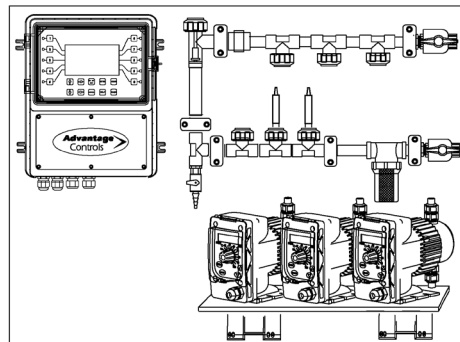
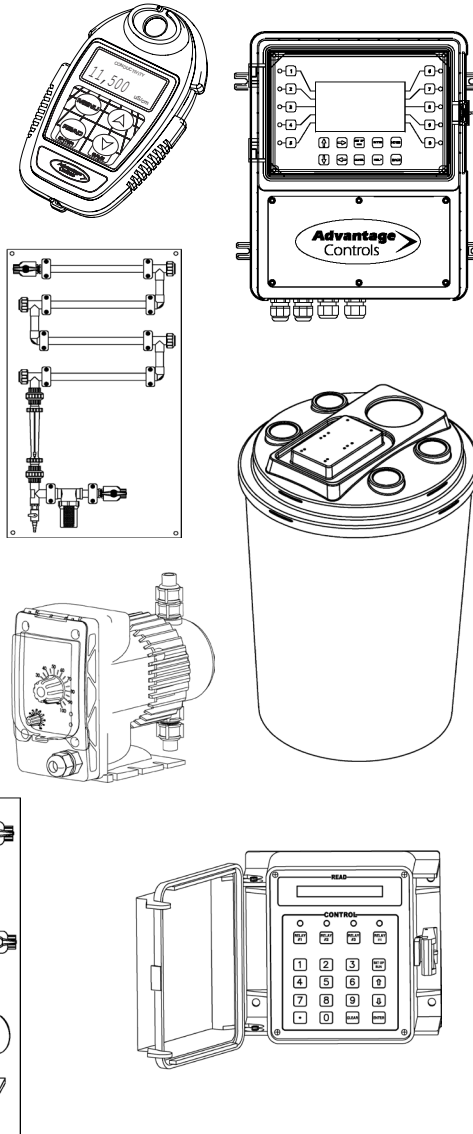


Get the Advantage in Water Treatment Equipment

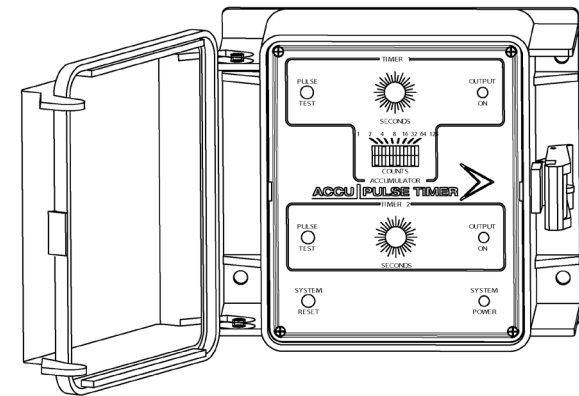
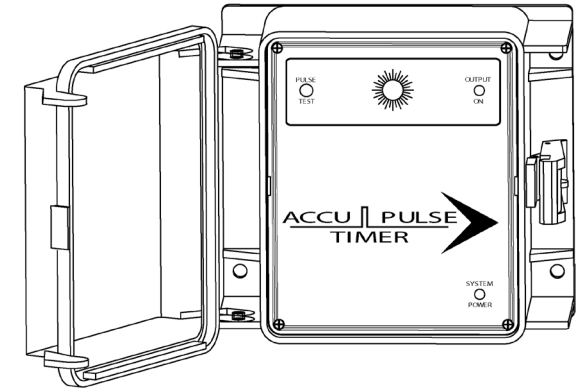
Advantage Controls can give you the *Advantage* in products, knowledge and support on all of your water treatment equipment needs.

