

# T-Tap Waterflow Detector



## Models Available

WFDT	Waterflow Detector
WFDTA	Waterflow Detector (ULC/Canadian)
WFDTNR	Waterflow Detector (non-retard)

## Replacement Parts

A77-01-02	Terminal Block for WFDT
A77-01-08	Terminal Block for WFDTNR
A3008-00	Retard Mechanism
PRK9	Paddle Kit
546-7000	Cover Tamper Switch Kit
S07-66-02	Tamper Screws for Cover
WFDW	Cover Wrench
WFDN4	NEMA-4 Gasket Kit
C58-164-01	Metal Cover



## Product Overview

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

**Visual Switch Activation (Model WFDT)** permits installer to accurately set the retard even under extremely noisy conditions

**100% Synchronization** activates both alarm panel and local bell simultaneously

**Accommodates up to 12 AWG wire**

**System Sensor WFDT Retard and WFDTNR Non-Retard T-Tap Waterflow Detectors** are designed for primary signaling in residential systems and branch line signaling in larger systems. Both models fit 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.

**Design.** The design of the WFDT and WFDTNR makes them easy to install and simple to maintain. Either can be mounted in the vertical or horizontal position. Two conduit openings permit easy attachment to the local alarm system. The retard mechanism (Model WFDT only) and switch assemblies are field-replaceable.

**Features.** Nine different flexible plastic 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 WFDT and WFDTNR include a durable tamper resistant enclosure and rugged switch assembly. The long lasting covers completely enclose the electrical components to keep out dust and dirt. Improved self-guiding security screws and removal tools make detectors resistant to tampering and simplify field maintenance. Dual SPDT switches are enclosed in a durable terminal block for added strength.



**MEGA**  
approved

## Engineering Specifications

Model shall be a WFDT or WFDTNR 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. 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. The non-retard t-tap detector shall respond with no time delay to waterflow in the specified direction and range. 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. All detectors shall be listed by Underwriters Laboratories for indoor or outdoor use.

## General Specifications

Static Pressure Rating 250 PSI	Operating Temperature Range 32°F – 120°F (0°C – 49°C)
Triggering Threshold Bandwidth (Flow Rate) 4 – 10 GPM	Cover Tamper Switch UL Models: optional P/N 546-7000 ULC/Canadian Models: factory installed
Maximum Surge 18 FPS	Enclosure UL Indoor/Outdoor Rated
Compatible Tee Fittings Threaded ferrous and brass tees, copper sweat tees, CPVC tees, and polybutylene tees	Shipping Weight WFDT: 2.6 lbs. (1.2 kg.) WFDTNR: 1.5 lbs. (0.7 kg.)
Contact Ratings Two sets of SPDT (Form C) 10.0 A @ 125/250 VAC 2.5 A @ 24 VDC	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
Overall Dimensions, Installed WFDT: 4.5" H x 3.75" W x 6.7" L (11.4cm H x 9.5cm W x 17cm L) WFDTNR: 3.75" H x 3.25" W x 4.25" L (9.5cm H x 8.2cm x W x 10.8cm L)	Warranty 3 years
Conduit Entrances 2 openings for ½" conduit	U.S. Patent Nos. 3,845,259; 4,782,333; 5,213,205

## Ordering Information

Model Number	Description
WFDT	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
WFDTNR	Waterflow Detector, non-retard, fits same tees as Model WFDT
A77-01-02	Replacement Terminal Block for WFDT
A77-01-08	Replacement Terminal Block for WFDTNR
A3008-00	Replacement Retard Mechanism
PRK9	Replacement Paddle Kit — 11 paddles for WFDT and WFDTNR (see WFDT for sizes)
546-7000	Cover Tamper Switch Kit for WFDT
S07-66-02	Replacement Tamper Screws for Covers of WFDT, WFDTNR
WFDW	Replacement Tamper Proof Wrench for Cover of WFDT, WFDTNR
WFDN4	NEMA-4 Gasket Kit
C58-164-01	Replacement Metal Cover

## System Sensor Sales and Service

### System Sensor Headquarters

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St. Charles, IL 60174  
Ph: 800/SENSOR2  
Fx: 630/377-6495  
Documents-on-Demand  
800/736-7672 x3  
www.systemsensor.com

### System Sensor Canada

Ph: 905.812.0767  
Fx: 905.812.0771

### System Sensor 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: 65.6273.2230  
Fx: 65.6273.2610

### System Sensor – Far East

Ph: 85.22.191.9003  
Fx: 85.22.736.6580

### System Sensor – Australia

Ph: 613.54.281.142  
Fx: 613.54.281.172

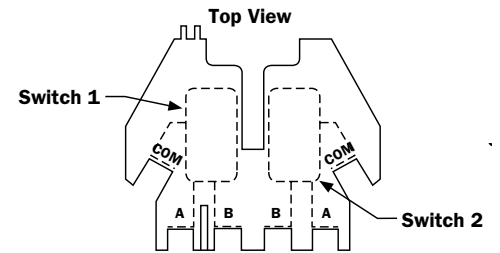
### System Sensor – India

Ph: 91.124.637.1770 x.2700  
Fx: 91.124.637.3118

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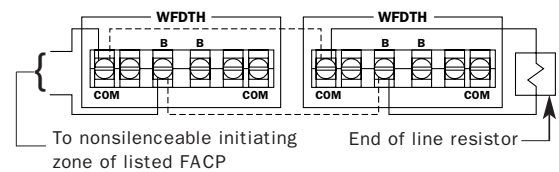
## Electrical Connections for WFDT



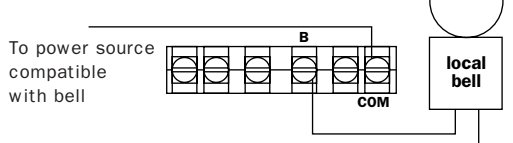
Common and B connections will close when vane is deflected, i.e., when water is flowing. Dual switches permit applications to be combined on a single detector.

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

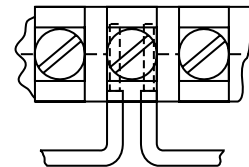
### Typical FACP Connection



### Typical Local Bell Connection

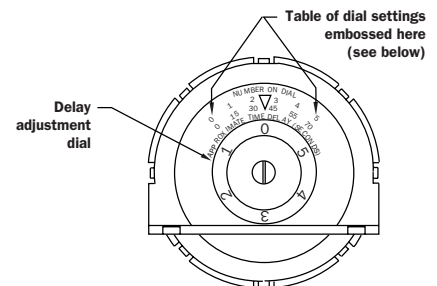


### WFDTH Switch Assembly



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

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