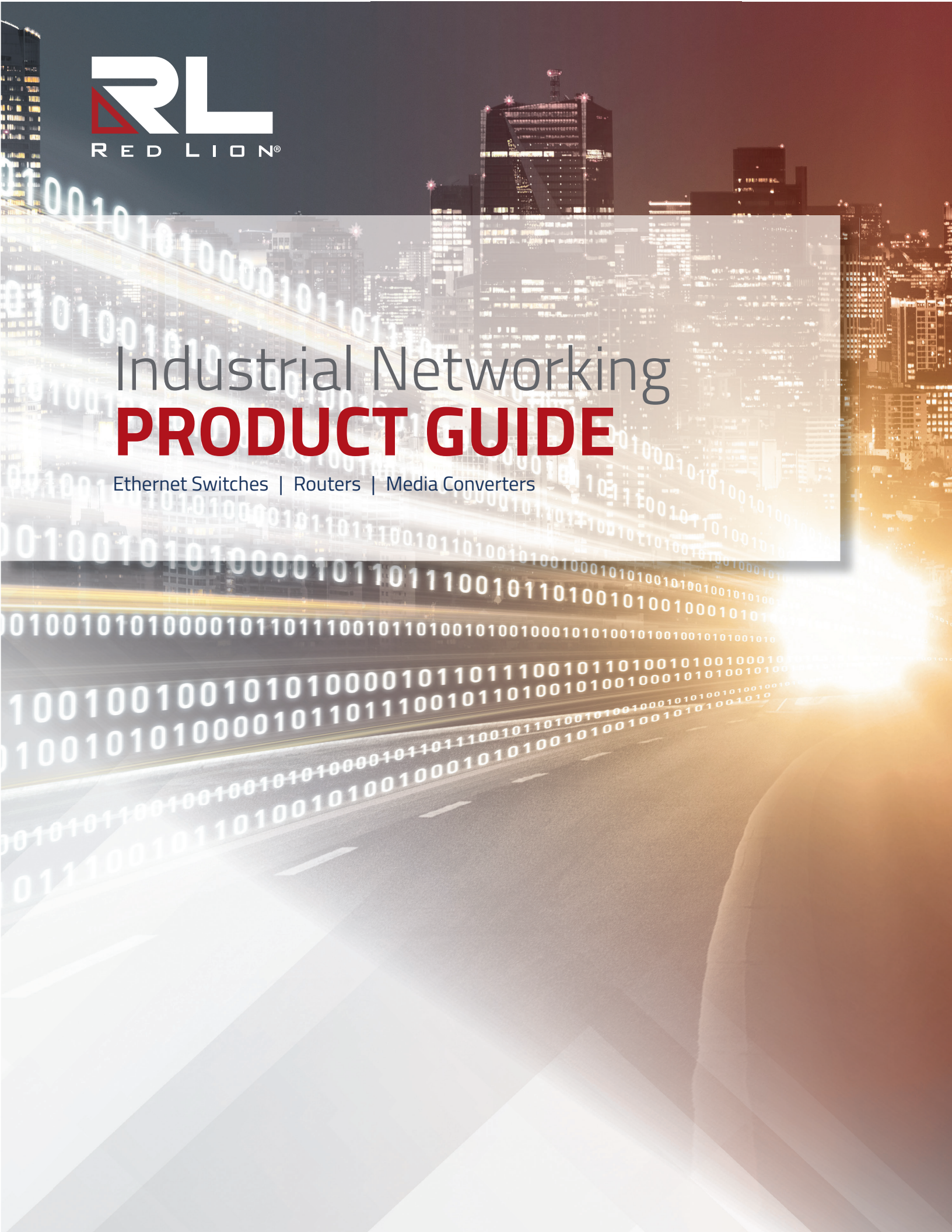
RED LION®
Industrial Networking
PRODUCT GUIDE
Ethernet Switches | Routers | Media Converters

EXECUTIVE SUMMARY

Red Lion's networking portfolio is one of the most robust in the marketplace. From remote site management to industrial process control, our industrial networking products are designed to operate reliably in harsh environments. We have products that will fit almost any solution for almost any industry.

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UNMANAGED ETHERNET SWITCHES

Red Lion's industrial unmanaged Ethernet switches offer powerful network performance with plug-and-play functionality. With an endless range of port options, these unmanaged switches are set to tackle the demands of industrial data acquisition, control and Ethernet I/O applications.

- Compact IEEE 802.3 Layer 2 industrial switches
- Automatic speed, duplex and cable sensing
- Designed for use in mission-critical applications
- Plug-and-play functionality

Model	Hazardous Location			Maritime		Substation	Rail	Traffic	Jumbo Frame	M12 Connectors	Housing Material
	UL Class 1, Division 2	ATEX	UKEx	ABS	DNV	IEEE 1613	EN 50155	NEMA TS1/TS2			
100	X	X	X	X	O		O			O	Metal
1000	X	O	O	X	O	O	O	O	O		Metal
SL	X	X	X	X							Lexan
SLX	X	X	X	X					O		Metal
Legend	X: All models			O: Some models							

UNMANAGED FAST ETHERNET SWITCHES

- Compact, rugged, all-metal enclosure
- Wide operating temperature range
- Redundant power inputs

	Model Number	Total Ports	10/100Base Copper	100Base Fiber	Mounting & Case	Operating Temp.	Power Input
100	104TX	4	4	-	DIN Rail – Metal	-40° to 80°C	10-30 VDC
	105TX	5	5	-	DIN Rail – Metal	-40° to 80°C	10-30 VDC
	105TX-SL	5	5	-	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	105FX	5	4	1	DIN Rail – Metal	-40° to 70°C	10-30 VDC
	106FX2	6	4	2	DIN Rail – Metal	-40° to 70°C	10-30 VDC
	108TX	8	8	-	DIN Rail – Metal	-40° to 70°C	10-30 VDC
	110FX2	10	8	2	DIN Rail – Metal	-40° to 80°C	10-49 VDC
	111FX3	11	8	3	DIN Rail – Metal	-40° to 80°C	10-49 VDC
	112FX4	12	8	4	DIN Rail – Metal	-40° to 80°C	10-49 VDC
	114FX6	14	8	6	DIN Rail – Metal	-40° to 80°C	10-49 VDC
	116TX	16	16	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.

