

# GrowSphere™ FLEX

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

💧 Smart alerts and notifications

💧 Simple to use, intuitive interface that makes irrigation tasks quick and efficient

💧 Integrates with the **GrowSphere™** cloud Workspace

💧 Flexible and secure remote access from anywhere

💧 Easily manage single units or complex multi-device setups

💧 Modular configuration

## Supported Irrigation Devices

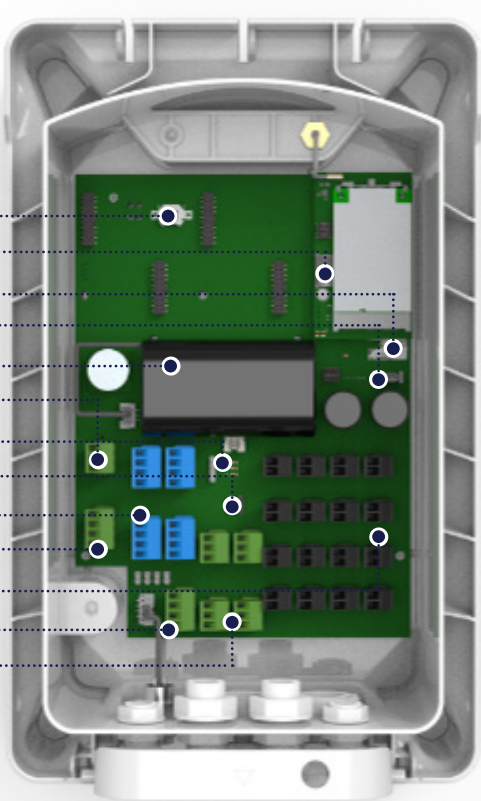
| Object                      |                    |
|-----------------------------|--------------------|
| Num of MLs                  | 1                  |
| Num of valves               | 16 local DC valves |
| Irrigation by time/quantity | Both               |
| Dosing channels             | 4                  |
| BLE                         | ✓                  |
| Connection to internet      | Cellular           |
| Analog input                | 4                  |
| Dosing channels             | 4                  |
| Digital input               | 8                  |
| Serial input                | 3                  |

# Programs, Shifts and Recipes

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

## Internal Design\*

- RTC battery .....
- SIM card slot .....
- SD card slot .....
- Technician cable input .....
- Main battery.....
- Serial SDI-12 input .....
- Charging indication LED .....
- Reset button .....
- Digital inputs .....
- Serial RS-232 input .....
- Digital outputs .....
- Serial RS-485 input .....
- Analog inputs .....



# 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

## Scan QR Code

