

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

WFDT Waterflow Detector



WFDTNR Waterflow Detector



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 WFDTNR) 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. For 2" cast and malleable threaded tees use 2" paddle (P02-0023-000) provided.

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. Twelve 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.



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. For 2" cast and malleable threaded tees use 2" paddle (P02-0023-00) 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. 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

Triggering Threshold Bandwidth (Flow Rate)

4 – 10 GPM

Maximum Surge

18 FPS

Compatible Tee Fittings

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

Contact Ratings

Two sets of SPDT (Form C)
10.0 A @ 125/250 VAC
2.5 A @ 24 VDC

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)

Conduit Entrances

2 openings for ½" conduit

Operating Temperature Range

32°F – 120°F (0°C – 49°C)

Cover Tamper Switch

UL Models: optional P/N 546-7000
ULC/Canadian Models: factory installed

Enclosure

UL Indoor/Outdoor Rated

Shipping Weight

WFDT: 2.6 lbs. (1.2 kg.)
WFDTNR: 1.5 lbs. (0.7 kg.)

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 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 — 12 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

*ULC version designated with "A" suffix (WFDTA, WFDT NRA).

System Sensor Sales and Service

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System Sensor Canada

Ph: 905.812.0767
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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

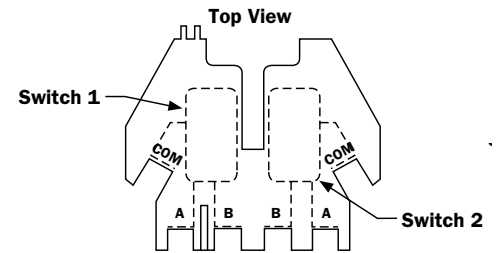
System Sensor – Australia

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

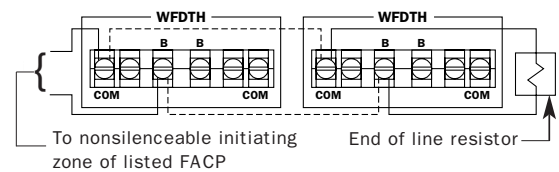
Electrical Connections for WFDT



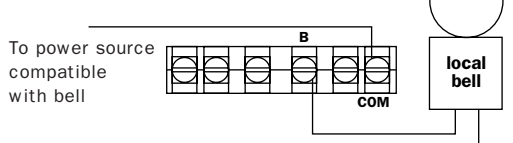
Common and B connections will close when vane is deflected, i.e., when water is flowing. Dual switches permit applications to be combined on a single detector.

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

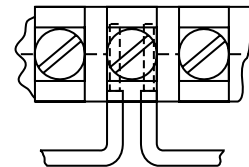
Typical FACP Connection



Typical Local Bell Connection

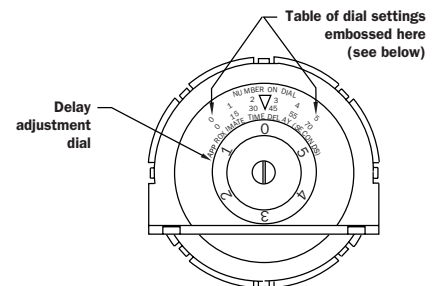


WFDTH Switch Assembly



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