

GrowSphere™ FLEX

Technical Product Page



GrowSphere™ FLEX brings professional-grade irrigation and fertigation automation to small and medium-sized farms and landscaping projects.

With intuitive, reliable control through **GrowSphere™ Workspace**, **GrowSphere™ FLEX** manages a mainline and up to 15 valves and sensors with precision. Designed for flexibility, **GrowSphere™ FLEX** can operate independently or integrate smoothly into larger, multi-device systems as your operation expands



/ Advanced Features

- Ideal for both irrigation and landscape applications
- Simple to use, intuitive interface that makes irrigation tasks quick and efficient
- Smart alerts and notifications
- Integrates with the **GrowSphere™** cloud Workspace
- Modular configuration
- Easily manage single units or complex multi-device setups
- Flexible and secure remote access from anywhere

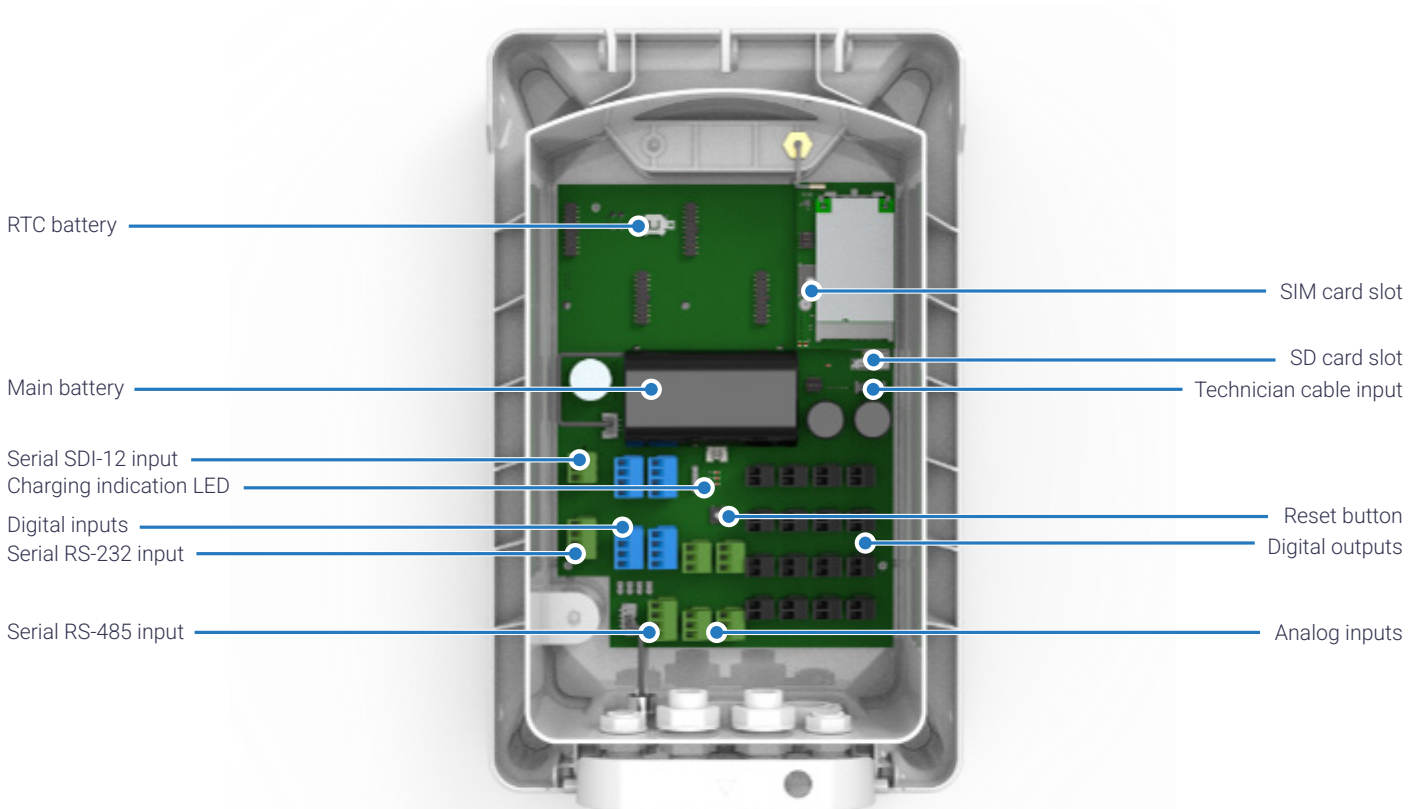
/ Supported Irrigation Devices

Num of MLs	1
Num of valves	16 local DC valves
Irrigation by time/quantity	Both
Dosing channels	4
BLE	√
Connection to Internet	Cellular
Analog input	4
Digital input	8
Serial input	3

/ Programs, Shifts and Recipes

Irrigation Programs	8
Shifts per program	8
Dosing methods	Bulk by quantity or time Spread by time
Dosing recipes	8

/ GrowSphere™ FLEX - Internal Design



/ GrowSphere™ FLEX - Technical Specifications

→ Master - MCU

STM32L496ZGT3:

- Ultra-low-power with FPU Arm Cortex-M4 MCU
- Clock 8 MHz
- 1 Mbyte of Flash memory

→ Bluetooth Low Energy Model

ESP32-C3-WROOM-02-N4

- Single-Core
- Bluetooth 5 (LE) 2.4Ghz
- PCB Antenna

→ Additional Features

- USB Communication (UART) – Type C
- SD Card
- Reed Switch Activation
- Buzzer
- Real Time Clock (RTC)
- 3x Expansions – LVTTTL communication

→ Digital Input

Number of Connectors:

- 4

Number of DIs:

- 8

Pin Configuration:

