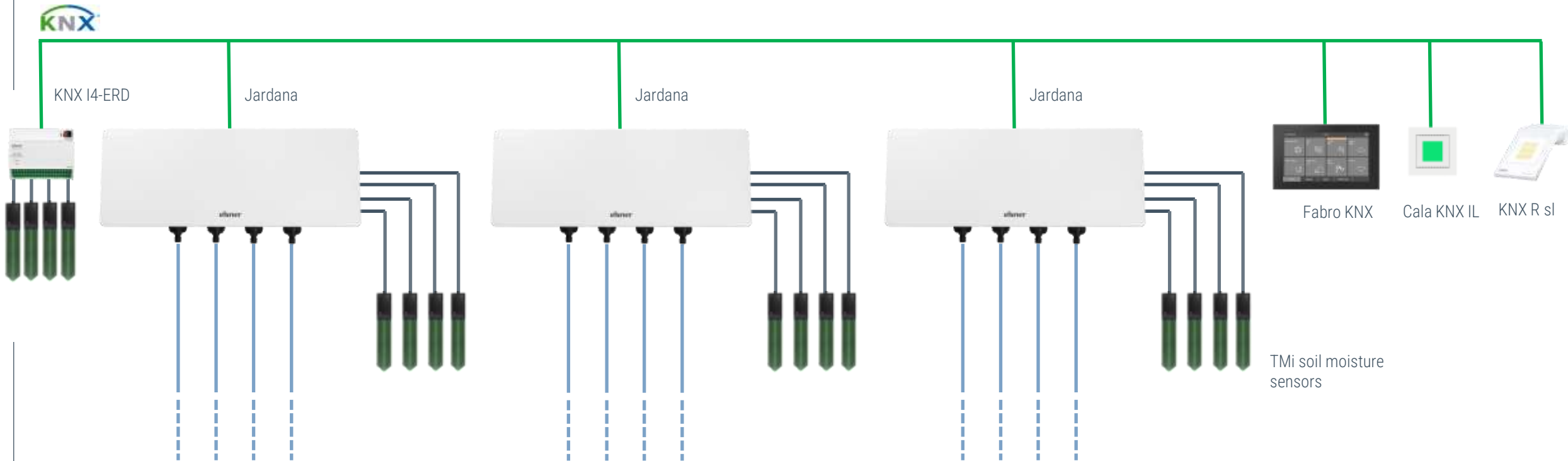
Irrigation control - Scaled

| KNX integration



Irrigation control - Scaled

| Expansion with additional soil moisture sensors





| WISHES, SUGGESTIONS & FEEDBACK

| ONE MORE QUICK QUESTION:



Are you familiar with
our partner program?

NO?



Then this
way, please!

Further webinars and
recordings can be found here



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