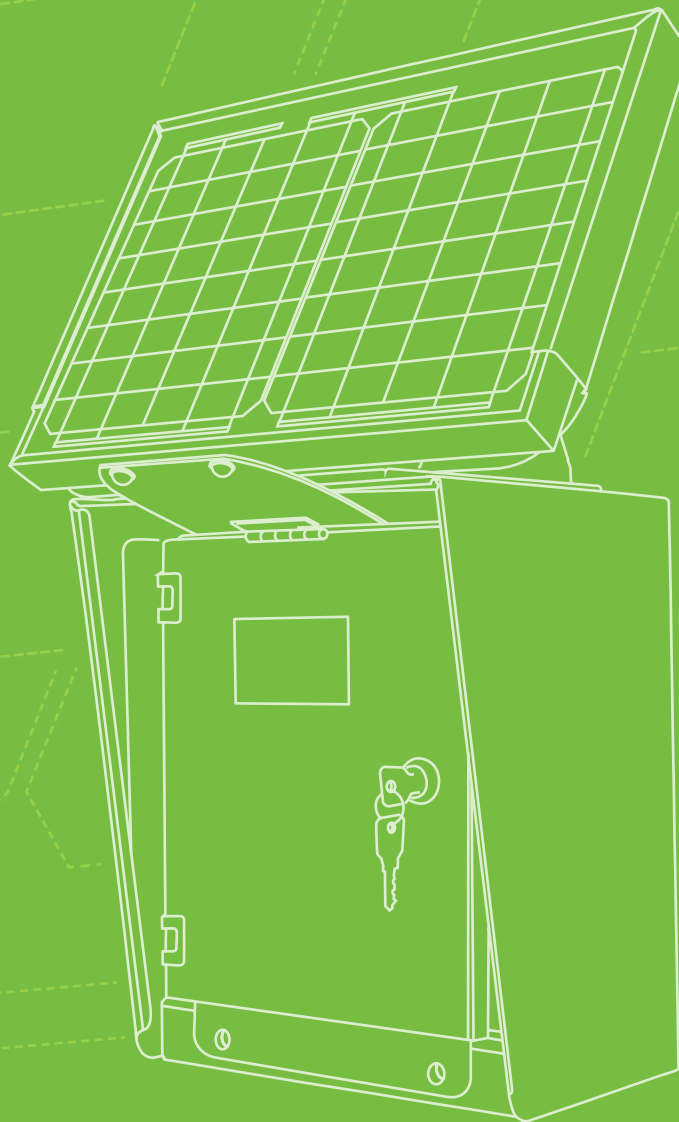AQUAMONIX
Measure. Monitor. Master.

EMFLUXi500
FLOWMETER TRANSMITTER

IRRIGATION AUTOMATION

WATER MEASUREMENT

REMOTE MONITORING

CLOUD BASED DATA

EMFLUXi500 Flowmeter Transmitter

The **i500** Electromagnetic Flowmeter is a high accuracy, bullet-proof water and wastewater measurement device. It complies with the new Australian Standard AS/NZS 4747:2013 – Meters for Non-Urban Water Supply and is fully pattern approved. The meter will meet the demanding requirements for accurate metering of irrigation supplies but is equally at home in other applications including urban water, waste water, mining and environmental monitoring.

More than just metering

The **i500** flowmeter transmitter is more than just a transmitter. It is a remote communication, control and analytics hub. It can be an integral part of your flowmeter data capture, data storage and day to day network operations. The increased capabilities of the **i500** will help you to minimise capital cost when building an irrigation network and can save you time and maintenance costs across the lifetime of the scheme operation.