1000 & SLX UNMANAGED GIGABIT ETHERNET SWITCHES

- Plug-and-play unmanaged operation
- Gigabit-speed port options
- Compact, rugged, all-metal enclosures

Model Number	Total Ports	10/100 /1000 Base Copper	1000Base SFP	Mounting & Case	Operating Temp.	Power Input
1003GX2	3	1	2	DIN Rail – Metal	-40° to 85°C	10-30 VDC
1005TX	5	5	-	DIN Rail – Metal	-40° to 85°C	10-30 VDC
1008TX	8	8	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
SLX-5EG-1	5	5 (4 PoE)	-	DIN Rail – Metal	-40° to 85°C	10-44 VDC, 45-52 POE
SLX-5EG-2SFP	5	3 (3 PoE)	2	DIN Rail – Metal	-40° to 85°C	10-44 VDC, 45-52 POE

SFP transceivers sold separately.

SL & SLX UNMANAGED FAST ETHERNET SWITCHES

- Mixed copper and fiber port options
- Compact lightweight Lexan or all-metal housing
- Redundant power inputs

	Model Number	Total Ports	10/100Base Copper	100Base Fiber	Mounting & Case	Operating Temp.	Power Input
SL	SL-5ES-1	5	5	-	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
	SL-5ES-2	5	4	1	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
	SL-5ES-3	5	4	1	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
	SL-6ES-4	6	4	2	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
	SL-6ES-5	6	4	2	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
	SL-8ES-1	8	8	-	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
	SL-9ES-2	9	8	1	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
	SL-9ES-3	9	8	1	DIN Rail – Lexan	-40° to 60°C	10-30 VDC
SLX	SLX-3ES-2	3	2	1	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-3ES-3	3	2	1	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-5ES-1	5	5	-	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-5ES-2	5	4	1	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-5ES-3	5	4	1	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-6ES-4	6	4	2	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-6ES-5	6	4	2	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-8ES-1	8	8	-	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-8ES-6	8	5	3	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-8ES-7	8	5	3	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-9ES-2	9	8	1	DIN Rail – Metal	-40° to 85°C	10-30 VDC
	SLX-9ES-3	9	8	1	DIN Rail – Metal	-40° to 85°C	10-30 VDC

Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.

MANAGED ETHERNET SWITCHES

Red Lion offers a wide selection of managed industrial Ethernet switches. Managed Ethernet switches provide the ability to configure port settings, manage network performance and monitor your LAN for critical issues. Red Lion's managed industrial Ethernet switches are designed to operate flawlessly in harsh environments and offer best-in-class performance.

Switch Models	Hazardous Location				Maritime	Substation	Rail	Max Ports	Network Redundancy	EtherNet/IP™ CIP™	16 kV Surge Suppression	IEEE 1588 (PTP)	Mounting
	UL Class 1, Division 2	ATEX	UKEx	IECEx	ABS	IEC 61850 IEEE 1613	EN 50155						
700	X	O	O		O	O	O	16	N-Ring™/N-Link™ / RSTP	X	X		DR
7000	X	O	O		O	O	O	26	N-Ring™/N-Link™ / RSTP	X	X		DR & RM
NT24k	X						O	24	N-Ring™/ N-Link™/RSTP	X	X	X	DR & RM
NT5000	X	X	X	X	X		X	18	N-Ring™ Automember/ RSTP/MSTP		X		DR PM(optional)
NT4000	X	X	X		X		X	8	MRP/Fast Ring™ / RSTP/MSTP				DR & PM
SLX	X	X	X		X			18	Real-Time Ring™ / RSTP				DR & PM
Legend:	X: All models			O: Some models		DR: DIN Rail		PM: Panel mount		RM: Rackmount			

700 & 7000 MANAGED ETHERNET SWITCHES

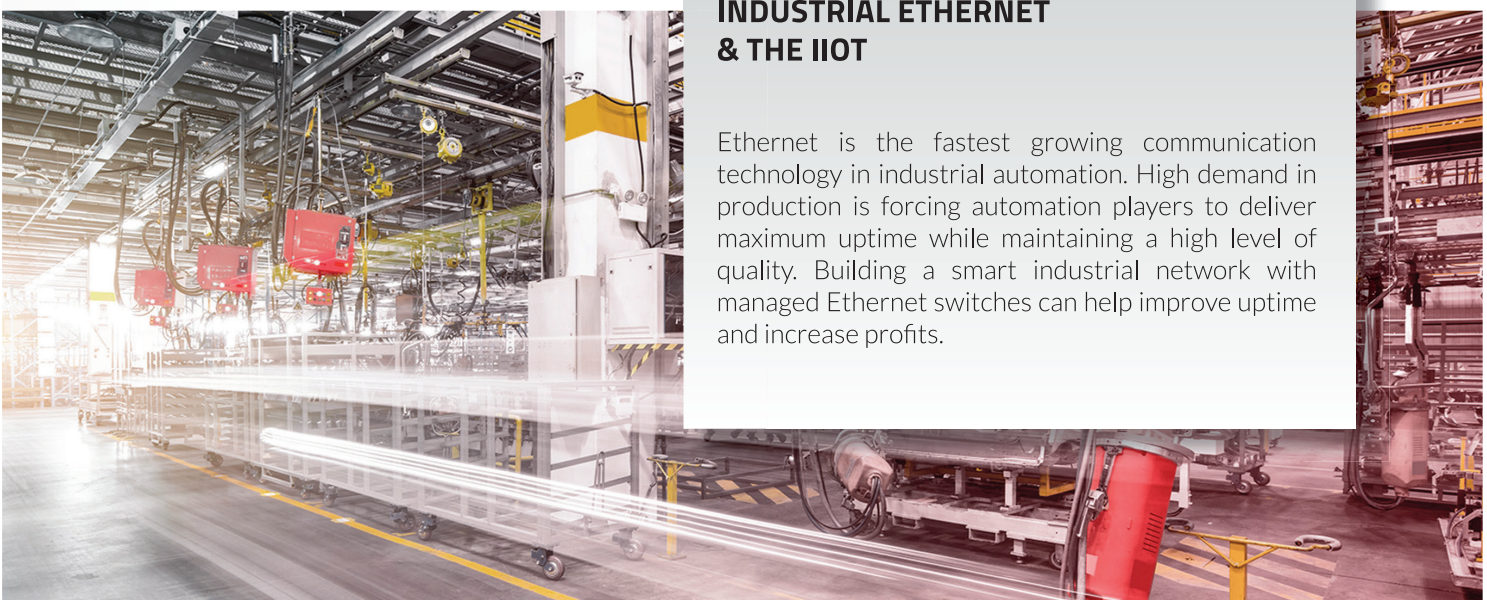
- Plug-and-play deployment with IGMP auto-configuration
- N-View™ monitoring provides real-time switch diagnostics
- Ideally suited to use as N-Ring™ or N-Link manager
- Metal case with DIN Rail and Rackmount options

