



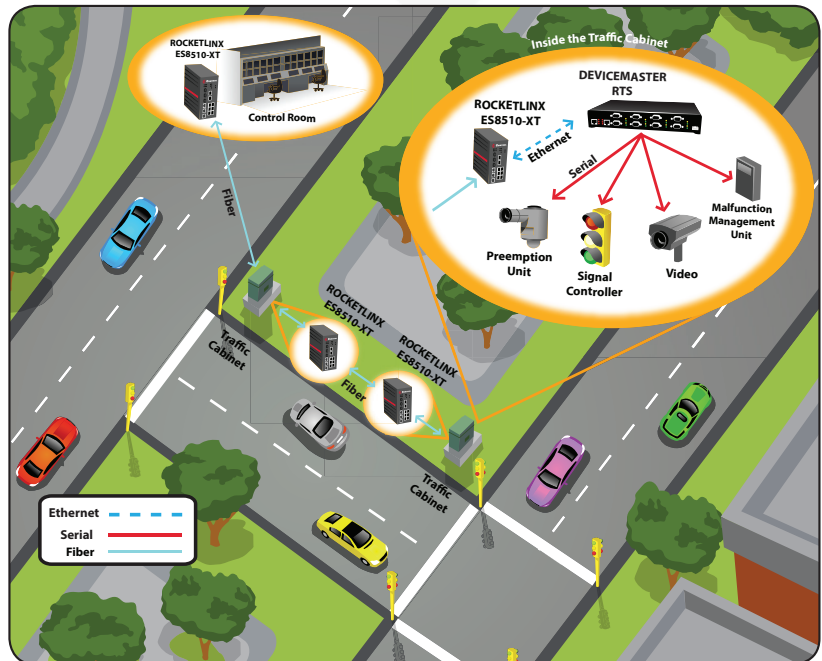
## TRAFFIC INTERSECTION NETWORKING

Recently a southwestern U.S. city with a fiber network needed to reliably network and remotely manage 120 traffic intersections from the city's traffic management center. Before choosing a managed Ethernet switch to implement into their system, the city had to take into consideration a number of other requirements that needed to be met.

A gigabit fiber backbone was required due to the bandwidth needed for streaming live video. Video streaming, signal controllers, conflict monitors, preemption detectors, and all other Ethernet connected devices needed to have 100% uptime. The city also needed an Ethernet switch that was flexible and had the ability to support single-mode and multi-mode fiber due to the different communication mediums between the intersections. Finally, due to the extreme temperature environments within a traffic cabinet, the managed Ethernet switch they chose had to be NEMA TS2 compliant, supporting a -40° to 74° C temperature range. With all of these requirements in place, the city searched for a managed Layer 2 field Ethernet switch that would meet the certification requirements requested and would provide multiple fiber uplink ports.

Control's RocketLinx ES8510-XT, a hardened NEMA TS2 certified managed switch, was selected by the city because it met all of the system requirements and provided the reliability they were looking for. The RocketLinx ES8510-XT switches were mounted into the traffic cabinets at each of the intersections and were a perfect fit for the harsh environmental demands within each cabinet. The city engineer also needed the Ethernet switch to support up to three fiber/Ethernet connections due to a number of locations that have two intersections connecting to a single intersection. The three SFP and three copper uplink ports provided the ability to connect three intersections together which was not considered feasible by the traffic engineer before evaluating the RocketLinx ES8510-XT.

The rugged aluminum, IP31 rated RocketLinx ES8510-XT was able to fulfill and exceed the needs that this city required for the traffic intersection project.



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# ES8510-XT

Part Number: 32061-6



- Multiple redundant ring (recovery time <5ms)
- 7 10/100BASE-TX ports and 3 Gigabit RJ45/SFP combo ports (10/100/1000BASE-TX, 100BASE-FX, 1000BASE-X)
- 32Gbps non-blocking, 8K MAC address table
- VLAN, GVRP, QoS, IGMP snooping V1/V2/V3, rate control, port trunking, LACP, online multi-port mirroring
- Management via console CLI, Web, SNMP V1/V2c/V3, RMON, HTTPS, SSH and NetVision
- Advanced security feature supports IP security, port security, DHCP server, IP and MAC binding, 802.1x network access control
- Event notification by email, SNMP trap, syslog, digital input and relay output
- -40° to +74°C operating temperature for extreme environments
- Rigid aluminum IP31 housing, excellent heat dispersion, redundant power, DIN rail/wall mount installation
- NEMA TS2 Compliant

The RocketLinx ES8510-XT is a managed industrial Ethernet switch, equipped with seven 10/100TX ports and three 10/100/1000 RJ45/100-FX/Gigabit SX/LX/LHX/ZX/SFP combo ports. Two Gigabit ports may be used to form a non-stop Redundant Ring while the third Gigabit port enables connection to an upper switch, couple ring or public server. The Gigabit combo port design provides flexibility to choose copper or fiber media supporting 100BASE-FX or 1000BASE-X, Multi-Mode or Single-Mode for a wide variety of distance and installation requirements.

The RocketLinx ES8510-XT is housed in a rugged aluminum enclosure that features an excellent heat dispersing mechanical design and extended operating temperature support. The embedded software supports full Layer 2 management features, multi-form ring redundancy, network control, monitoring, security and notification. The RocketLinx ES8510-XT also provides a built-in watchdog timer and digital input and relay output to avoid undetected problems. The RocketLinx ES8510-XT provides the perfect foundation for building your industrial Ethernet infrastructure.

## Three Gigabit Ports for Flexible Network Planning

A unique feature to the RocketLinx ES8510-XT is the three Gigabit RJ45/SFP combo ports, which can improve performance dramatically compared to products with only two Gigabit RJ45/SFP combos. Each combo comes with a flexible connection - 100Mbps or 1000Mbps, as well as fiber or copper connection options. All together, as many as ten different combinations of port connections are possible. By selecting the appropriate fiber transceivers, the RocketLinx ES8510-XT can meet your industrial application requirements with virtually any transmission distance.

## 100/1000Mbps SFP

The RocketLinx ES8510-XT SFP socket supports 100BASE-FX Single/Multi-Mode and 1000BASE-SX/LX/LHX/XD Multi/Single-Mode transceivers. The available distance of the 100BASE-FX is up to 30KM. 1000BASE-SX Multi-Mode supports 550M, 1000BASE-LX Single-Mode supports 10KM, 1000BASE-LHX Single-Mode supports 30KM, 1000BASE-XD Single-Mode supports up to 50KM. 1000BASE-ZX Single-Mode supports up to 70KM.



### Warranty Information

Control offers a 30-day satisfaction guarantee and 5-year limited warranty.

### Sales Support

+1.763.957.6000  
sales@control.com

### Technical Support

+1.763.957.6000  
www.control.com/  
support

### Email, FTP, and Web Support

info@control.com  
ftp.control.com  
www.control.com