Applications

- Irrigation off-takes
- Basic control functions e.g. local off-take gates and valves and a variety of communications
- Surface Water or Groundwater Metering
- Gravity or Pumped Systems
- Backwards compatible with the **I300** transmitter to facilitate a seamless upgrade to the **i500**

Features

- Use the well established electromagnetic measurement method
- No moving parts or restriction of flow during measurement
- Enhanced diagnostic and alarm functions, completely configurable
- Removable SD card allowing easy upgrade of transmitter and logging
- Large multi-line backlit LCD display
- User configurable logging interval for flow data and diagnostic tables
- Optional 4-20mA output
- User configurable digital frequency and pulse outputs
- Full serial Modbus multidrop support
- 3x expansion slots allowing additional IO
- Serial support for modems, RTUs and PLCs
- Ability to calibrate and operate flow tubes up to 1500mm in diameter
- Capacitance style keypad with no moving parts
- Cable entry via IP68 rated glands
- Multi-level password protection
- Designed for outdoor environments

Magmate

- State of the art flowmeter commissioning software based on open source protocols
- Provided free of charge
- Compatible with all versions of Windows up to and including Windows 10
- Advanced diagnostics to support commissioning
- PC compatible directory structure with individual files for:
  - Flow data records (CSV format)
  - Diagnostic results records (CSV format)
  - System event records (CSV format)
  - Alarms records (CSV format)
  - Configuration data (binary format)

Diagnostics

The i500 incorporates advanced diagnostics which monitor the integrity of the system, including:

- Coil voltage check
- Coil current check
- Electrode check
- Pipe Not Full detection
- Signal voltage check
- A/D Converter operation and self calibration
- Real Time Clock operation
- Battery voltage
- Battery current
- Solar voltage

Other diagnostic functions included as standard.

Communications Capabilities

- DNP3 ready and tested
- Radio telemetry ready and tested
- 3G/4G ready and tested
- 3G/4G communications can be linked to Aquamonix's CloudBurst secure cloud data platform
- Compatible with Aquamonix GateKeeper and Rubicon™ TCC® systems