	Model Number	Total Ports	10/100Base Copper	10/100/1000 Base Copper	100Base Fiber	1000Base SFP	Operating Temp.	Power Input
700	708TX	8	8	-	-	-	-40° to 85°C	10-30 VDC
	708FX2	8	6	-	2	-	-40° to 85°C	10-30 VDC
	709FX* †	9	8	-	1	-	-40° to 70°C	10-49 VDC
	710FX2* †	10	8	-	2	-	-40° to 70°C	10-49 VDC
	711FX3* †	11	8	-	3	-	-40° to 70°C	10-49 VDC
	712FX4* †	12	8	-	4	-	-40° to 70°C	10-49 VDC
	714FX6 †	14	8	-	6	-	-40° to 70°C	10-49 VDC
	716TX	16	16	-	-	-	-40° to 70°C	10-30 VDC
	716FX2	16	14	-	2	-	-40° to 70°C	10-30 VDC
7000	7010TX †	10	8	-	-	2	-40° to 70°C	10-49 VDC
	7012FX2* †	12	8	-	2	2	-40° to 70°C	10-49 VDC
	7018TX	18	16	-	-	2	-40° to 70°C	10-30 VDC
	7018FX2	18	14	-	2	2	-40° to 70°C	10-30 VDC
	7026TX †	26	24	-	-	2	-40° to 80°C	18-49 VDC
	7026TX-AC †	26	24	-	-	2	-40° to 80°C	90-300 VDC / 90-264 VAC
	7506GX2 (All Gigabit) †	6	-	4	-	2	-40° to 80°C	10-49 VDC
	7900 (Modular)** †	26	Up to 24	-	Up to 16	2	-20° to 70°C	10-30 VDC

**KEMA approved IEC 61850-3 and IEEE 1613 HV models available.*
***See 7900 datasheet for available port modules.*
† Supports NTCD-128 device.
Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.
SFP ports support 1000Base SFP transceivers, which are sold separately.

CONFIGURATION & RECOVERY DEVICES

Model Number	Description	Supported Models
NTCD-128	SD card, configuration and recovery device	700, 7000



INDUSTRIAL ETHERNET & THE IIOT

Ethernet is the fastest growing communication technology in industrial automation. High demand in production is forcing automation players to deliver maximum uptime while maintaining a high level of quality. Building a smart industrial network with managed Ethernet switches can help improve uptime and increase profits.

NT4000 MANAGED ETHERNET SWITCHES

- PROFINET PNIO Conformance Class B
- Gigabit copper and fiber models
- MRP (Media Redundancy Protocol), MRC and MRM configurations
- DIN Rail and panel mounting options

Model Number	Total Ports	10/100/1000Base Copper	100Base or 1000Base Fiber SFP Ports*	Mounting & Case	Operating Temp.	Power Input
NT-4008-PN	8	8	-	DIN Rail, Panel Mount – Metal	-40° to 75°C	12-58 VDC
NT-4008-DM2-PN	8	6	2	DIN Rail, Panel Mount – Metal	-40° to 75°C	12-58 VDC

**SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.*

NT5000 MANAGED ETHERNET SWTICHES

- Gigabit copper or mix of copper and fiber
- Graphical web interface
- Configuration wizard
- N-Ring™ Automember
- N-View™ monitoring technology
- HTTPS, SSH, SSL
- Enhanced Security Features

Model Number	Total Ports	10/100/1000 BaseT RJ45 Ports	Dual Mode (100/1000Base) SFP Ports	100Base Fiber Ports	1000Base Fiber Ports	Operating Temperature	Power Input
NT5006	6	6	-	-	-	-40° to 85°C	10-49 VDC
NT5006-DM2	6	4	2	-	-	-40° to 85°C	10-49 VDC
NT5008	8	8	-	-	-	-40° to 85°C	10-49 VDC
NT5008-DM2	8	6	2	-	-	-40° to 85°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 85°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 85°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 85°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 85°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 85°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 80°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 80°C	10-49 VDC
NT5008-FX2	8	6	-	2	-	-40° to 80°C	10-49 VDC
NT5008-GX2	8	6	-	-	2	-40° to 80°C	10-49 VDC
NT5008-GX2	8	6	-	-	2	-40° to 85°C	10-49 VDC
NT5008-GX2	8	6	-	-	2	-40° to 85°C	10-49 VDC
NT5008-GX2	8	6	-	-	2	-40° to 85°C	10-49 VDC
NT5010-DM2	10	8	2	-	2	-40° to 85°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 85°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 85°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 85°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 85°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 80°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 80°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 80°C	10-49 VDC
NT5010-FX2	10	8	-	2	-	-40° to 80°C	10-49 VDC
NT5010-GX2	10	8	-	-	2	-40° to 80°C	10-49 VDC
NT5010-GX2	10	8	-	-	2	-40° to 80°C	10-49 VDC