- Cooling Tower Controllers
- Boiler Blow Down Controllers
- Blow Down Valve Packages
- Solenoid Valves
- Water Meters
- Chemical Metering Pumps
- Corrosion Coupon Racks
- Chemical Solution Tanks



Series DWT Water Meter Actuated Timers

*Installation
Maintenance
Repair
Manual*



Advantage Controls
P.O. Box 1472
Muskogee, OK 74402
Phone: 800-743-7431
Fax: 888-686-6212
www.advantagecontrols.com

**Models DWT-1, DWT-1F, DWT-1J,
DWT-2,DWT-2F, DWT-2G,DWT-2H,
DWT-2J, DWT-2FH
Water Meter Actuated Reset Timer
Instruction & Maintenance Manual
Table of Contents**

Contents	Page No.
I. Introduction	3
A. Description	3
II. Installation	
Mounting Instructions.....	3
Typical Installation Drawing	4
III. Front Panel	
Front Panel Drawing	5
Front Panel Description	5
IV. Operation	6
V. Troubleshooting	6
VI. Advantage’s Product Warranty	7

VI. Advantage’s Product Warranty

Advantage Controls, Inc. warrants control systems of its manufacture to be free of defects in material or workmanship. Liability under this policy extends for 24 months from date of installation. Liability is limited to repair or replacement of any failed equipment or part proven defective in material or workmanship upon manufacturer’s examination. Removal and installation costs are not included under this warranty. Manufacturer’s liability shall never exceed the selling price of equipment or part in question.

Advantage disclaims all liability for damage its products caused by improper installation, maintenance, use or attempts to operate products beyond their intended functionality, intentionally or otherwise, or any unauthorized repair. Advantage is not responsible for damages, injuries or expense incurred through the use of its products.

The above warranty is in lieu of other warranties, either expressed or implied. No agent of ours is authorized to provide any warranty other than the above.

30 Day Billing Memo Policy

Advantage Controls, Inc. maintains a unique factory exchange program to ensure uninterrupted service with minimum downtime. If your controller malfunctions, call 1-800-743-7431, provide our technician with Model and Serial Number information. If he is unable to diagnose and solve your problem over the phone, a fully warranted replacement panel will be shipped, usually within 48 hours, on a 30 Day Billing Memo.

This service requires a purchase order and the replacement panel is billed to your regular account for payment.

The replacement panel will be billed at current list price for that model less any applicable resale discount. Upon return of your old panel, credit will be issued to your account at either 100% if your unit is in warranty or at 50% if your unit was out of warranty. The exchange covers only the panel. Electrode and enclosure are not included.

IV. Operation

Connect the water meter to the controller using the 10-foot cord provided. Plug the power cord into a 115 VAC receptacle and plug the electrical device(s) to be controlled into the 11" female output plug at the bottom of the controller.

Rotate the timer dial until the point is lined up with the desired mark on the scale. This is the amount of time that power will be supplied to the receptacles each time a pulse is received from the water meter. The OUTPUT ON LED will light when the timer is activated. After the length of time set on the timer has elapsed, the OUTPUT ON LED will go off and the device being controlled by that relay will be de-energized.

Option F and G includes an accumulator which will count between 2 and 255 pulses before starting the timer. Option F provides a single accumulator for both timers and Option G provides an accumulator for each timer. The counter settings are made using various combinations of switches to achieve the desired count. Placing a switch in the "ON" position means the accumulator will wait for the number of pulses indicated before starting the timer. Multiple switches can be used to achieve the desired number of counts.

Example: For 25 counts, place the 1,8 and 16 switches in the "ON" position. (1 + 8 + 16 = 25) Placing all switches in the "ON" position yields a counter (accumulator) setting of 255.

NOTE: Do not use #1 switch alone, only in combination with other switches. Normal operation for Model DWT-2 timers is simultaneous. When Option H is included in the unit, timers are set for sequential operation.

