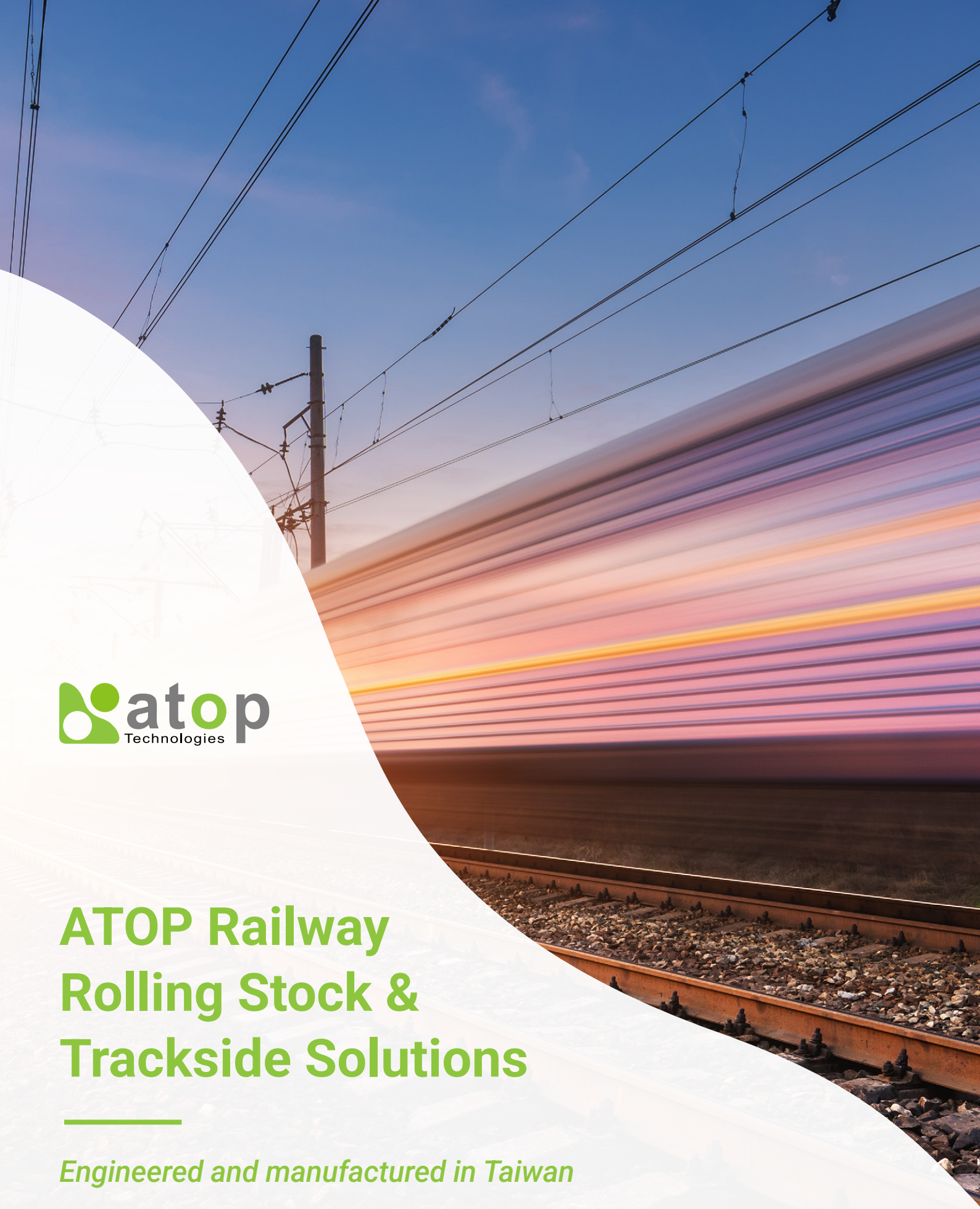