NT5010-GX2	10	8	-	-	2	-40° to 85°C	10-49 VDC
NT5010-GX2	10	8	-	-	2	-40° to 85°C	10-49 VDC
NT5016	16	16	-	-	2	-40° to 80°C	10-49 VDC
NT5018-DM2	18	16	2	-	2	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-FX2	18	16	-	2	-	-40° to 80°C	10-49 VDC
NT5018-GX2	18	16	-	-	2	-40° to 80°C	10-49 VDC
NT5018-GX2	18	16	-	-	2	-40° to 80°C	10-49 VDC
NT5018-GX2	18	16	-	-	2	-40° to 80°C	10-49 VDC
NT5018-GX2	18	16	-	-	2	-40° to 80°C	10-49 VDC

SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately. Multimode and singlemode options available. FX models available with SC or ST connectors. GX models available with SC style connectors.

NT24k™ MANAGED SWITCHES

- DIN Rail, Modular and IP67 Models
- N-Ring™ Manager/Multi-Member technology
- N-View™ monitoring technology
- IEEE 802.1x with RADIUS remote server authentication
- DHCP Server, Option 82 relay, Option 61, IP fallback
- EtherNet/IP CIP messaging
- Fast Ethernet and Gigabit options
- NT24k PT models are IEEE 1588v2 compliant
- XML configuration file
- Optional configuration/ recovery device
- IEEE 802.3af/at PoE models are also available

SLX MANAGED ETHERNET SWITCHES

- Versatile networking solutions with copper and fiber models
- Real-time Modbus over Ethernet monitoring
- Fast Ethernet and Gigabit port options
- DIN Rail or panel mounting options

Model Number	Total Ports	10/100Base Copper	10/100/1000 Base Copper	100Base Fiber*	100Base or 1000Base Fiber SFP Ports**	Mounting & Case	Operating Temp.	Power Input
SLX-5MS-1	5	5	-	-	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-5MS-4	5	3	-	2	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-5MS-5	5	3	-	2	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-8MS-1	8	8	-	-	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-8MS-4	8	6	-	2	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-8MS-5	8	6	-	2	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-8MS-8	8	4	-	4	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-8MS-9	8	4	-	4	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-8MG-1	8	-	8	-	4 Combo Ports	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-10MG-1	10	7	3	-	2 Combo Ports	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-16MS-1	16	16	-	-	-	DIN Rail – Metal	-40° to 75°C	10-30 VDC
SLX-18MG-1	18	16	2	-	2 Combo Ports	DIN Rail – Metal	-40° to 75°C	10-30 VDC

**Fiber models available in multimode and singlemode configurations with SC or ST fiber connectors.*
***SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.*

NT24k MODULAR MANAGED GIGABIT ETHERNET SWITCHES

- Hot swappable modules with Copper, Fast Ethernet and Gigabit Fiber
- DIN Rail and rackmount options
- PoE models available, see page 17

Model Number	Total Ports	10/100/1000 Base Copper	100Base Fiber	1000Base Fiber	100/1000 Base SFP	Operating Temp.	Power Options
NT24k-DC1	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40° to 85°C	Single 18-49 VDC
NT24k-DC2	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40° to 85°C	Dual 18-49 VDC
NT24k-AC1	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40° to 85°C	Single 90-264 VAC/90-300 VDC
NT24k-AC2	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40° to 85°C	Dual 90-264 VAC/90-300 VDC
NT24k-AC1-DC1	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40° to 85°C	Single 90-264 VAC/ 90-300 VDC & 18-49 VDC
NT24k-DR16-DC	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	-40° to 75°C	Redundant 18-49 VDC
NT24k-DR16-AC	Up to 16	Up to 16	Up to 16	Up to 16	Up to 16	-40° to 75°C	90-264 VAC/90-300 VDC
NT24k-DR24-DC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40° to 75°C	Redundant 18-49 VDC
NT24k-DR24-AC	Up to 24	Up to 24	Up to 24	Up to 24	Up to 24	-40° to 75°C	90-264 VAC/90-300 VDC

Low-voltage power supplies feature redundant power inputs.

NT24k Port Modules	
NT24k-TX8	8-port 10/100/1000BaseT module
NT24k-FXB-XX	Slide-in module with 8 100BaseFX multimode fiber ports, 2km (SC or ST)
NT24k-FXE8-XX-YY	Slide-in module with 8 100BaseFX singlemode fiber ports (SC or ST)
NT24k-GX8-SC	Slide-in module with 8 100BaseFX multimode fiber ports, 550m (SC)
NT24k-GXE8-SC-ZZ	Slide-in module with 8 100BaseFX singlemode fiber ports (SC)
NT24k-SFP8	Slide-in module with 8 SFP expansion slots; supports 1000Base SFP transceivers*
NT24k-SFP-DM8	Slide-in module with 8 SFP expansion slots; supports 100Base or 1000Base SFP transceivers*

NT24k-SFP-DM8 module supports 100Base and 1000Base SFP transceivers.
Where: XX = SC or ST; YY = 15, 40, 80; ZZ = 10, 40, 80
**SFP transceivers sold separately.*

COMPACT NT24k GIGABIT MANAGED SWITCHES

- Fast Ethernet and Gigabit fiber options
- Robust remote monitoring with N-View™ monitoring technology

Model Number	Total Ports	10/100/1000 Base Copper	100Base Fiber	1000Base Fiber	100 or 1000Base SFP	Mounting & Case	Operating Temp.	Power Input
NT24k-8TX	8	8	-	-	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24K-10FX2	10	8	2	-	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-10GX2	10	8	-	2	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-11FX3	11	8	3	-	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-11GX3	11	8	-	3	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-12FX4	12	8	4	-	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-12GX4	12	8	-	4	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-12SFP-DM4	12	8	-	-	4	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-14FX6	14	8	6	-	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-14GX6	14	8	-	6	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC
NT24k-16TX	16	16	-	-	-	DIN Rail – Metal	-40° to 85°C	10-49 VDC

Multimode and singlemode options available. FX models available with SC or ST connectors; GX models available with SC style connectors.
SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.
POE+ models are available, see page 15. IP67 models are available, see page 16, 17.

