

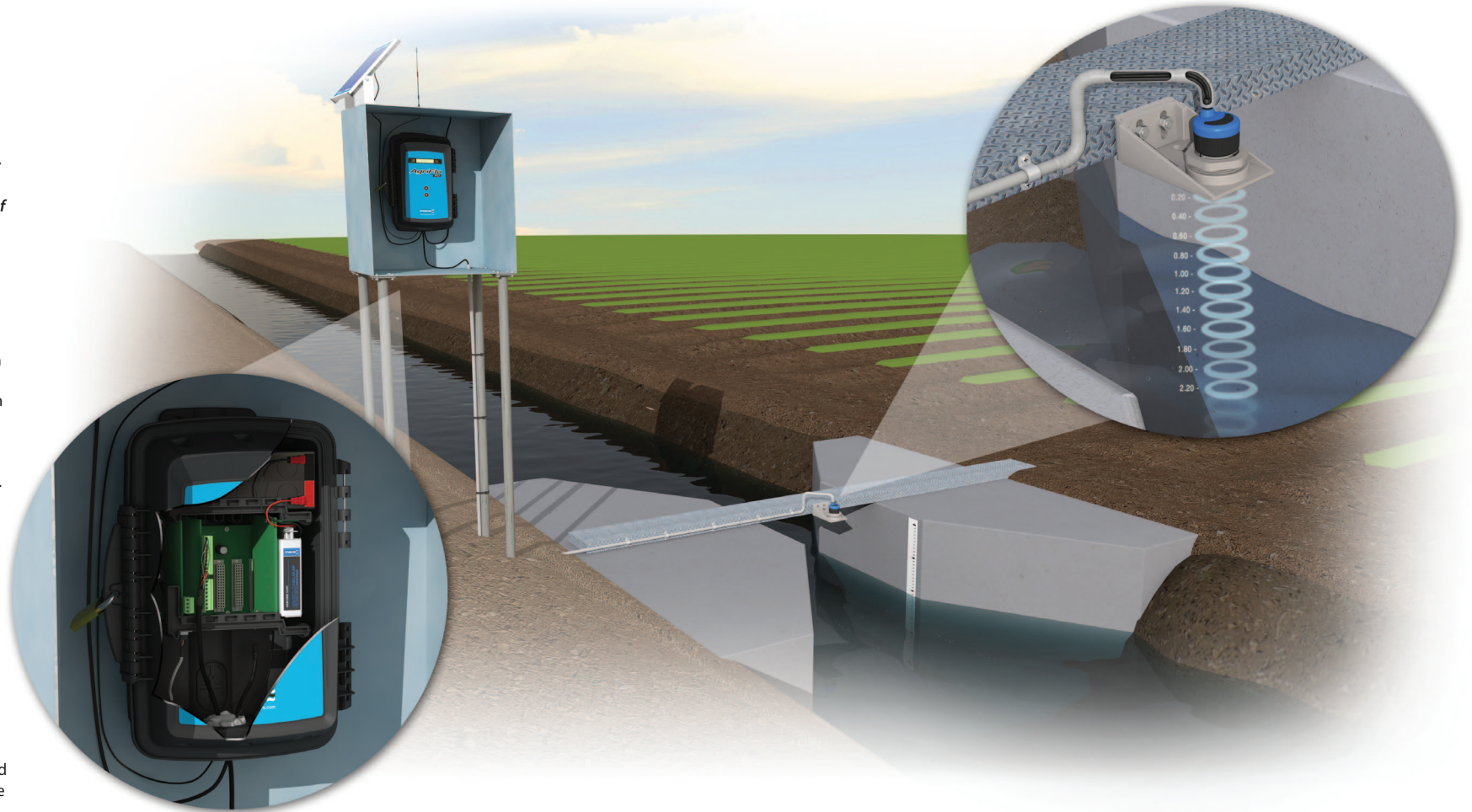
Irrigation flume and weir monitoring

Many open channels in irrigation schemes have been historically monitored using a flume or weir structure that has been "rated" using empirical data. Typically this rating is based on the depth of the water running over/through the structure.

In recent times, the use of flumes and weirs has been negated somewhat by the advent of cheaper area/velocity methods, such as the MACE Doppler ultrasonic. However, thousands of rated structures are still used worldwide in diverse applications such as rectangular weirs on irrigation distribution channels or smaller flumes at farm turnouts. The AgriFlo XCi includes built-in weir/flume equations and a look-up table that enables the user to interface downward looking ultrasonic or submerged depth sensors, and convert the depth readings to flow rate readings. The AgriFlo includes equations for all major flume/weir types including:

- Parshall flumes
- V-notch weirs (30°, 45°, 60°, 90°)
- Cipoletti weir
- Replogle flume
- Rectangular weir (contracted/suppressed)
- 35-point user defined "Look-up" table

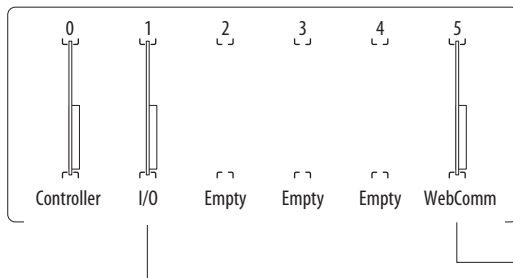
In the example shown, the AgriFlo XCi is measuring the depth of flow through a Parshall flume with a MACE EchoFlo ultrasonic depth sensor, converting this to a flow rate and totalising the result. With a MACE WebComm card installed, these readings are available 24/7 on the MACE website, as well as having the ability to be alarmed via SMS/email to any mobile phone.



AGRIFLO XCI



CARD SLOT CONFIGURATION



SENSORS/PERIPHERALS



GSM Antenna



MACE EchoFlo Ultrasonic Depth Sensor