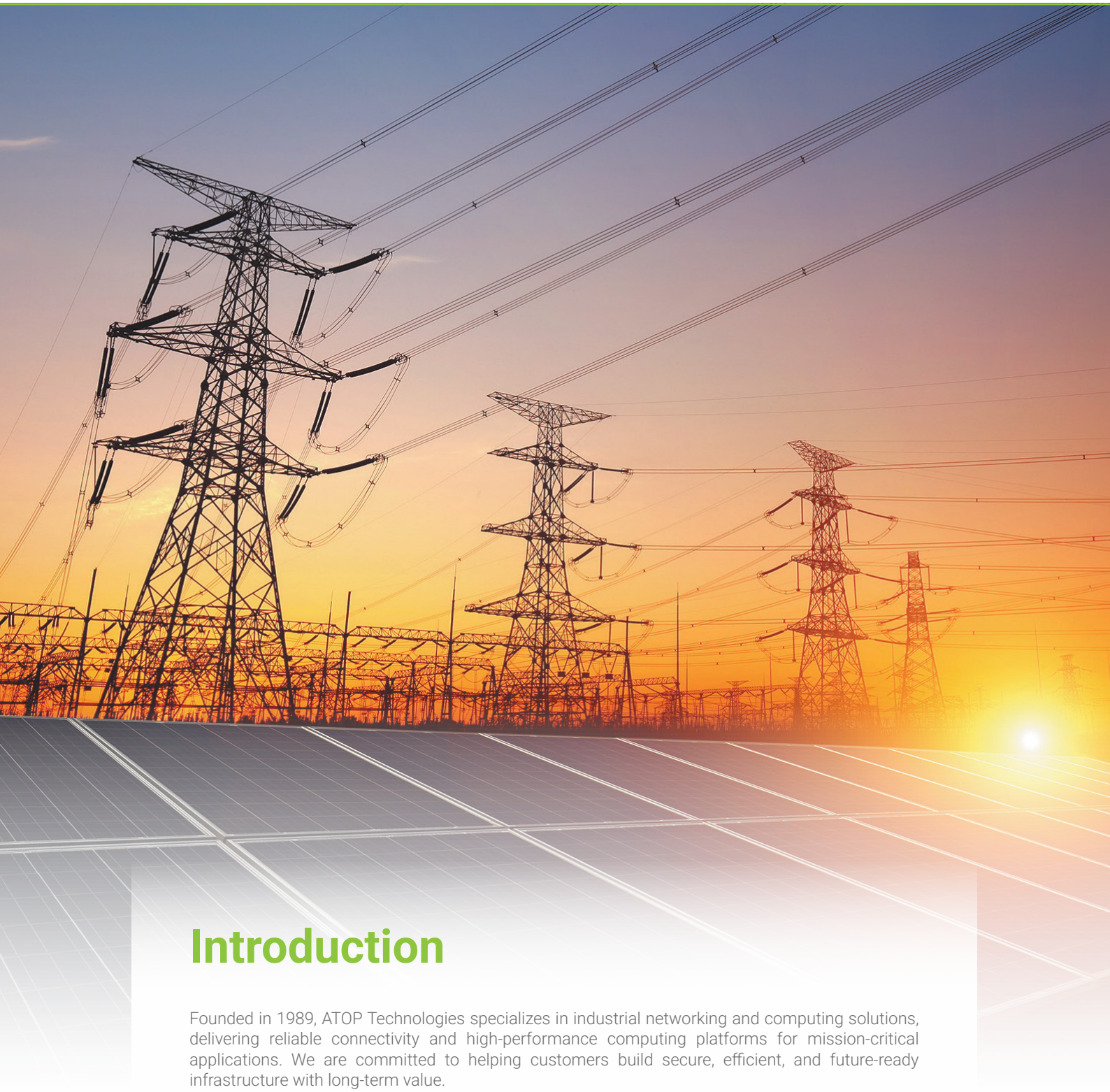


