

## Series 1500 - Flow Monitor

## Pump Station - Leak Control

# Application Brief

### SYSTEM

Most automatic irrigation systems on golf courses, parks and sports complexes have pumping systems that are automatically controlled by pressure switches or irrigation controllers.

### PROBLEM

If an irrigation main should break during an irrigation cycle tremendous damage can be done to the grounds or playing surfaces before the leak is detected. A completely broken 4" PVC pipe will discharge 100,000 gallons per hour with as little as 10psi of pressure.

### SOLUTION

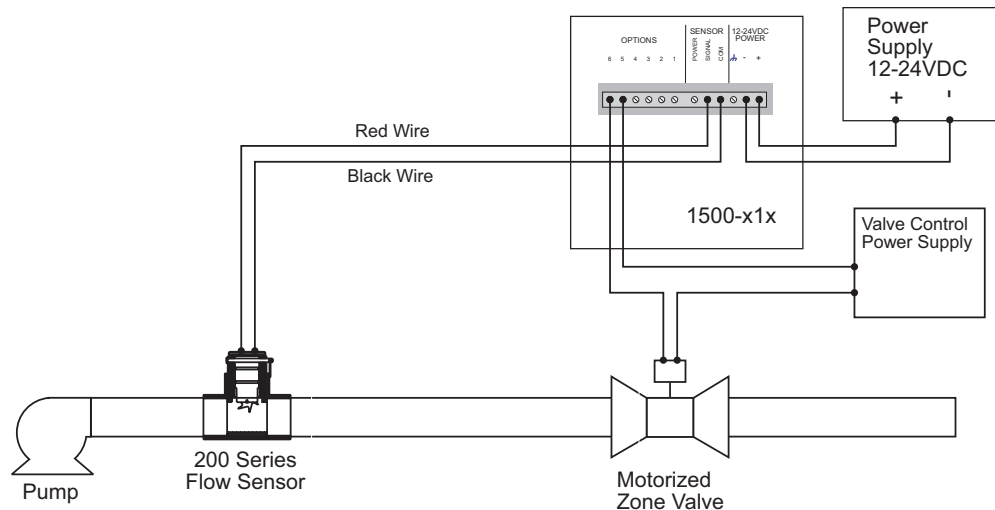
Install a Badger Meter's Series 200 flow sensor and Model 1500-010 digital flow monitor with programmable relays. The 1500-010 can be used to operate a butterfly or master valve and shut down a section of the system if the flow exceeds a preset limit for a predetermined time indicating a break.

### RECOMMENDATIONS

For smaller pipe sizes use a Series 250B or Series 220P flow sensor and for larger pipe sizes the Series 220B flow sensor can be mounted on any type or class of irrigation pipe by using a service saddle with a 2" NPT outlet. Because the sensor circuitry is encapsulated, it can be mounted on the pipe in the ground with access by means of a valve box.

The model 1500-010 can be mounted up to 2,000 feet away from the sensor. A typical location may be at the valve location or power source. The normally open contacts of the set point relay should be wired to a motor-operated butterfly valve. The operator would program a relay to close at a flow rate somewhat larger than the biggest sprinkler zone. This can be determined by counting the number of sprinklers when each zone is running.

The programming is accomplished via the menu driven software of the model 1500-010. The relay can be programmed to energize above the flow rate of the biggest sprinkler zone. In addition to programming the set-point approximately 10% larger than the largest zone, a time delay from 10-120 seconds may be entered. This time delay will allow for normal flow surges that result when a zone is activated. Once the specified flow rate is exceeded the timer starts. If the set point is still exceeded when the time delay passes, the relay is latches closed. This will close the butterfly valve. The latch will hold the valve closed and light an alarm until the system can be checked.



**DAB-010-01**

(previously known as AN12)

5-06



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