

# WFDTH Waterflow Detector



## Models Available

WFDTH	Waterflow Detector
WFDTHA	Waterflow Detector (ULC/Canadian)

## Replacement Parts

A77-01-02	Terminal Block
A3008-00	Retard Mechanism
PRK9	Paddle Kit
S07-66-02	Tamper Screws for Cover
WFDW	Tamper Proof Wrench for Cover
C58-164-01	Metal Cover

WFDTH Waterflow Detector



## Product Overview

**Designed for use in residential sprinkler systems**

**Sealed Retard mechanism (Model WFDTH) assures that the retard is not contaminated by dust and dirt when the cover is removed**

**Visual switch activation permits installer to accurately set the retard even under extremely noisy conditions**

**Rugged, dual SPDT switches are enclosed in a durable terminal block for added strength**

**Accommodates up to 12 AWG wire**

**100% synchronization fires both alarm panel and local bell simultaneously**

**The System Sensor WFDTH Retard T-Tap Waterflow Detector is designed for primary signaling in residential systems and fits within 2x4 stud wall construction. The model fits any tee that has a 1" NPT branch, including: 1", 1¼" and 1½" NPT threaded ferrous and brass tees; 1", 1¼", 1½" and 2" copper sweat tees; Central, Spears®, and Victaulic® brand 1" CPVC tees; and 1½" polybutylene tees. For 2" cast and malleable threaded tees use 2" paddle (P02-0023-000) provided.**

**Design.** The design of the WFDTH makes it easy to install and simple to maintain. It can be mounted in the vertical or horizontal position. Two conduit openings permit easy attachment to the local alarm system. The retard mechanism and switch assembly are field-replaceable.

**Features.** Twelve different flexible paddles fit 1", 1¼", 1½" and 2" tees. Sizes are marked clearly on the paddle for ease of installation. Plastic paddles slip over the actuating lever and are securely fastened with one screw. The handy depth gauge insures the proper installation depth and clearance of the detector to the tee.

**Construction.** The WFDTH includes a durable and tamper resistant enclosure. Its sealed retard assures that the delay mechanism is not contaminated by dust and dirt when the cover is removed. The long lasting cover completely encloses the electrical components to further keep out dust and dirt. Improved self-guiding security screws and removal tools make detectors resistant to tampering and simplify field maintenance.



## Engineering Specifications

Model shall be a WFDTH as manufactured by System Sensor. T-tap waterflow detectors shall be installed on a tee that has a 1" NPT branch including: 1", 1¼", or 1½" threaded ferrous or brass tee; 1–2" copper sweat tees; Central, Spears®, and Victaulic® brand 1" CPVC tees; or 1½" polybutylene tee as designated on the drawings and/or as specified herein. For 2" cast and malleable threaded tees use 2" paddle (P02-0023-000) provided. Detectors shall mount on any clear pipe span of the appropriate size, either a vertical or horizontal run at least 6" from any fittings or valves which may change water direction, flow rate, or pipe diameter or no closer than 24" from a valve or drain. Detectors shall have a sensitivity in the range of 4 to 10 gallons per minute and a static pressure rating of 250 psi. The retard t-tap detector shall be a sealed mechanical pneumatic unit with visual indication of actuation. The actuation mechanism shall include a polyethylene vane inserted through the tee fitting and connected by a mechanical linkage to the delay mechanism. Outputs shall consist of dual SPDT switches (Form C contacts). Two conduit entrances (one of which is a knockout type) for standard fittings of commonly used electrical conduit shall be provided on the detectors. A grounding provision is provided. WFDTH is listed by Underwriters Laboratories for indoor use.

## Standard Specifications

### Static Pressure Rating

250 PSI (max.)

### Triggering Threshold Bandwidth (Flow Rate)

4 to 10 GPM

### Maximum Surge

18 FPS

### Compatible Tee Fittings

Threaded ferrous and brass tees, copper sweat tees, CPVC tees, and polybutylene tees

### Contact Ratings

2 sets of SPDT (Form C)

10.0 A @ 125/250 VAC

2.5 A @ 24 VDC

### Overall Dimensions, Installed

4.5" H x 3.55" W x 6.7" L  
(11.4cm H x 9cm W x 17cm L)

### Conduit Entrances

Two openings for ½" conduit

### Operating Temperature Ranges

32°F – 120°F (0°C – 49°C)

### Cover Tamper Switch

Canadian models only, factory installed

### Enclosure

UL listed for indoor use

### Shipping Weight

2.6 lbs.