- Feed – Input – Input – Ground

Voltage Feed Supplier:

- 2.25 to 15 V
- Up to 330 mA

Input Voltage:

- 0 – 3.3 V

High Logic:

- >2.8 V

Low Logic:

- < 0.8 V

Maximum Frequency:

- 100 Hz

→ Weight and Size

Dimensions:

- 25X15X10 (cm)

Weight:

- 1.15 Kg

Package Dimensions:

- L-348 W-228 H-190

Product + package weight

- L-348 W-228 H-190

→ Analog Input

Number of Connectors:

- 4

Pin Configuration:

- Feed – Input – Ground

Voltage Feed Supplier:

- 2.25 to 15 V
- Up to 330 mA

Change Mode Type:

- By Software

Modes:

- Voltage (1/3)
- Voltage (1/4)
- Current

Input Range:

- 0 to 5 V
- 0 to 10 V
- 0 to 20 mA

Bit Resolution:

- 12 bits, Max 16 bits

Accuracy:

- 99%

→ Power Input

Input Battery:

- 3 - 5 V (Charge Up to 1A, Discharge Up to 3A)

Input Solar Panel / Charger:

- 5.5 – 7.8 V (Up to 1A)

Battery Connectors:

- Chargeable
- Disposable

Pin Configuration:

- VBAT – Therm - Ground
- VBAT - Ground

→ Digital Output

Number of Connectors:

- 16

Pin Configuration:

- Positive – Negative

Capacitor:

- 4700 uF
- 10,000 Hours

Charge Time:

- Up to 500 milli-seconds

Maximum Voltage Output:

- Up to 15 V

→ Serial

Number of Connectors:

- 3

Modes:

- SDI12
- RS232
- RS485

Baud Rate:

- 1200
- 9600

Bit Configuration

- 8N1

→ Main Battery Features

Model:

- BP5200A

Nominal capacity:

- 5200mAh

Nominal voltage:

- 3.7V

Nominal charge current:

- 1040mA

Nominal discharge current:

- 1040mA

Maximum charge current:

- 3000mA

Maximum discharge current:

- 3000mA

Maximum charge voltage:

- 4.25V

Final voltage:

- 2.95V

→ Battery Description

Average Current Consumption:

- 69.66mA

Unit Battery Life:

- 1.20 days

→ Battery Parameters

Effective Battery Capacity:

- 2000mAh

Nominal Battery Voltage:

- 3.7v

Quantity of Broadcast Data Per Hour

- 4

Mode*

- 1

Irrigation Per Day

- 24

Technical Assets

