



## 4140V2W-2

4140 Version 2, two channel, wide panel, optical signal processor with Integrated Confirmation, event logging, and Ethernet port



- **INTEGRATED CONFIRMATION** technology powers IC enabled 4000 series TOMAR Strobecom II detectors to be powered and controlled over the standard preemption detector cable. No additional power supplies, mounting, programming, or wiring required.
- **TRUE CONFIRMATION**, when combined with INTEGRATED CONFIRMATION is the only preemption system that provides real, closed-loop, visual feedback to vehicle drivers that the intersection is in preempt
- **Active Reflection Suppression** prevents cross street preemption due to reflected emitter energy. TOMAR's advanced digital signal processing eliminates this troublesome side effect making detector installation and setup far less critical.
- **PLUG-and-PLAY** firmware allows the addition of detectors and other accessories to the system without manual configuration. Buy only the equipment needed today and add more capability later saving precious funds.
- **Expansion Port** provides easy connection of the 4140V2W-2 to other accessory modules

Installed inside the traffic cabinet, the 4140V2W-2 wide panel, optical signal processor provides power for 4000 series optical detectors, receives, decodes, and prioritizes emitter signals from the detectors, powers and activates Integrated Confirmation lights, logs preemption and priority control activity, and communicates with other traffic control devices.

Equipped with TOMAR's patented (US patent 8,742,946) INTEGRATED CONFIRMATION technology, the 4140V2W-2 powers and controls the high intensity LED confirmation lights integrated into up to four 4000 series IC enabled detectors over standard preemption detector cable with no additional power supply, mounting, programming, or wiring. Integrated Confirmation equipped intersections provide visual feedback of intersection preemption to vehicle drivers and citizens for enhanced safety. When combined with TOMAR's True Confirmation feature the integrated LED confirmation lights provide real closed-loop visual feedback that the traffic controller is actually in preemption providing enhanced right-of-way.

The 4140V2W-2 is delivered default programmed to respond on a first-come first-served basis to optical signals from vehicles within two signal bands. Emergency Band signals are typically emitted by emergency vehicles to effect a preemption of normal traffic control timing and are given the highest priority to allow rapid emergency vehicle response with enhanced safety. Transit Band signals are generally emitted by transit or other non-emergency municipal vehicles to effect a priority change for the vehicle's approach direction without necessarily interrupting traffic control timing. Up to 65,000 vehicles in each signal band can be individually identified and responded to.

Using a simple configuration program, the user can define up to 16 additional classes within each signal band with different priorities, detection ranges, and choices of actions, from simple vehicle logging to full traffic preemption and enhanced communication.

The onboard Ethernet port, and the ability to classify and announce multiple vehicles in real-time makes the 4140V2W-2 an excellent intelligent vehicle sensor for ITS applications.

The 4140V2W-2 OSP is compatible with NEMA TS-1, TS-2, and CA/NY 170 and 2070 controllers, and meets all NEMA and Caltrans environmental requirements. The 4140V2W-2 plugs directly into standard preemption card slots and does not use internal 24VDC cabinet power.



### Specifications

| Item                    | Description  |
|-------------------------|--|
| Signal                  | The 4140V2W-2 shall be capable of receiving, decoding, and prioritizing the Emergency band and Transit band signals transmitted by all TOMAR and competitive emitters. The 4140V2W-2 shall be software configurable to accept or reject older non-identifying optical signals. Up to 65,000 vehicles in each signal band shall be individually identifiable.   |
| Signal Acquisition Time | Typical signal acquisition time shall be approximately 2.5 seconds. Acquisition time will vary depending on the number of signals present simultaneously and on the density of optical noise.  |
| Range                   | Up to 2500 feet of detection or more that can be adjusted down to 200 feet.  |
| Priority Determination  | The 4140V2W-2 shall be delivered with default priority grouping, responding on a first-come, first-served basis to signals within each signal band. Signals in the Emergency signal band shall be given priority over signals in the transit signal band.<br><br>The user shall be able to, optionally, define additional priority classes within each signal band. Up to 16 priority groups within each signal band shall be definable. |
| Event Logging           | The 4140V2W-2 shall log all valid and invalid preemption events including the time, date, and duration of the event. The logging capacity of the 4140V2W-2 shall be 14,000 events minimum. When at capacity, the oldest events shall be discarded when newer events are received. The stored logs shall be downloadable via Ethernet port.   |
| Output Signals          | The 4140V2W-2 shall provide two optically-isolated output channels for placing NEMA standard signal level calls on traffic controller preempt inputs.  |
| Input Signals           | The 4140V2W-2 shall have two optically-isolated inputs for connecting to traffic controller preempt status outputs.  |
| Control Timers          | Each output channel shall be equipped with three control timers described as:<br>MAX CALL: Sets the maximum time a preempt call is allowed to be active<br>CALL EXTENTION: Sets the time a call remains placed after a valid optical signal terminates<br>CALL DELAY: Sets the time a valid optical signal must be pending before the assertion of a preempt call to the controller.   |
| Confirmation Lights     | The 4140V2W-2 shall be capable of powering and operating up to two TOMAR 4000 series Integrated Confirmation enabled detectors over up to 600' of preemption detector cable per IC enabled detector.   |
| Maximum Detectors       | Up to two 4000 series IC enabled detectors (maximum of four LED confirmation lights total) plus four additional non-IC enabled detectors   |
| Electrical Requirements | 120/240VAC 50/60Hz   |
| Temperature Range       | -40 to +75 degrees C   |
| Transient Protection    | Input power shall be MOV protected from AC mains transients. Detector inputs shall be TVS protected from electrical transients.  |
| Fusing                  | A ½ amp fuse shall be included in the input power connection to protect cabinet wiring   |

### Ordering Info

| Catalog Number | Description   |
|----------------|---|
| 4140V2W-2      | Two channel wide panel Optical Signal Processor with INTEGRATED CONFIRMATION, event logging, and Ethernet port. |

### TRUE 10 YEAR WARRANTY!

10 year warranty covers the 4140 Series 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 be authorized distributors only.