Comprehensive Irrigation Control & Management System

BIC 2500

BERMAD BIC 2500 is a comprehensive Cloud enabled irrigation management system that combines various hardware, software and communication components together with analytical tools and advanced user interface into one all-inclusive and powerful centralized crop management system.
The BIC 2500 is designed to provide the farmers with and expandable, modular, efficient and versatile crop management system that makes efficient use of water, energy, chemicals and manpower resources while increasing yields, produce quality, and profitability.

Features and Benefits

- **Monitoring Capabilities –** A tool for understanding the agronomic, environmental, and hydraulic aspects of the farm
- **Powerful Analytical Tools –** Cloud based, visual data mining tool for planning agronomic, mechanic, and management strategies
- **Control –** Automatically executing the farm management strategies
- **Console and Spot –** Cloud based management programs for monitoring, analyzing, and execution of management strategies:
- **Modular hardware –** Versatile and flexible adaptation to the farmer's needs
- **Irrigation control –** Supporting watering of open field, orchards, horticulture and landscape
- **Fertilizer injection control –** Efficient chemicals implementation for increased yields, and profitability
- **Filtration control –** Improves water quality to protect the irrigation system and water conservation
- **Water sources management –** Optimizing use of the farm water sources
- **Operator's interface –** On-site, standalone easy and straightforward control

Typical Applications

- Irrigation control and management of medium and large farms
- Centralized irrigation control of multi-crop and multi-irrigation sections operation
- Monitoring, analytical planning, and irrigation control tools
- Climate and other environmental parameters monitoring and control
- Where sophisticated irrigation methods are required; Irrigation Machines, GPS and Compass control, Pulse irrigation, Auto-agronomy, Tensiometers
- Central control of a large number of control valves grouped together and spread over separated and large geographical areas
- Farms in remote areas that require remote control over cellular communication
- Projects requiring control of multiple and various types of water sources

BERMAD Irrigation

BIC 2500

Controllers

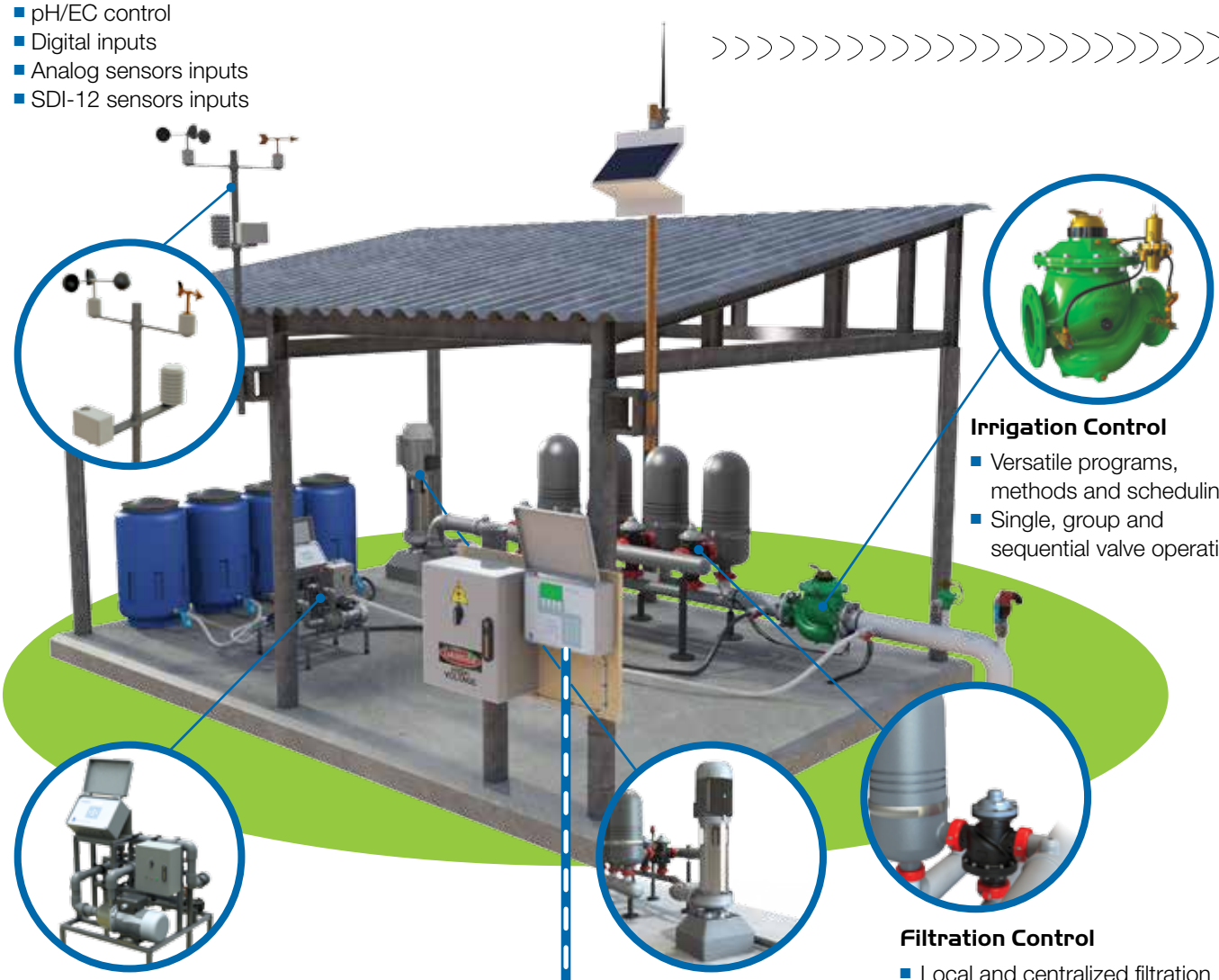
BERMAD's comprehensive Irrigation Control capabilities