### Service Use

Automatic Sprinkler:  
NFPA 13

One or Two Family Dwelling:  
NFPA 13D

Residential Occupancies up to 4 Stories:  
NFPA 13R

National Fire Alarm Code:  
NFPA 72

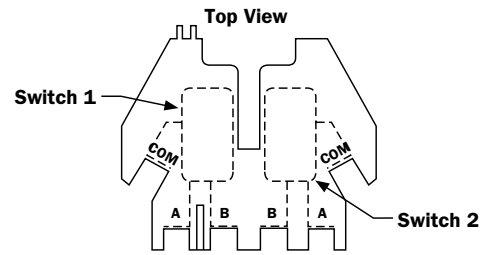
### Warranty

3 years

### U.S. Patent Numbers

3,845,259  
4,782,333  
5,213,205

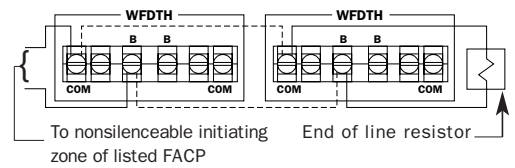
## Electrical Connections



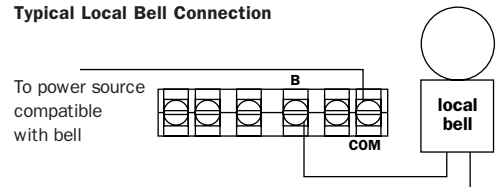
Common and B connections will close when vane is deflected, i.e., when water is flowing. Dual switches permit applications to be combined on a single detector.

CONTACT RATINGS	
125/250 VAC	10 AMPS
24 VDC	2.5 AMPS

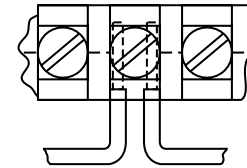
### Typical FACP Connection



### Typical Local Bell Connection

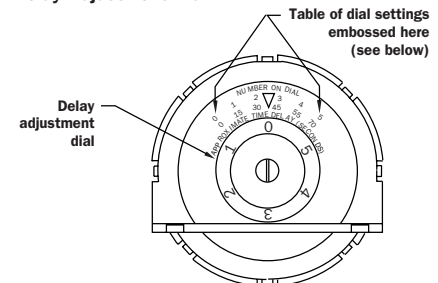


### WFDTH Switch Assembly



Break wire as shown for supervision of connection. Do not allow stripped wire leads to extend beyond switch housing. Do not loop wires.

### Delay Adjustment Dial



Dial setting	0	1	2	3	4	5
Delay (seconds)	0	15	30	45	55	70

## Ordering Information

Part Number	Description
WFDTH*	Waterflow Detector, Fits 1", 1¼", 1½" ferrous and brass threaded tees; 1", 1¼", 1½", 2" copper sweat tees; 1" CPVC tees; and 1½" polybutylene tees
A77-01-02	Replacement Terminal Block for WFDTH
A3008-00	Replacement Retard Mechanism
PRK9	Replacement Paddle Kit — 12 paddles for WFDTH (see WFDTH for sizes included)
S07-66-02	Replacement Tamper Screws for Covers of WFDTH
WFDW	Replacement Tamper Proof Wrench for Cover of WFDTH
C58-164-01	Replacement Metal Cover

\*ULC version designated with "A" suffix (WFDTHA).

## System Sensor Sales and Service

### System Sensor Headquarters

3825 Ohio Avenue  
St. Charles, IL 60174  
Ph: 800-SENSOR2  
Fx: 630/377-6495  
Documents On Demand:  
1-800-736-7672 x3  
Web: www.systemsensor.com

### System Sensor in Canada

Ph: 905.812.0767  
Fx: 905.812.0771

### System Sensor in Europe

Ph: + 44.1403.276500  
Fx: + 44.1403.276501

### System Sensor in China

Ph: + 86.29.524.6253  
Fx: + 86.29.524.6259

### System Sensor in Singapore

Ph: + 65.273.2230  
Fx: + 65.273.2610

### System Sensor in the Far East

Ph: + 852.21919003  
Fx: + 852.27366580

### System Sensor in Australia

Ph: + 613.54.281.142  
Fx: + 613.54.281.172

### System Sensor in India

Ph: + 91.11.526.2119  
Fx: + 91.11.527.6815