

Concrete Batching System Description for Electrical Contractors

Power Supply:

The computer system is powered by a standard 10a GPO which powers an active filter and True on-line UPS. This powers the computer, printers and remote display. Raw generator power is used to switch all other remote loads.

Remote Loads:

All coils and solenoids should be 240VAC or 24VDC non Latching. Solid state relays from our system are capable of supplying 2 amps into each load, so therefore any loads larger than this require an externally mounted contactor. All 240V outputs are available on a multi-pin plug on the outside of our enclosure, one of these pins should be control voltage into our enclosure and control neutral. Please avoid high impedance loads (small relays, electronic horn, etc) as solid state relays leak some current which can hold these items on.

Liquid Control:

We supply the water control meter and paddle wheel transducer, however others are responsible for the contactor for the water pump and the 3 phase wiring to the pump. Any additional additive meters are supplied by the additive supplier, with the interface to connect to our system. The Electrical contractor is responsible for bringing all external cabling to our enclosure terminal strip.

Remote Wiring:

All remote wiring from our enclosure needs to be done by the electrical contractor. This includes, load cell cabling (into separate glands on our enclosure), power and RS-232 to the remote display, pulse cabling to Water paddle wheel transducer that we supply, pulse cabling to additive pumps (if required), red and green lights (if required), horn etc.

The drawing attached, shows our PC terminals and power plug pins. Each terminal has 3 cables coming to it, one from the PC solid state relays, one from the door manual switches and one from the Multi-Pin plug.

The only other point, is that no contactors should be latching. The solid state output relays will be held on by the computer and when the relay is released, any latching contactor would complicate things.

If there is any further information you require, please call.

Manu Interface Description

The Manu meter's used in the Concrete Industry generally do not come with an external command plug.

If your Company owns the Manu meters then sending these meters (one at a time) to Manu, for a small fee Manu Electronics will fit an external command plug which will allow Compu-Weigh to interface to your meters.

There are important differences between how Compu-Weigh uses Manu meters, and other suppliers of computerized concrete batching packages.

- 1.** The pulser is directly connected to the Compu-Weigh as well as the Manu meter.
- 2.** Some manufacturer's of batching systems cannot read the pulses as fast as the Manu meter can. Accordingly they install pulse dividing boards and only read every 10th pulse. This reduces accuracy. Compu-Weigh can read pulses from as slow as 1 per hour to 4 million pulses per second.
- 3.** Compu-Weigh utilizes the existing Manu meter as a "double check". This means that if you leave the Manu meter set on the dose rate that the computer is dosing to, then you will be able to read the Manu meter and compare with the Compu-Weigh computer to see if they agree. The Manu can also be set as a maximum limit, stopping the flow if the wrong dose rate is entered in the computer
- 4.** At any time the Manu meters are available for manual operation when installed with a Compu-Weigh system. This can happen with the water Manu where the truck driver may come in for a 1000 litres of washout. (as long as there is not a batch in progress). This is also useful when an additive has to be dosed minutes after the batch is complete on the computer.
- 5.** Once the Compu-Weigh computer has delivered an additive or water, the computer holds the Manu meter in the stop position, preventing manual double dosing. To use the meter manually after such an event, a special keystroke will release the Manu meters for manual operation.
- 6.** Calibration of additives is usually only controlled by regulating the flow control valve on the additive pumps to control overshoot. With water however, the Manu meter has a pulses per litre setting. Compu-Weigh improves on this by allowing calibration of water more accurately than the Manu meter allows which may mean that on 500 litres of water, there will be a discrepancy between the Manu and the computer of perhaps a couple of litres.
- 7.** Compu-Weigh allows both normal and chilled water to be run through the same pipe work and use the same Manu meter. A flick of a switch on the panel changes from one to the other. This may be used to a start different Pump.
- 8.** Overdosing of additives usually occurs due to computer software or hardware problems. The Compu-Weigh has a separate board that controls the additives and once set will stop the additives at the right count even if you have quit the batching program and started something else like a word processor.