Versatile Irrigation Control

- Large number of irrigation programs with pumps, main valves, storage tanks or reservoirs, filters and fertilizers control for single, group or sequence of valves.
- Various Irrigation triggers; by time, volume, volume per area, ET, accumulation of light, environment and hydraulic physical parameters.
- Variety of scheduling methods; week days, cycle of days, single cycle, pulse irrigation, start times, environmental conditions, or manual start.

Modular Hardware

- DC or AC
- 2-Way RTUs -Radio and Two-wire, single cable
- Weather station
- pH/EC control
- Digital inputs
- Analog sensors inputs
- SDI-12 sensors inputs



Irrigation Control

- Versatile programs, methods and scheduling
- Single, group and sequential valve operation

Built-in Fertilizer Injection Control

- Local and centralized injection sites with up to 6 injectors per site
- By volume, by concentration or proportional fertilization with pre-water, injection and post water control
- pH and/or EC control in each site

Water Sources Management

- Reservoirs
- Pump stations
- Single or Multiple wells

Filtration Control

- Local and centralized filtration sites control
- Flushing by time, pressure differential or both, with full parameters control (intervals, flush time, delay times) and filtration faults control

Local and Central Control & Management

- Large local multilingual LCD display and numeric keyboard for full user control, monitoring and manual operations
- Integrated local alarm control reacting to field events and sensors
- Cloud control Console that provides:
  - Real -time system monitoring with geo-maps, live diagrams, water and chemicals accumulators and environmental data
  - Analytical tools for generating reports based on collected field data; events analysis, sensors behavior, system history and data exporting
  - Planning tools for automatic action, enabling the user to adjust irrigation parameters based on ET and accumulation of light, chemical usage reports and more