atop Technologies

ATOP Railway Rolling Stock & Trackside Solutions

Engineered and manufactured in Taiwan

v1.4, Jun. 2026



Introduction

Founded in 1989, ATOP Technologies specializes in industrial networking and computing solutions, delivering reliable connectivity and high-performance computing platforms for mission-critical applications. We are committed to helping customers build secure, efficient, and future-ready infrastructure with long-term value.

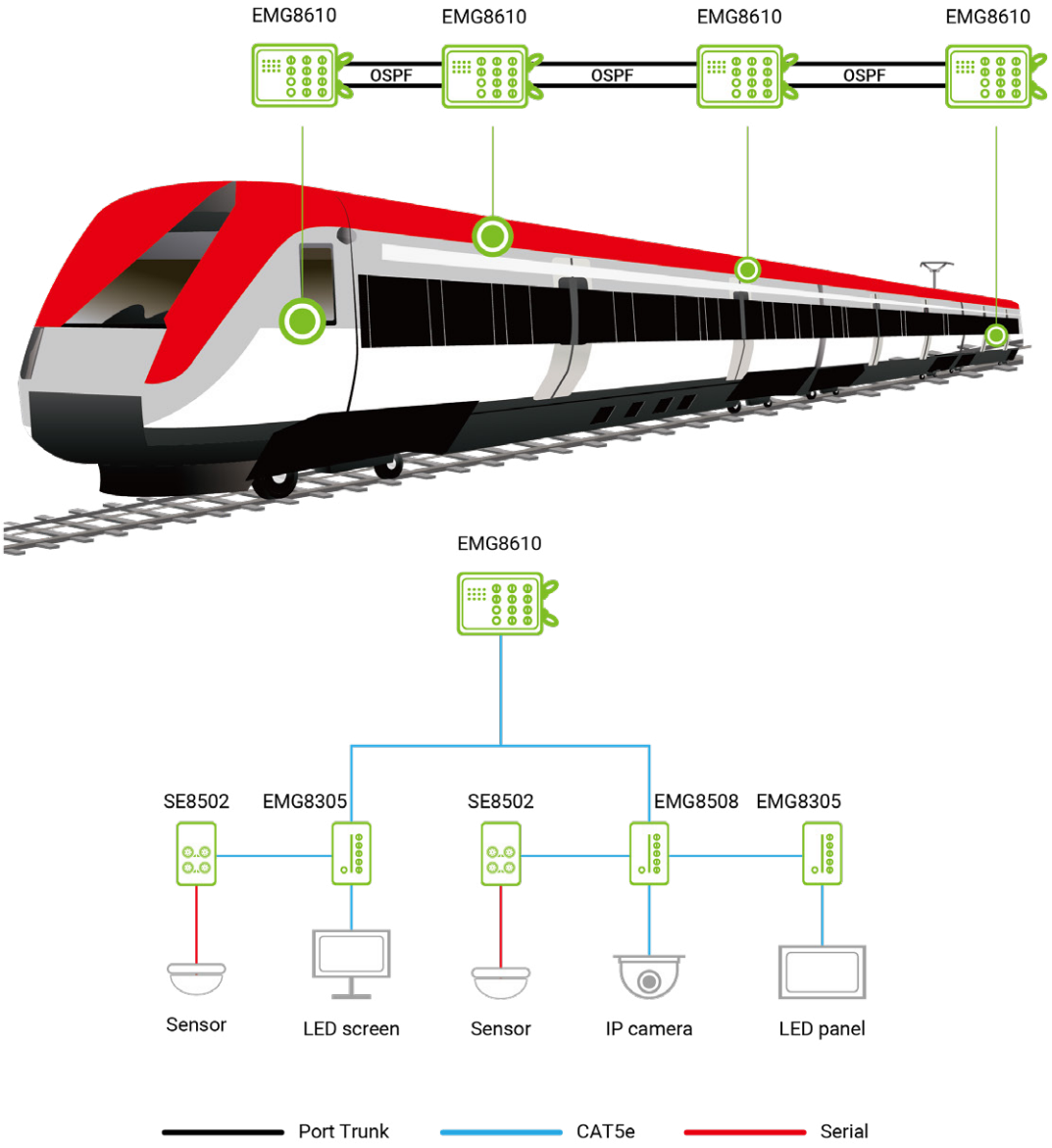
Through our comprehensive portfolio of standard and customized solutions, ATOP addresses complex communication and system integration challenges across diverse applications. Our technologies are widely deployed in railway systems, smart cities, industrial automation, smart grids and power substations, and the oil and gas industry.