CONFIGURATION & RECOVERY DEVICES

Model Number	Description	Supported Models
NTCD-CFG	SD card, configuration and recovery device	NT24k

MANAGED LAYER 3 SWITCHES

Red Lion's NT328G Layer 3 rackmount industrial Ethernet switch offers 28 high speed ports to meet the performance requirements of bandwidth-intensive applications. Designed to meet current and future needs with reliable wire-speed switching performance and a flexible mix of copper and fiber ports, the NT328G's robust feature set includes network redundancy, advanced security, policy-based traffic control and easy-to-use configuration and management. Housed in a rugged IP30 metal enclosure, the switch is designed for long-life use in harsh industrial environments, including wide operating temperature conditions and hazardous locations.

NT328G LAYER 3 ETHERNET SWITCHES

- 24 Gigabit copper ports or 8 Gigabit copper ports and 16 Gigabit SFP ports
- 4 10G SFP+ ports support 10G SFP+ fiber or 1G copper/ fiber SFP transceivers
- QoS: traffic policing, traffic shaping, queue scheduling
- GVRP VRRP, RIP, OSPF, and Static Layer 3 routing
- Advanced security
- Fast Ring, RSTP/MSTP redundancy protocols

Model Number	Total Ports	10/100/1000 Base Copper	100/1000Base SFP	10G Fiber SFP+*	Operating Temp.	Power Input
NT328G-20SFP-AC1	28	8	16	4	-40° to 75°C	Single100-240 VAC
NT328G-20SFP-AC2	28	8	16	4	-40° to 75°C	Dual 120-240 VAC
NT328G-04SFP-AC1	28	24	-	4	-40° to 75°C	Single100-240 VAC
NT328G-04SFP-AC2	28	24	-	4	-40° to 75°C	Dual 120-240 VAC

**Backward compatible to 1000Base Copper or Fiber SFP transceivers, which are sold separately.*

INDUSTRIAL POE SOLUTIONS

Red Lion's industrial PoE solutions are designed to transmit power and data over an Ethernet network. PoE networks eliminate the need for running separate wires for power and are ideal in installations with devices such as IP surveillance cameras, wireless access points, IP phones and other PoE-enabled devices. These industrial PoE devices offer a compact, rugged design for harsh, remote locations.

- Compact, rugged design
- Switches, injectors and splitters
- Transmit power and data over Ethernet networks
- Wide temperature range and IP67 options
- Wide array of port configurations and media types available across multiple lines
- Managed models offer advanced PoE configuration and monitoring

Switch Models	PoE Standard	Hazardous Location	Maritime	Rail	Traffic	Monitoring	Network Redundancy	Mounting
EB	IEEE 802.3af	X	X					DIN Rail
SLX	IEEE 802.3af	X	X			X		DIN Rail
100-POE	IEEE 802.3af	X	X	O		O		DIN Rail
1000-POE+	IEEE 802.3at	X	X	X	O			DIN Rail
NT24k	IEEE 802.3at	X	X	O		N-View™/SNMP	N-Ring™/N-Link™/ RSTP	DIN Rail
Legend	X: All models	O: Some models	SNMP: Simple Network Management Protocol			RSTP: Rapid Spanning Tree Protocol		

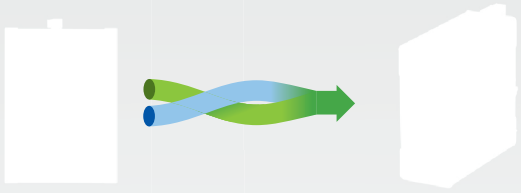
POWER OVER ETHERNET (POE)

Power over Ethernet (PoE) is a method to transmit power and data, up to 100 meters, over a single Ethernet (CAT5e/CAT6/CAT6a) cable. The benefits of PoE include reduced wiring and installation costs and greater flexibility of device placement as equipment no longer needs to be located near power outlets. Red Lion offers a wide range of PoE products including Ethernet switches, midspan injectors and PoE splitters, that support industry-standard IEEE 802.3af (PoE) and/or IEEE 802.3at (PoE+).

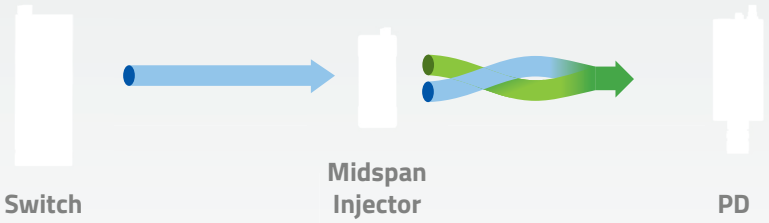
	POE (IEEE 802.3af)	POE+ (IEEE 802.3at)
Max power delivered by PSE	15.40 W	34.20 W
Power Available at PD	12.95 W	25.5 W
Voltage Output Range	44-57 VDC	50-57 VDC
Max Output Current	350 mA	600 mA
Power Management	Three levels	Four levels

COMMON POE TERMINOLOGY

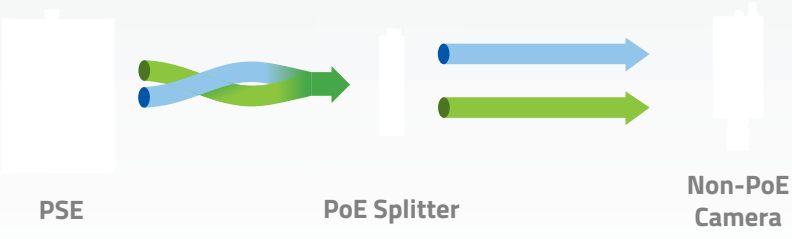
- **Power Sourcing Equipment (PSE):** Any device that provides or injects power onto a copper Category Ethernet cable.
- **Powered Device (PD):** A device such as a camera, a display, a Wi-Fi radio, or a cellular router that is powered by PoE from a PSE device.
- **Endspan Switch:** An Ethernet switch that combines data and power onto an Ethernet cable for PoE enabled devices.



