

# 4080

## OSP CARD AND CARD CAGE



4080 OSP

Installed inside the traffic cabinet at an intersection, the 4080 Optical Signal Processor (OSP) provides power for 209X and 4090 Optical Detectors, receives, decodes and prioritizes signals from the detectors, communicates with other traffic control devices, and optically isolates the preemption channels.

The 4080 responds 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 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.

The 4080 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 4080 plugs directly into a 170 input file without any additional hardware and does not use the internal 24VDC cabinet power. For NEMA cabinets without prewired preemption slots, the TOMAR model 1881 rack provides the necessary hardware and harnessing to allow simple connection to detector outputs and controller inputs.

**The TOMAR 4080 Optical Signal Processor offers the following features and benefits:**

**Plug-and-Play Firmware** allows the ability to add accessories in the field without manual configuration. This allows you to buy only what is needed today and add more capability later, saving precious funds.

**Active Reflection Suppression** prevents cross street preemption due to reflected emitter technology. Only TOMAR's advanced, digital signal processing can eliminate this troublesome side effect making system installation and setup far less critical.

**Expansion Port** provides easy connection of the 4080 to other accessory modules like green phase monitors, confirmation light drivers, and external preemption adapters for controllers that do not have internal preemption software.

- Universal AC input voltage
- Enhanced transient/lightning protection
- Short-circuit proof detector power
- Simplified front panel interface
- Jumper configurable to accept or reject various emitter types
- Jumper configurable to select confirmation light patterns and behavior

The 1881 Card Cage provides all the necessary hardware and harnessing required to allow the simple wiring of the 4080 card to the detector outputs and controller inputs. The 1881 is equipped with two 60" long cables which are wired to the controller. The first cable carries all AC power wiring, safety ground, and card outputs. The second cable is terminated to a 12 point terminal block which is typically mounted in the wiring compartment of the cabinet. The detectors are then connected to the terminal block.



1881 Card Cage and Harness

### Specifications for OSP Card

Item	Description
Signal	The 4080 shall be capable of receiving, decoding and prioritizing the Emergency and Transit signals transmitted by all TOMAR and competitive emitters. The system shall be jumper configurable to accept or reject older non-identifying optical signals and coded optical signals from competitive emitters.
Signal Acquisition Time	Typical signal acquisition time shall be approximately 2.5 seconds. Acquisition time will vary depending upon the number of signals present simultaneously and on the density of optical noise.
Range	2500 feet maximum adjustable down to 200 feet in 255 steps for each signal band.
Range Adjustment	Range adjustment shall be accomplished via front panel switches and emitter.
Priority Determination	The 4080 shall be delivered with default priority grouping, responding on a first-come, first-serve basis to signals within each signal band. Signals in the Emergency signal band shall be given priority over signals in the Transit signal band.
Output Signals	The 4080 shall provide four optically isolated output channels for placing calls on the traffic controllers preempt inputs. All output signals shall comply with NEMA signal level definitions.
Control Timers	Each channel shall be equipped with a MAX CALL which will disable channels response to an emitter should that emitter remain within range for more than 2 minutes
Electrical Requirements	120/240 VAC 50/60HZ
Temperature Range	-40 degrees Celsius to +75 degrees Celsius
Transient Protection	Input power is MOV protected from line transients.
Fusing	Input power connections are fused at 1/2 amp to prevent cabinet wiring damage in the event of an electrical failure.

### Specifications for 1881 Card Cage and Harness

Item	Description
Mechanical	Height 5.80" ( 147.3mm ) Length 8.06" ( 204.7mm ) Width 2.90" ( 73.7mm )
Mounting	The 1881 can sit on mounting feet atop a shelf or can be hung, using the mounting holes in the top flange, under a shelf.
Construction	Anodized aluminum with upper mounting flange and lower mounting feet. Open frame with single 22/44 card edge connector and 60" long controller and detector terminal block cables.

### True 10 Year Warranty:

The 4080 OSP and all STROBECOM II components are covered under the 10 year warranty. Unlike other manufacturers, TOMAR's warranty has NO FEES or charges for warranty repairs.

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

TRAFFIC PRODUCTS 28 North Bacon Hill Road Malvern PA 193552 (610) 644-8150  
www.trafficproducts.net

**TOMAR** Electronics, Inc.  
*Clearing the Way*