CLOUDMASTER
IRRIGATION CONTROL SYSTEM

Jeffery Electronics

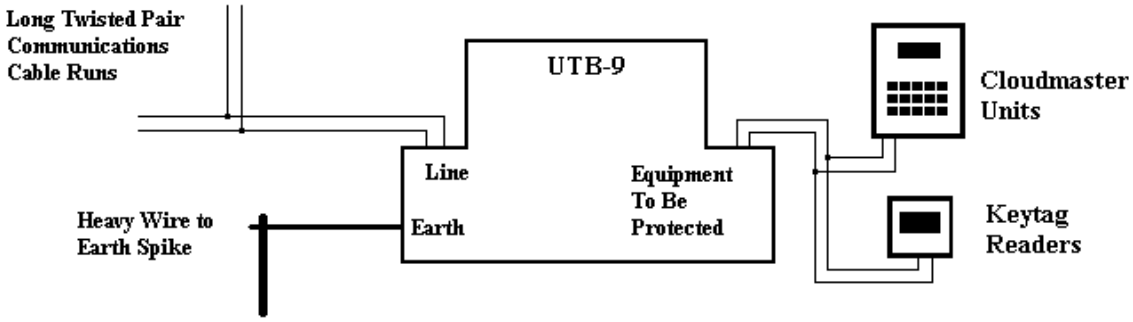
Lightning Protection

The nature of an irrigation/lighting system such as Cloudmaster, with long solenoid and comms cables radiating out from a box of electronics, makes it very susceptible to damage by lightning. Lightning can induce voltage spikes of many thousands of volts on the long cable runs. These can damage or totally destroy the controller.

To combat this problem there are a number of strategies available, with various levels of effectiveness and cost. The Cloudmaster unit has a basic level of protection on all connections built in to the unit. This protection is sufficient for the solenoid valve wiring in most installations and also the comms wires for short comms cable runs; for example, a slave unit or keytag reader mounted within a few metres of the master unit.

However, experience has shown that the built-in protection cannot adequately protect the delicate communications circuitry when long comms wires are used. An example would be master and slave units connected by a twisted pair comms cable running across a playing field or golf course. In this situation extra protection is required.

The UTB-9 or UTB-15 (Universal Transient Barrier) acts as a barrier to these voltage spikes by clipping them to 9 or 15 volts respectively. They are installed in series with the comms cable between the long cable run and the equipment, in this case Cloudmaster units and/or keytag readers. The side of the UTB is clearly marked ‘Line’ and ‘Equipment to be Protected’. A very heavy grounding cable (min 4mm, recommended 6mm) is taken from the unit to a deep ground spike which should have maximum 3 ohms to earth.



Mains supply spike protection can also be useful although not usually as crucial as protection on long comms cables. A power point with built-in protection is better than nothing, but an externally wired device, such as the DSF-6A-275V, has much higher surge current capability. This device also requires a heavy ground cable to a good ground spike.

These devices are available from Jeffery Electronics. More information is available from the manufacturer’s website: http://www.erico.com.au

Inquiries or comments, please contact Brett Jeffery
Ph. (02) 91442666 Mob. 0415 222160 Email. brett@jec.com.au Web. www.jec.com.au