- **Midspan Injector:** An intermediary device that injects PoE power onto an Ethernet cable for PoE enabled devices.



- **PoE Splitter:** A PD device that removes PoE power from an Ethernet cable to power non-PoE enabled equipment.



EB & SLX POE SPLITTERS, INJECTORS & SWITCHES

- IEEE 802.3af PoE support
- Easily integrates PoE equipment into existing networks
- Seamless plug-and-play operation

Model Number	Type	Total Ports	10/100Base Copper	10/100/1000 Base Copper	1000Base SFP	Mounting & Case	Operating Temp.	Power Input
EB-PD-24V-1	PoE Splitter	2	2 (1 PoE)	-	-	DIN Rail – Lexan	-40° to 75°C	45-56 VDC POE
EB-PSE-24V-1	Midspan Injector	2	1 (1 PoE)	-	-	DIN Rail – Lexan	-40° to 75°C	18-30 VDC POE
EB-PSE-48V-2	Midspan Injector	4	2 (2 PoE)	-	-	DIN Rail – Lexan	-40° to 75°C	18-30 VDC, 45-56 VDC POE
EB-5ES-PSE-1	Unmanaged Switch	5	5 (4 PoE)	-	-	DIN Rail – Lexan	-40° to 75°C	10-30 VDC, 45-56 VDC POE
SLX-5EG-1	Unmanaged Switch	5	-	5 (4 PoE)	-	DIN Rail – Metal	-40° to 85°C	10-44 VDC, 45-52 VDC POE
SLX-5EG-2SFP	Unmanaged Switch	5	-	3 (3 PoE)	2	DIN Rail – Metal	-40° to 85°C	10-44 VDC, 45-52 VDC POE

SFP ports support 1000Base SFP transceivers, sold separately. Fiber models available with SC or ST fiber connectors.

100 & 1000 POE SPLITTERS, INJECTORS & SWITCHES

- Rugged, metal enclosures
- Easy plug-and-play operation

Model Number	Type	Total Ports	10/100Base Copper	10/100/1000 Base Copper	100Base Fiber	Mounting & Case	Operating Temp.	Power Input
100-POE-SPL	PoE Splitter	2	2 (1 PoE)	-	-	DIN Rail – Metal	-40° to 85°C	46-54 VDC
100-POE4	Midspan Injector	8	4 (4 PoE)	-	-	DIN Rail – Metal	-40° to 85°C	46-49 VDC
1000-POE+*	Midspan Injector	2	-	1 (1 PoE+)	-	DIN Rail – Metal	-40° to 80°C	10-30 VDC
1000-POE4+*	Midspan Injector	8	-	8 (4 PoE)	-	DIN Rail – Metal	-40° to 85°C	22-49 VDC
105TX-POE	Unmanaged Switch	5	5 (4 PoE)	-	-	DIN Rail – Metal	-40° to 85°C	46-49 VDC
105FX-POE	Unmanaged Switch	5	4 (4 PoE)	-	1	DIN Rail – Metal	-40° to 85°C	46-49 VDC
1008TX-POE+*	Unmanaged Switch	8	-	8 (4 PoE+)	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC

** Redundant 10 to 30 VDC power inputs with power boost circuit to provide IEEE 802.3at output.*

COMPACT NT24k-POE MANAGED POE SWITCHES

- IEEE 802.3af/at
- 240 watt PoE power budget (up to 30 watts per port)
- Redundant 22-49 VDC power inputs boosts power to meet PoE+ output requirements
- 100Base and 1000Base fixed fiber or SFP transceiver options

Model Number	Total Ports	100Base Fiber	10/100/1000 Base Copper	1000Base Fiber	100 or 1000Base SFP	Mounting & Case	Operating Temp.	Power Input
NT24k-8TX-POE	8	-	8 (8 PoE+)	-	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-10FX2-POE	10	2	8 (8 PoE+)	-	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-10GX2-POE	10	-	8 (8 PoE+)	2	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-11FX3-POE	11	3	8 (8 PoE+)	-	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-11GX3-POE	11	-	8 (8 PoE+)	3	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-12FX4-POE	12	4	8 (8 PoE+)	-	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-12GX4-POE	12	-	8 (8 PoE+)	4	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-12SFP-DM4-POE	12	-	8 (8 PoE+)	-	4	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-14FX6-POE	14	6	8 (8 PoE+)	-	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-14GX6-POE	14	-	8 (8 PoE+)	6	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC
NT24k-16TX-POE	16	-	16 (16 PoE+)	-	-	DIN Rail – Metal	-40° to 80°C	22-49 VDC

Multimode and singlemode options available. FX models available with SC or ST connectors; GX models available with SC style connectors.
SFP ports support 100Base or 1000Base SFP transceivers, which are sold separately.

CONFIGURATION & RECOVERY DEVICES

Model Number	Description	Supported Models
NTCD-CFG	SD card, configuration and recovery device	NT24k

IP67 & BOARD-LEVEL SWITCHES

Red Lion offers a wide selection of IP67 and board level solutions. Our best in class, water resistant IP67 devices are designed for flawless operation in extreme environments, while our board level products provide the perfect Ethernet solution for OEM systems.

