

COMPREHENSIVE IRRIGATION CONTROL & MANAGEMENT SYSTEM

BIC 1500

- BERMAD BIC 1500 is a comprehensive Cloud based irrigation management system that combines hardware, software and communication components with analytical tools and an advanced user interface into one all-inclusive and powerful centralized crop management system.
- The BIC 1500 provides farmers with an 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.
- Powering options:
 - 12V DC from a solar panel and a rechargeable battery
 - 220V / 110V AC



Typical Application

- Monitoring, analytical planning, and irrigation control tools
- Monitoring/controlling climate and other environmental parameters
- Providing farms in remote areas remote control over cellular communication

Features and Benefits

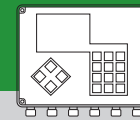
- **Monitoring Capabilities** – Enhances understanding the agronomic, environmental, and hydraulic aspects of the farm
- **Powerful Analytical Tools** – Cloud based, visual data mining tool for planning agronomic, mechanic, and management strategies
- **Control** – Automatically executes farm management strategies
- **Console and Spot** – Monitors, analyzes, and executes management strategies via Cloud based programs
- **Modular hardware** – Enables flexible adaptation to specific user needs
- **Irrigation control** – Supports watering of open field, orchards, horticulture and landscape
- **Fertilizer injection control** – Offers efficient chemicals implementation for increased yields and profitability
- **Filtration control** – Improves water quality to protect the irrigation system and water conservation
- **Water sources management** – Optimizes use of farm water sources

BERMAD BIC 1500 is the next generation of central control irrigation systems. BIC 1500 combines various technologies to suit specific project requirements. Via the Internet enabled controller, the user controls all system functions from a desktop computer or a mobile device.

BERMAD BIC 1500 is the perfect solution for small to medium irrigation projects with a single irrigation head, suitable for both simple and most demanding applications.



All images in this catalog are for illustration only

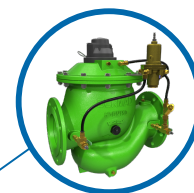
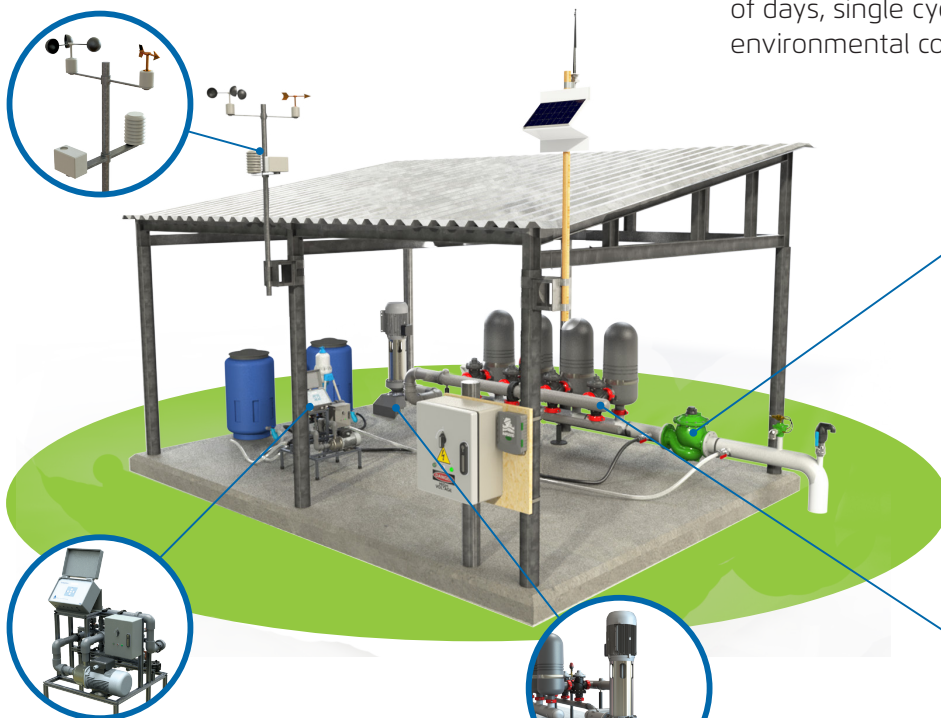


- Irrigation:
 - Up to 16 irrigation programs
 - Water dosage by Time, Volume, Volume per area and ET
 - Irrigation by days of the week or cycle of days
 - Single cycle or pulse irrigation
 - Start: by time, by condition, manually
 - Flexible programming – Valve by valve, group by group, or combination of both
 - Main valve operation delayed, advanced, or together with the irrigation valves
- Fertilization:
 - Up to 4 fertilizers and booster control
 - Fertilization modes: Time (h:m:s), Volume (Liters), Concentration L/m³ and Proportional volume
 - Three stage fertigation: pre-watering, injection, post-watering