Built-in Monitoring Capabilities

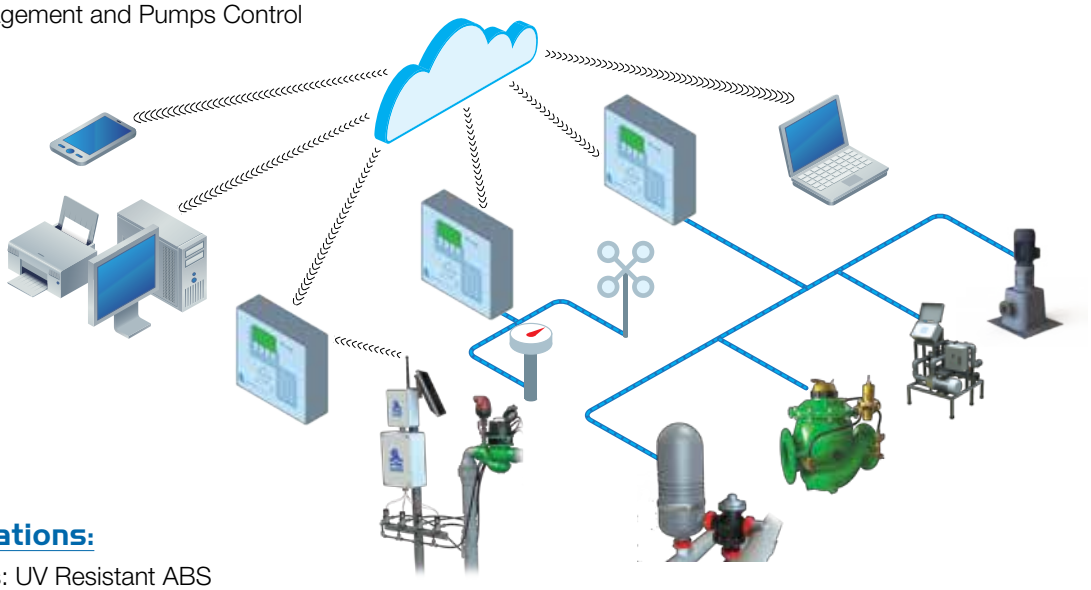
- Monitoring a wide range of environmental parameters
- Logging and storing data at the controller, Cloud, & farmer's database

Easy and Straightforward Operator's Interface

- Multilingual LCD
- Numeric keyboard
- Programming, monitoring, manual operations, alarms and logs, current status

Communication and Connectivity

- Connectivity with the field's control components
  - Local AC or DC digital and analog I/Os
  - Radio RTU - 2-Way radio RTUs
  - Two-Wire - Single cable 10 km/6 miles radius 2-way RTUs
  - RTUs with various digital, analog, and SDI-12 I/Os
- Connectivity with the Cloud
  - USB or GSM modem for most cellular networks, and LAN
  - E-mail notifications
  - SPOT - Mobile devices user-friendly application for real-time remote monitoring and operation of multiple controllers
  - Data collection from a wide range of sensors such as weather station, soil moisture sensors, Tensiometer, Pyrometer, compass, and more
  - Water sources management and Pumps Control



Technical Specifications:

- Construction Materials: UV Resistant ABS
- Temperatures: Ambient: (-17) to 60ºC; (-4) to 140ºF, Storage: (-30) to 70ºC; (-22) to 158ºF
- Protection Rating: IP67; NEMA X4
- Dimensions: Length: 400 mm; 15¾ inch, Height: 300 mm; $11^{13}/_{16}$ inch, Width: 180mm; $7^{3}/_{16}$ inch
- Weight: 6 Kg; 16.2 lbs

Configuration Options

Parameter	Type	Accessories	BIC 2500		
			AC/DC	RF	2-Wires
Form of irrigation	Time		✓	✓	✓
	Volume		✓	✓	✓
	SMART Control	Weather station, Sensor, Flow/Pressure monitoring, ET, Volume/Area	✓	✓	✓
Type of outputs	AC		✓	✓	✓
	DC Latch	Radio		✓	
		Two-Wire			✓
		Controller Direct	✓	✓	✓
Type of inputs	Local	Dry contact	✓	✓	✓
		Analog	✓	✓	✓
	Remote	Dry contact	✓	✓	✓
		Analog	✓	✓	✓
Power source	110VAC / 220VAC		✓	✓	✓
	Solar + Battery		✓	✓	✓
Central Control			✓	✓	✓
Communication	Cellular		✓	✓	✓
	Radio		✓	✓	✓
Number of outputs			16-1000	1-1000	1-1000
Number of digital inputs			8-1000	0-1000	0-1000
Number of analog inputs			0-1000	0-1000	0-1000