IP67 INDUSTRIAL SWITCHES

- Rugged IP67/NEMA 6 enclosures
- Versatile unmanaged and managed solutions
- Hardened for the toughest applications

	Model Number	Type	Total Ports	10/100Base Copper	Ingress Protect	Operating Temp.	Power Options
100	105M12	Unmanaged	5	5	IP67	-40° to 80°C	10-30 VDC
	108M12	Unmanaged	8	8	IP67	-40° to 70°C	10-30 VDC
	108M12-HV	Unmanaged	8	8	IP67	-40° to 70°C	10-60 VDC
700	708M12	Managed	8	8	IP67	-40° to 80°C	10-30 VDC
	708M12-HV	Managed	8	8	IP67	-40° to 80°C	40-160 VDC
	716M12	Managed	16	16	IP67	-40° to 80°C	10-49 VDC
	716M12-HV	Managed	16	16	IP67	-40° to 80°C	40-160 VDC
NT24k-16M12	NT24k-16M12	Managed	16	16	IP67	-40° to 85°C	10-49 VDC
	NT24k-16M12-PT	Managed	16	16	IP67	-40° to 85°C	10-49 VDC
	NT24k-16M12-R	Managed	16	16	IP67	-40° to 85°C	10-49 VDC
	NT24k-16M12-R-PT	Managed	16	16	IP67	-40° to 85°C	10-49 VDC
	NT24k-16M12-POE	Managed	16	16	IP67	-40° to 80°C	22-49 VDC
	NT24k-16M12-POE-PT	Managed	16	16	IP67	-40° to 80°C	22-49 VDC
	NT24k-16M12-POE-R	Managed	16	16	IP67	-40° to 80°C	22-49 VDC
	NT24k-16M12-POE-R-PT	Managed	16	16	IP67	-40° to 80°C	22-49 VDC

CONFIGURATION & RECOVERY DEVICES

Model Number	Description	Supported Models
700-NTCD-M12	M12 connector, configuration and recovery device	708M12, 716M12
NTCD-CFG	SD card, configuration and recovery device	NT24k

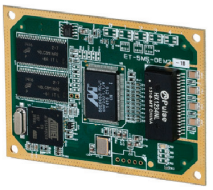
ULTRA-RUGGED IP67 SWITCHES

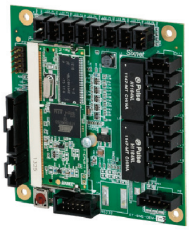
- IP67/NEMA 6 ingress protection for harsh environments
- MIL-DTL-38999 series III connectors
- Ultra-rugged, built to military standards

Model Number	Type	Total Ports	10/100Base Copper	10/100/1000 Base Copper	Ingress Protect	Operating Temp.	Power Options
ET-8ES-MIL	L2 Unmanaged	8	8	-	IP67	-40° to 75°C	10-30 VDC
ET-8EG-MIL	L2 Unmanaged	8	-	8	IP67	-40° to 75°C	18-36 VDC
ET-8MS-MIL	L2 Managed	8	8	-	IP67	-40° to 75°C	10-30 VDC
ET-8MG-MIL	L2 Managed	8	-	8	IP67	-40° to 75°C	18-36 VDC

EMBEDDED OEM SOLUTIONS

- Wide operating temperature range
- Ready for copper, fiber, or SFP connectors
- Low power consumption





Model Number	Type	Total Ports	10/100Base Copper	10/100/1000 Base Copper	100Base Fiber	1000Base Fiber	Size	Power Input
ET-5MS-OEM	Managed	6	Up to 6	-	Up to 1	-	Ultra-compact 2.5 x 3.5"	3.3 VDC
ET-8MS-OEM	Managed	10	8	Up to 2	Up to 2	Up to 2	Standard PC/104 3.6 x 3.8"	5 VDC
ET-8MG-OEM-F	Managed	8	Up to 8	Up to 8	Up to 8	Up to 8	Standard PC/104 3.6 x 3.8"	5 VDC

WIRED ROUTERS

Red Lion's RAM-6021 industrial wired routers offer secure and reliable communication to remotely deployed assets. Rugged RAM-6021 routers are ideal for connecting to Modbus or DNP3 devices such as SCADA servers, PLCs, and other automation equipment located in harsh environments.

- Intrusion protection and secure data access
- IPsec and SSL VPN tunnels
- NAT translation

Model Number	Serial Interface	10/100Base Copper	Power Connector	Power Input
RAM-6021	1 RS-232	5 (LAN/WAN)	2.5 mm barrel connector, redundant inputs with terminal block	8-30 VDC
RAM-6021M12	1 M12 8-Pin A-Code, 1 digital output, 1 digital/analog input	5 M12 D-Code (LAN/WAN)	M12 A-Code connector, redundant inputs	8-49 VDC

COMPACT INDUSTRIAL FIREWALL

This automation-friendly firewall protects your application from attacks by segmenting your production network into manageable and logically separated units. With network learning capabilities, this intelligent firewall does the hard work for you.

Model Number	Power Connector
RA10C-000000-000D0	Compact Industrial Firewall

MEDIA CONVERTERS

Red Lion's wide range of Ethernet media converters are designed to not only extend communications links but also bridge connectivity between disparate types of media, connectors or speeds. Our DIN Rail mountable media converters include copper, fiber, Fast Ethernet and gigabit options.

SL FIBER MEDIA CONVERTERS

- Plug-and-play installation saves time and money
- Slim, robust design for industrial applications
- Wide selection of fiber connectivity options

Model Number	Type	Total Ports	10/100Base Copper	100Base Fiber	Mounting & Case	Operating Temp.	Power Input
SL-2ES-2	Unmanaged	2	1	1	DIN Rail – Lexan	-10° to 60°C	10-30 VDC
SL-2ES-3	Unmanaged	2	1	1	DIN Rail – Lexan	-10° to 60°C	10-30 VDC

100 & 1000 FIBER MEDIA CONVERTERS

- Compact, hardened metal DIN rail housing
- Convert copper to Fast Ethernet or Gigabit Fiber

Model Number	Type	Total Ports	10/100Base Copper	10/100/ 1000Base Copper	100Base Fiber	1000Base SFP	Mounting & Case	Operating Temp	Power Input
102MC	Unmanaged	2	1	-	1	-	DIN Rail – Metal	-40° to 80°C	10-30 VDC
1002MC	Unmanaged	2	-	1	-	1	DIN Rail – Metal	-40° to 85°C	10-30 VDC

ACCESSORIES

Red Lion's rugged, reliable industrial Ethernet products demand the same level of performance as the applications that they are a part of. That's why the following power supplies, configuration and recovery devices, mounting kits and SFP transceivers are designed to provide years of trouble-free service in industrial applications.