- Backflush:
 - Flushing by time, by PD or by both
 - Definable parameters: Flushing interval, Pre-dwell time, Dwell time, Flushing time, PD delay
 - Endless looping detection and prevention
 - Accumulation of flushing cycles by time and by PD
- Alarms:
 - High flow, Low flow, Water leakage, Low pressure
 - Fertilizer leakage, No pulses from fertilizer injector
 - PD sensor failure
 - Low battery, No AC

Versatile Irrigation Control

- 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



Irrigation Control

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



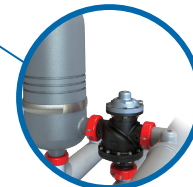
Built-in Fertilizer Injection Control

- 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



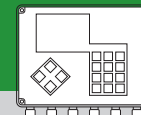
Water Sources Management

- 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



Modular & Flexible Hardware:

- Maximum 32 outputs – Can be divided between local and radio RTU
- Local on-board:
 - Modular 4 / 8 / 12 / 16 Outputs – 12V DC Latch or 24V AC
 - 8 Digital inputs – Water meter, fertilizer meters, DP, water level float and etc.
 - 2 Analog inputs – Pressure sensor, ultrasonic water meter, tensiometer and etc.
- Radio RTU – License free, up to 3 km (30 km with repeaters)
- Ph/EC control – Handles single fertilization injection unit
- Weather station – Supplying data for irrigation by ET, frost protection and rain shutdown
- Analog inputs – Directly from the controller or remotely through radio RTU (SDI-12 / 4-20ma / 0-5v)

Local and Central Control & Management

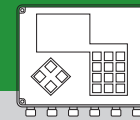
- General:
 - Multi language controller
 - Local programming via Wi-Fi direct from smartphone/tablet (no internet required)
 - Dealer definitions enables customized fit for each controller to user specific application
 - Flexible condition systems enables starting, stopping, waiting and continuing of irrigation programs
 - Detailed event log for all system events
 - Controller configuration and irrigation programs saved on nonvolatile memory
 - Modern power efficient charging mechanism prolongs battery life and lowers consumption
 - Integrated local alarm control that react 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

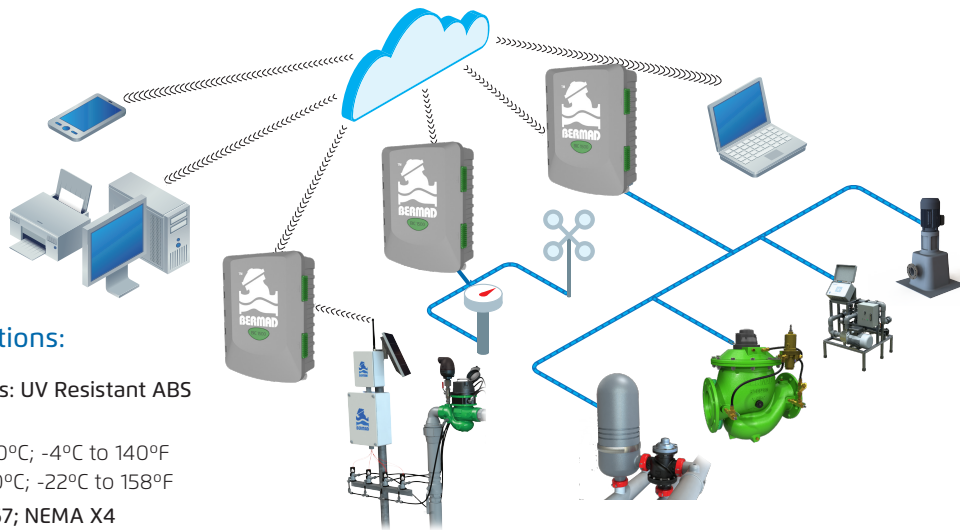
- Monitoring a wide range of environmental parameters
- Logging and storing data in the Cloud and in the farmer's database





Communication and Connectivity

- Communication:
 - New PC software, Java based: DREAM CONSOLE. Simple to use, powerful and modern
 - New smartphone application: DREAM SPOT from any device using any operating system
 - Communication channels: Wi-Fi, 3G modem
 - Push alarm notifications to user phone
 - Remote firmware upgrade (OTA)
- Connectivity with the field control components:
 - Local AC or DC digital and analog I/Os
 - Radio RTU: 2-way radio RTUs
 - RTUs with various digital, analog, and SDI-12 I/Os
- Connectivity with the Cloud:
 - 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



Technical Specifications:

- Construction Materials: UV Resistant ABS
- Temperatures:
 - Ambient: -17°C to 60°C; -4°C to 140°F
 - Storage: -30°C to 70°C; -22°C to 158°F
- Protection Rating: IP67; NEMA X4

Parameter	Type	Accessories	BIC 1500	
			AC/DC	RF
Form of irrigation	Time		✓	✓
	Volume		✓	✓
	SMART Control	Weather station, Sensor, Flow/Pressure monitoring, ET, Volume/Area	✓	✓
Type of outputs	AC		✓	✓
	DC Latch	Radio 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			4-16	0-32
Number of digital inputs			0-8	0-23
Number of analog inputs			0-2	0-16

