

## Frost Protection Multipoint System

Municipalities and cities located in frost prone areas are looking for early warning systems to determine ground frost levels. These early warnings allow municipalities to advise residents to adjust water consumption and turn on frost protection devices thus saving potential damage and expenses caused by water line freezing.

### Applications

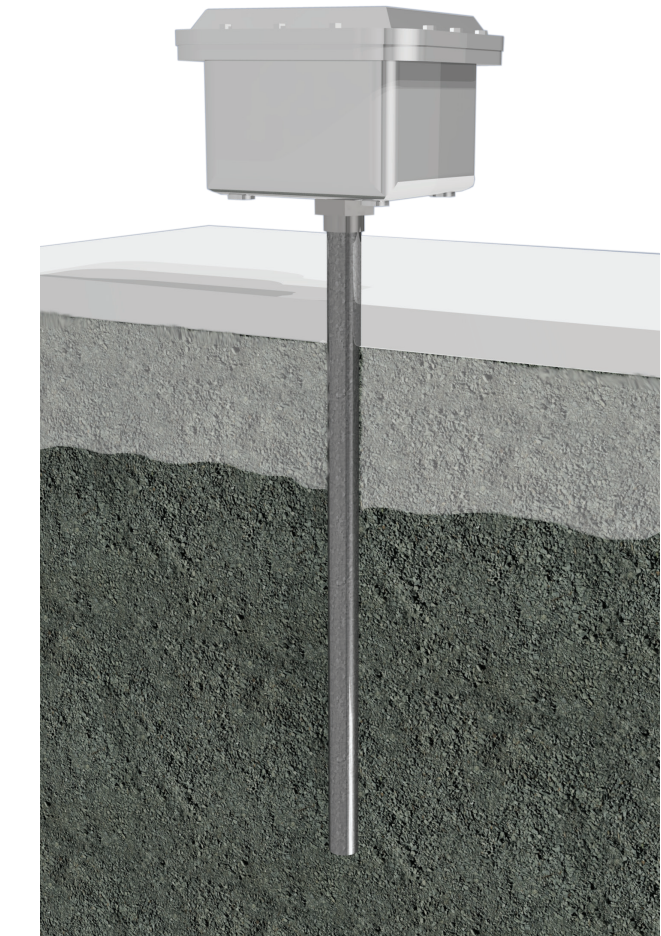
- Water / Waste Water
- Environmental
- Utilities

### Features

- Remove the need for experience and weather data to determine frost depth
- Simplified maintenance and sensor removal without the use of specialized tools
- Heat transfer block for proper sensor contact and measurement accuracy
- Transmitter or analogue output
- Robust design for extreme cold environments

### Description

The WIKA designed frost protection multipoint is designed using an outer protection tube (pipe) for extreme cold environments. Inner guide tubes and heat transfer blocks allow for easy maintenance, calibration and replaceability of the sensors.



**Model TC95-FP Frost Protection Multipoint**

Multipoint sensing locations determine the frost level to grade using points located at specified intervals. The first point is located at 12" below ground level and spaced every 12" there after. Above ground level the sensors are housed in a suitable junction box to allow easy access.

## Key Features

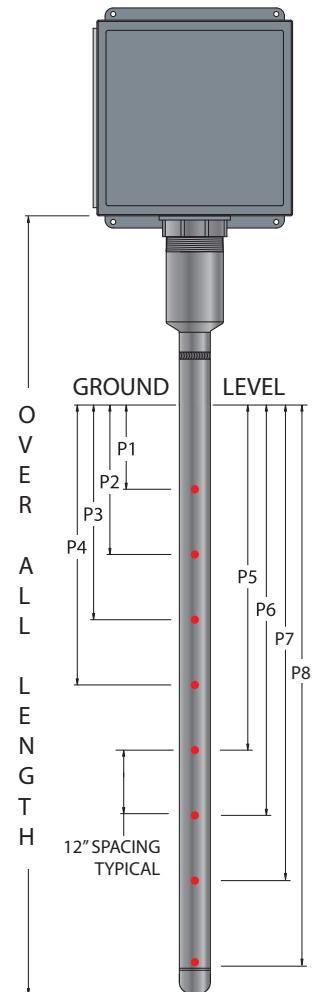
**Reliability** - These multipoints solve the problem many users had. For years the frost level was determined by experience, and ambient temperatures of a given period of time. This historic data was then used as a “best guess” in order to warn residents to turn on frost protection systems. Utilizing high accuracy sensors with resolution points at specific depths the frost protection multipoint can be integrated into the early warning system with live measurement. Thus eliminating the “best guess” system, and providing accurate & automatic early warning system broadcasts.

**Sensor access** - Inside the protection tube, the sensors are housed within an inner guide tube and heat transfer block for proper temperature measurement. The guide tube and sensor design allow for sensor maintenance, calibration and ease of replacement after installation.

### Ordering Options, Model TC95-FD

Field No.	Code	Description
<b>Sensor Type</b>		
①	P	RTD, Pt100, Class A (IEC 60751), 3-wire
	T	Thermocouple, Type T, Special Limits (ASTM E230)
<b>Insertion Depth</b>		
②	8	8 sensing points, 8 foot insertion depth, 10 foot over all length
	9	9 sensing points, 9 foot insertion depth, 12 foot over all length
<b>Protection Tube</b>		
③	1	2 NPS, Schedule 40, 316SS
<b>Termination Type</b>		
④	1	T32 transmitter, 4...20 mA, HART, Range -50 ... +50 °C
	3	T12 transmitter, 4...20 mA, Range -50 ... +50 °C
	5	Terminal Rail
<b>Junction Box</b>		
⑤	SS	NEMA 4X Stainless Steel, 10" x 8" x 6" depth
	FB	NEMA 4X Fiberglass, 10" x 8" x 6" depth

Order Code: TC95-FD  ① -  ② -  ③ -  ④ -  ⑤



## Installation information

Using an auger or backhoe, dig a hole the same depth as the multipoint below-grade length. The minimum hole size is 6” to maintain proper clearance. Install multipoint vertically in the hole so that the ground level indicator on the multipoint tube is even with the ground surface. Remove all rocks and stones from the earth that has been removed from the hole. Backfill the hole with the remaining material while tamping lightly to eliminate air spaces around the multipoint. Attach instrumentation cables inside junction box to final termination location.