POWER SUPPLIES

Model Number	Current	Voltage	Mounting	Special Certifications
NTPS-24-1.3	1.3 A	24 VDC	DIN rail power supply	
NTPS-24-2.5	2.5 A	24 VDC	DIN rail power supply	NEMA TS2
NTPS-24-3	3 A	24 VDC	DIN rail power supply	
NTPS-24-5	5 A	24 VDC	DIN rail power supply	
NTPS-24-20	20 A	24 VDC	DIN rail power supply	
NTPS-48-2	2 A	48 VDC	DIN rail power supply	
NTPS-48-5	5 A	48 VDC	DIN rail power supply	
NTPS-48-10	10 A	48 VDC	DIN rail power supply	

CONFIGURATION & RECOVERY DEVICES

Model Number	Description	Supported Models
NTCD-CFG	SD card, configuration and recovery device	NT24k
NTCD-128	SD card, configuration and recovery device	700, 7000
700-NTCD-M12	M12 connector, configuration and recovery device	708M12, 716M12

MOUNTING KITS

Model Number	Description	Factory-Installed Option
300-PMK	Panel mount kit for 300 switches; converts switch from DIN rail to panel mount	
500-UTA89	Metal DIN rail clip for 508TX, 508FX2 and 509FX	
700-PM	Panel mount kit for 700 and 7000 (Excludes 702-W and 708M12)	
900-PM	Panel mount kit for 300, 500 and 700 (Excludes 524TX and 526FX2)	
1000-PM	Panel mount kit for 105TX-SL, 1000 and 7506	
CPMA-1	Metal panel mount option for 709FX, 710FX2, 711FX3 and 7010TX	Y
CPMA-2	Metal panel mount option for 712FX4 and 714FX6	Y
M12DRC-ISO	DIN rail kit for M12 products; two isolated plastic DIN rail and mounting clips included	
M12DRC-MTL	DIN rail kit for M12 products; two metal DIN rail and mounting clips included	
URMK	19" Universal rackmount kit for 100 series	
NT24K-DR-PMK	Panel mount kit for NT24k-DR16 and NT24k-DR24	
NT24K-PMK	Panel mount kit for NT24k	
7026TX-PMK	Panel mount kit for 7026TX	
NT-CPMA-03-00000	NT5000 PANEL MOUNT KIT, Type A (see switch datasheet for compatibility)	
NT-CPMA-04-00000	NT5000 PANEL MOUNT KIT, Type B (see switch datasheet for compatibility)	

SFP TRANSCEIVERS

Model Number	Speed	Connector	Distance	Type	Compatible Series
NTSFP-TX	1000BaseT Copper	RJ45	100 m	Copper	N-Tron®
NTSFP-FX	100BaseFX	LC	2 km	Multimode	N-Tron®
NTSFP-FXE-15	100BaseFX	LC	15 km	Singlemode	N-Tron®
NTSFP-FXE-40	100BaseFX	LC	40 km	Singlemode	N-Tron®
NTSFP-FXE-80	100BaseFX	LC	80 km	Singlemode	N-Tron®
NTSFP-SX	1000BaseSX	LC	550 m	Multimode	N-Tron®
NTSFP-LX-10	1000BaseLX	LC	10 km	Singlemode	N-Tron®
NTSFP-LX-40	1000BaseLX	LC	40 km	Singlemode	N-Tron®
NTSFP-LX-80	1000BaseLX	LC	80 km	Singlemode	N-Tron®
FCOPPER-SFP-100	10/100Base-T(X)	RJ45	100 m	Copper	Sixnet®
FMFIBER-SFP-2K	100BaseFX	LC	2 km	Multimode	Sixnet®
FMFIBER-SFP-4K	100BaseFX	LC	4 km	Multimode	Sixnet®
FSFIBER-SFP-100	100BaseFX	LC	100 km	Singlemode	Sixnet®
FSFIBER-SFP-30K	100BaseFX	LC	30 km	Singlemode	Sixnet®
FSFIBER-SFP-60K	100BaseFX	LC	60 km	Singlemode	Sixnet®
GMFIBER-SFP-500	1000BaseSX	LC	550 m	Multimode	Sixnet®
GMFIBER-SFP-2K	1000BaseSX	LC	2 km	Multimode	Sixnet®
GSFIBER-SFP-10K	1000BaseLX	LC	10 km	Singlemode	Sixnet®
GSFIBER-SFP-30K	1000BaseLX	LC	30 km	Singlemode	Sixnet®
GSFIBER-SFP-50K	1000BaseLX	LC	50 km	Singlemode	Sixnet®
GSFIBER-SFP-80K	1000BaseLX	LC	80 km	Singlemode	Sixnet®
NT10GSFP-SR	10GBase	LC	550m	Multimode	NT328G
NT10GSFP-LR-10	10GBase	LC	10km	Singlemode	NT328G
NT10GSFP-LR-40	10GBase	LC	40km	Singlemode	NT328G
NT10GSFP-LR-80	10GBase	LC	80km	Singlemode	NT328G

Red Lion is focused on being THE Industrial Data Company™. We empower industrial organizations around the world to unlock the value of data by developing and manufacturing innovative products and solutions to access, connect and visualize their information. Red Lion's global manufacturing and support facilities serve customers in factory automation, alternative energy, oil and gas, power and utilities, transportation, water and wastewater industry segments. We provide scalable solutions for cloud connectivity, edge intelligence and asset management, industrial Ethernet switches and industryleading panel meters and operator panels, to make it easy for companies to gain real-time data visibility that drives productivity.
Red Lion is part of Spectris plc, the experts in providing insight through precision measurement.