V. Troubleshooting

The Advantage Model DWT timer controllers are designed for many years of trouble free operation. Should a problem occur, refer to the following chart to help identify the problem. If replacement is required, follow the procedures listed in the Warranty and Factory Service portion of this manual.

SYMPTOM	POSSIBLE CAUSE	SOLUTION
No system power	Check power source Check fuse	Replace unit Replace as needed.
Timer runs continuously	Shorts in water meter wiring	Check wiring.
Test switch won't activate	Contact made at water meter	Disconnect wire to watermeter, retry test switch Replace if still in operation.

I. Introduction

The Advantage Controls Model DWT-1 is a single pulse timer controller and a DWT-2 is dual pulse timer. They are designed for use with a contacting head water meter. The pulse timer and water meter combination provides a highly reliable and accurate means of achieving automatic proportional control. The dual pulse timer allows for independent control of 2 separate devices, such as a chemical pump and bleed-off solenoid in a cooling tower.

The controllers work with the contacting head water meter to operate a chemical metering pump in proportion to the volume of water supplied. The controllers automatically resets at the completion of each timed cycle and is ready for a signal from the water meter.

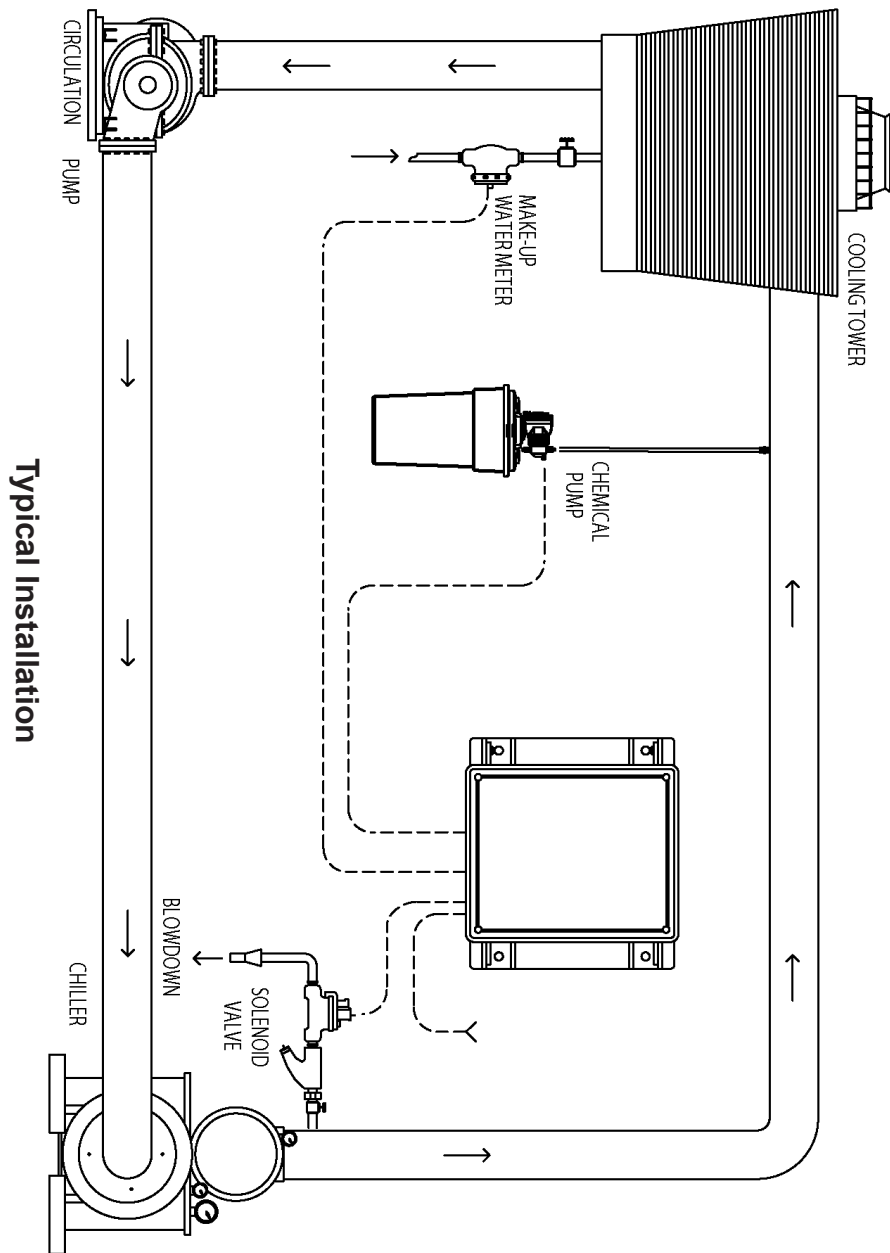
The standard Model DWT features a 0 to 155 second scale. (Other scales are available.) The Model DWT-1F features a 2-255 count accumulator.