Backed by decades of industry expertise, flexible manufacturing capabilities, continuous innovation, and a customer-centric approach, ATOP has become a trusted partner to customers worldwide, supporting their journey toward industrial modernization and digital transformation.

Rolling Stock Solutions

EN 50155 certified devices for Rolling Stock

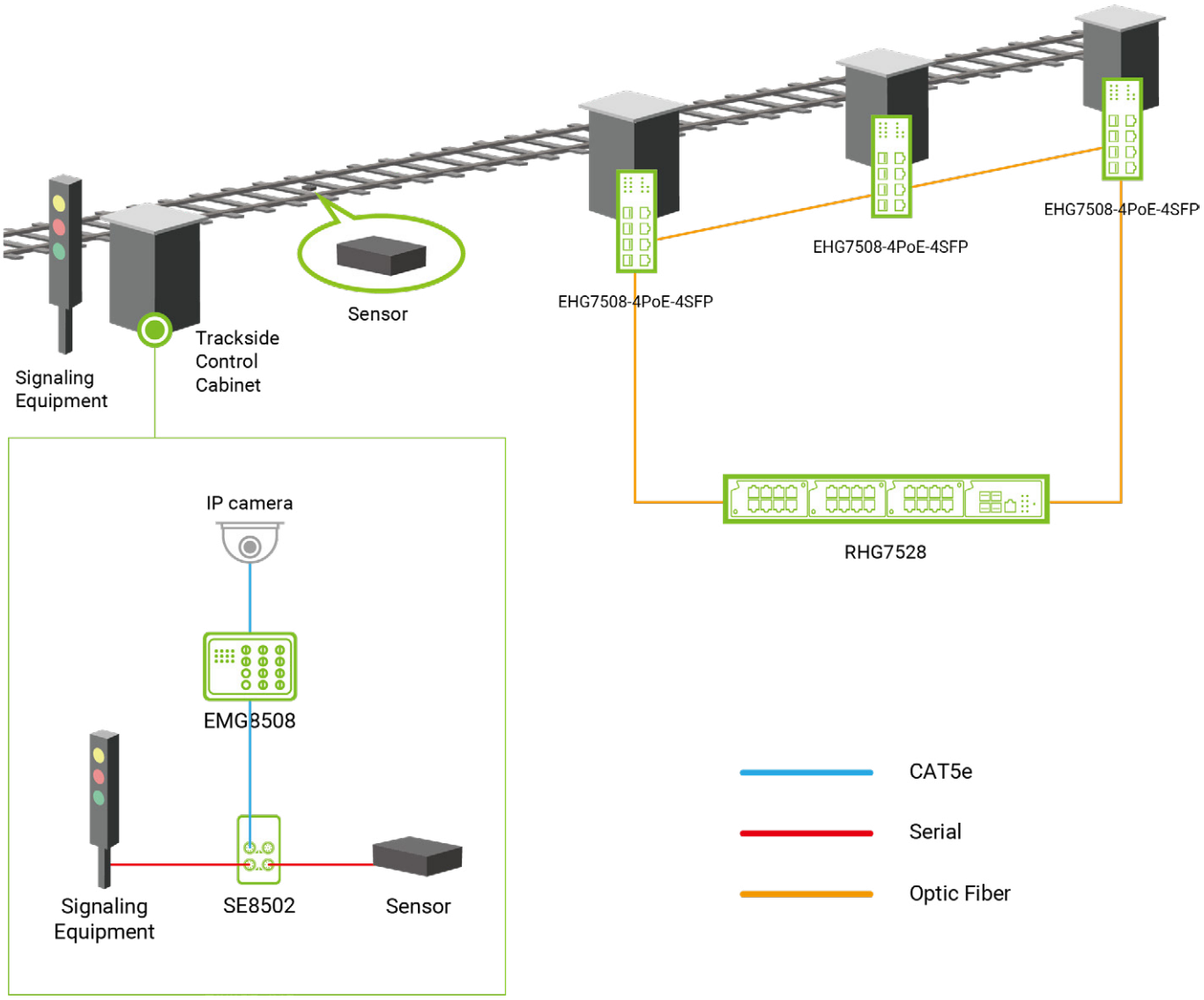
ATOP provides a wide range of EN50155 & EN45545-2 certified IP67 and IP30 unmanaged/managed switches and serial servers, suitable for supporting the challenges in rolling stock deployment. Equipped with an M12 connector or RJ45/SFP interface, our devices support Gigabit speeds and Power over Ethernet to build the trains of the future.