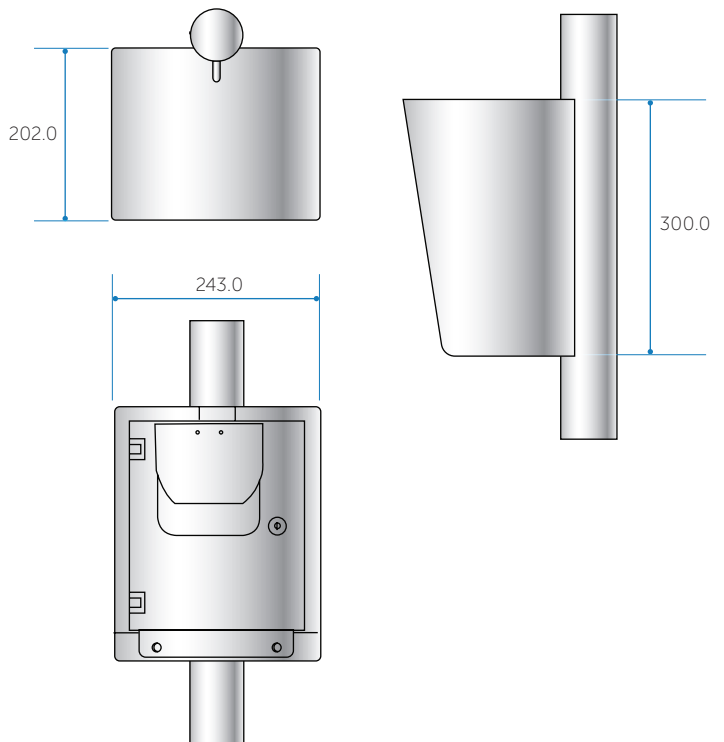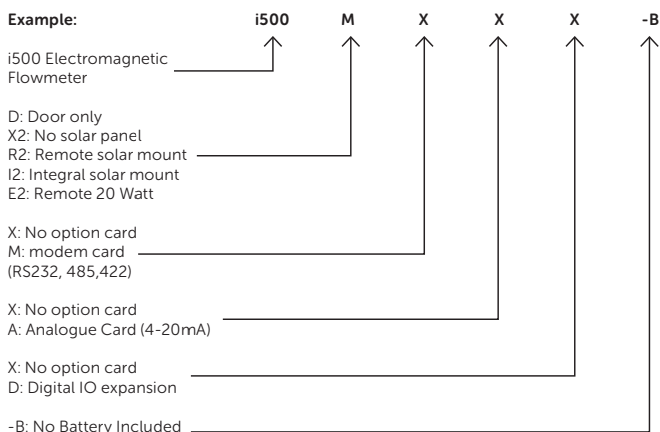| I500	
Performance	
Flow Velocity Range	0.01-10m/sec
Accuracy	< ±0.5% of indicated flow rate, or ±1mm/sec
Full Scale Flow Rate	Programmable range: 0.01-10m/sec
Low Flow Cutoff	Programmable down to 0.01m/sec
Measurement Type	Flow velocity, flow rate, mass flow
Totaliser Units	Litres, kilolitres, megalitres, gigalitres and others
Flow Time Units	Seconds, hours, days
Flow Simulation Mode	Simulated DC current out, simulated flow rate.
Temperature	-20°C to 55°C
Outputs	
Digital Pulse	Yes, 2 standard (up to 4 with optional expansion card) 100mA maximium each
Frequency	Up to 1000Hz
Analogue	Yes (with optional expansion card) Up to 2 outputs, 4 - 20mA, internally or externally powered
Serial RS232	Yes (with optional expansion card)
Serial RS485	Yes (with optional expansion card)
Serial RS422	Yes (with optional expansion card)
Modbus	Yes (with optional expansion card)
Inputs	
Type	1 x digital input for controls (with optional expansion card)
Maximum Current	100mA
Power supply	12 - 24VDC with solar charging.
Data Logging	
Paramaters Logged	Diagnostic, flow, alarm
Logging Interval	Configurable, 1 to 720 minutes
Comms Connection	Mini USB (standard) RS232, RS485, RS422 (with optional expansion card)
File Format	CSV
Capacity	2 Gigabyte
Power Supply	
Power Supply	12V DC with solar charging.
Maximum Cable Length	30m
Enclosure Specifications	
Construction	Grade 304 stainless steel, double skinned
Rating	IP65
Dimensions	H: 300mm W: 240mm D: 200mm
Weight	7.0 kg without battery and solar panel
Display	128 x 64 pixel configurable monochrome graphic with LED backlighting
Data Entry	Four button capacitive touch keypad with additional con-nectivity via USB
Cable Entries	4 x M16 (solar, flow detector signal, flow detector coil), 1 x M8 (serial or antenna)

Typical specifying sequence

Example: i500   M   X   X   X   -B

i500 Electromagnetic Flowmeter

D: Door only
X2: No solar panel
R2: Remote solar mount
I2: Integral solar mount
E2: Remote 20 Watt

X: No option card
M: modem card
(RS232, 485,422)

X: No option card
A: Analogue Card (4-20mA)

X: No option card
D: Digital IO expansion

-B: No Battery Included

202.0

243.0

300.0

Part number table for i500 flowmeter

i500 – X2XXX – B	i500 with no solar panel, no battery and no option cards
i500 – R2MXX	i500 with remote solar panel, 9Ah battery and modem option card.
i500 – I2MAX	i500 with integral solar panel, 9 Ah battery, modem and 4 – 20 mA option cards

Part numbers for optional expansion cards:

Modem card:	Aquamonix part number G625056-PUR
Analogue card:	Aquamonix part number G625054-PUR
Digital I/O card:	Aquamonix part number G625057-PUR

About Aquamonix

Aquamonix provides innovative products and services to assist businesses and communities in monitoring critical water resources, managing environmental compliance and mastering remote infrastructure. We are a major supplier of flowmeters, water quality sensors, remote telemetry systems and control solutions for the Australian irrigation market. We are the only Australian manufacturer of full bore flowmeters and have an installed base of more than 40,000 sites and over 40 years of experience in the industry.

AUSTRALIAN MADE
Licence ID: 15075

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