Each unit is furnished in a prewired, NEMA 4X type heavy duty thermoplastic enclosure with padlockable Lexan window. The Model DWT-1 unit is supplied with an 8 foot, 3 wire power cord, one - 10 foot water meter hook up cord and one - 11 inch female power output drop plug. A timer with Option J accepts 110VAC input rather than the standard contact (switch closure).

II. Installation

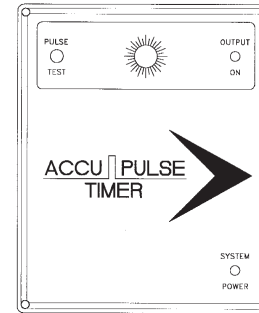
All Model DWT's are completely prewired for ease of installation. Select a mounting location convenient to electrical connections and accessible by the operator. Mount the controller on the wall. Position so operator has access to the unit and a clear view of the controls through the cover of the controller. Use the enclosed mounting template for aid in mounting the controller.

NOTE: The DWT is fused for a 12 amp resistive load. This will support operation of most light and medium duty chemical pumps. Do not attempt to operate a motor larger than 1/4 hp from the controller circuit. Use a motor contactor.

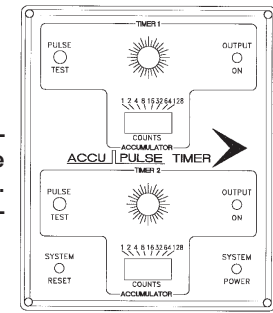


Typical Installation

III.



DWT-1 Front Panel



DWT-2G Front Panel

Unit will be labeled with scale requested. [Standard is 0-155 seconds.]

Front Panel Description

PULSE TIMER DIAL: Used to set the amount of time that power will be supplied to the receptacles each time a pulse is received from the contacting head water meter. The OUTPUT ON LED will be lit when timer activates.

ACCUMULATOR: Allows 2-255 pulses to accumulate before power is supplied to the receptacles and the timer is activated. Option F single accumulator accumulates pulses for both timers. Option G Dual Accumulators provides separate accumulators for each timer.

PULSE TEST BUTTON: Allows a simulation of a pulse in order to test timer. Example: If the accumulator is set on 8, then press the PULSE TEST BUTTON 8 times to activate the timer.

SYSTEM RESET BUTTON: Option F & G only
 This button has 2 functions:
 1) If reset button is depressed and released, it will act as a "TEST" button in that it will immediately turn on the outputs and time out to the selected time setting on the PULSE TIMER DIAL. This proves the function of the output relay(s) and confirms the selected time frame of operation.
 2) If RESET button is depressed for approximately 2 seconds and released a "System Reset" occurs and all previous counts to the accumulator are cleared. If this is successful, the output switches on and off telling you the controller is clear.

Note: If the dip switches are changed and not given a system reset, the new accumulator setting will automatically takeplace on the next cycle.

SYSTEM POWER LED: Lights when power is supplied to the controller.
OUTPUT ON LED: Lights when the timer relay is activated.