

2090-SD & ST 2091-SD & ST

OPTICAL PREEMPTION DETECTORS

TOMAR's 209X-SD and ST model Optical Preemption Detectors sense the optical pulses emitted by properly equipped emergency or transit vehicles. Mounted to observe the approaches of an intersection, 209X-SD and ST Detectors are used with TOMAR 2000 Series Optical Signal Processors to inform the traffic control system of the presence of designated vehicles.

The 209X-ST detectors incorporate a self-test feature for true closed loop detector and wiring welfare monitoring. Each 209X-ST detector includes a small infrared LED which periodically injects a special test signal into the detectors photo sensor. The 2140 OSP receives the special test signal and therefore knows that the detector is fully functional. Should a detector fail self-test a front panel indication and an entry in the 2140's logs indicate the problem.

Using 209X-SD or ST detectors and Strobecom II throughout your traffic control system reduces emergency response time, allows emergency vehicles to travel with greater safety, and improves transit vehicles timeliness.



2090-ST Detector

2091-ST Detector

ONLY TOMAR 209X-SD Detectors offer these important features:

- Closed loop self-test for detector welfare, monitoring and reporting (ST models only).
- Military derived sensor technology for direct sunlight rejection and detection performance unmatched by ANY other system.
- Fully encapsulated electronics for complete resistance to water, heat, and vibration.
- Complete electronics protection from damage due to miswiring or electrical transients.
- Wide field of view option for uncompromised detection even in untethered span wire applications without the risk of side street activation.
- Simple advanced detector installation without any special cabling for enhanced detection around corners and over hills.

2090/2091 Optical Preemption Detectors

Specifications for 2090-SD or ST and 2091-SD or ST Detectors

Item	Description
Maximum Range	2500 feet minimum when used with a TOMAR 2000 Series Optical Signal Processor.
Optical Pulse Rise Time Discrimination	The 2090-SD or ST and 2091-SD or ST input stages are optimized for the detection of strobe pulses with a rise time from start of pulse to peak of pulse of 10 microseconds or less. Slower pulses such as varying sunlight and incandescent emergency lighting will be highly attenuated and substantially ignored by the detector's digital discriminators.
2090-ST and 2091-ST self testing detectors	The 2090-ST and 2091-ST incorporate a self-test feature for true closed loop DETECTOR SENSOR and WIRING welfare monitoring, the 2090-ST and 2091-ST includes a small infrared LED, which periodically injects a special test signal and therefore knows that the detector is fully functional
2090-SD Field of View	13 degrees conical centered about the viewport normal axis (typical).
2091-SD Field of View	60 degrees conical centered about the viewport normal axis (typical).
Power Requirements	VOLTAGE: 12 to 30VDC CURRENT: 15 mA maximum
Wiring Connections	Blue Wire - GROUND Yellow - SIGNAL Orange Wire - +12 to 30 VDC Shield and Drain Wire - CONNECT TO BLUE WIRE AT TRAFFIC CABINET
Temperature Range	-40° Celsius to +75° Celsius
Physical Construction	The 2090-SD and 2091-SD enclosures are black, glass-filled, UV stabilized, polycarbonate suitable for all-weather use. All electronic circuitry is completely encapsulated in polyurethane for protection from shock, vibration, and moisture. A weep hole is provided for allowing the escape of condensation or other internal moisture build-up in the sight tube of the detector.
Size and Weight	2.75" dia. (69.8 mm) X 3.375" tall (85.7 mm) with side mounted 4" long (101.5 mm) sight tube
Mounting	The 2090-SD or ST and 2091-SD or ST are easily mounted using standard hardware on either span wire or mast arm. The unit has a 1/2" female pipe mount hub and internal terminal block for connection to a 3/C shielded detector cable. ***** See catalog page 23 for available mounting hardware.

Available Option

Model No.	Description
2091-OPTIC	Upgrade package that allows the user to convert a 2090-SD or ST detector in the field to a 2091-SD or ST.
2090-OPTIC	Upgrade package that allows the user to convert a 2091-SD or ST detector in the field to a 2090-SD or ST

TRUE 10 Year Warranty!

10 year warranty covers the 2090-SD or ST and 2091-SD or ST and all STROBECOM II components. Unlike other manufacturers, TOMAR's ten year warranty has NO fees or charges for warranty repairs after five years.

NOTICE: The sale of these items are restricted to state and local governments and to authorized distributors only.



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