Trackside solutions

Ethernet-based solutions for track management and supervision

ATOP's EN50121-4 certified IP67 and IP30 unmanaged and managed switches, serving up to 10G speeds, are the perfect choice for building the trackside network of next generation infrastructure. With either IP67 or IP30 protection, our devices can cover the market-specific needs both inside the cabinet or exposed to the harshest weather conditions, providing PoE power to cameras and other PD devices, and offering a redundant fault-tolerant backbone in case of breakdowns.



EMG83xx / EMG85xx / EMG86xx Series

FEATURED HIGHLIGHTS

- Designed for railway rolling stock and trackside applications.
- EN50155 and EN50121-4 certified for railway environments.
- Ruggedized IP67 aluminum enclosure.
- Wide operating temperature range from -40°C to 75°C.
- M12 connector design for vibration-resistant connectivity.
- Redundant DC power input for enhanced system reliability.
- Gigabit Ethernet connectivity for high-bandwidth communications.

Comparison chart

Railway-certified product range	Serial Server	Unmanaged Switches	Managed L2 Switches		Managed L3 Switches	
General information						
Model number	SE8502	EMG8305	EMG8508	EMG8510	EMG8608	EMG8610
Network Interfaces						
Total number of ports	1	5	8	10	8	10
Fast Ethernet 10/100 BaseT(X)	1 (M12)	-	-	-	-	-
Fast Ethernet Fiber ports (SFP, LC or ST)	-	-	-	-		
Gigabit 10/100/1000 BaseT(X)	-	5 (M12)	8 (M12)	8 (M12)	8 (M12)	8 (M12)
Gigabit 100/1000Base-X SFP	-	-	-	-		
Gigabit 1000Base-X SFP		-	-	2	-	2
PoE/PoE+ ports		-	Max 8	Max 8	Max 8	Max 8
Power Supply Input						
Low Voltage DC power Input	9-48 VDC	9-48 V	12-57 V	12-57 V	12-57 V	12-57 V
Power input for PoE			(PoE from 45 V)	(PoE from 45 V)	(PoE from 45 V)	(PoE from 45 V)
Power Redundancy		•	•	•	•	
Relay Output			•	•	•	•
Mechanical						
Housing	Metal	Metal	Aluminum	Aluminum	Aluminum	Aluminum
Ingress Protection	IP68	IP30	IP67	IP67	IP67	IP67
Dimensions (L x H x D) in mm	80 x 145 x 24	106 x 196 x 48	216 x 232 x 72	216 x 232 x 72	216 x 232 x 72	216 x 232 x 72
Operational Temperature	-40°C to +75°C	-40 to +75°C	-40 to +75°C	-40 to +75°C	-40 to +75°C	-40 to +75°C
Network Redundancy						
STP/RSTP/MSTP	-		•	•	•	•
ITU-T G.8032 ERPS Ring			•	•	•	•
MRP (Manerger/Client)			•	•	•	•
Compliance						
UL/EN/IEC(CB)60950-1 and/or 62368-1			•	•		
EN60950-1 and/or EN62368	•	•			•	•
EN50155 / EN50121-4	•	•	•	•	•	•
UL61010-2-201					•	•
Atex Zone 2 - UL C1D2						
NEMA TS2						
Marine (DNV.GL)						

RHG7528/ RHG7628

FEATURED HIGHLIGHTS

- Fully managed Layer-2 or Layer-3 switch for station aggregations.
- Maximum 128Gbps switching capacity, 95.24Mpps throughput.
- Rugged industrial design for -40 to 75°C harsh environment operation
- Flexible modular configuration, 3 module-dedicated slots
- Up to 24 PoE ports, with maximum 720W of PoE power budget
- 4 x 1 Gigabit or 4 x 10 Gigabit SFP Uplink slots
- Endless configurations possible, 4 power input versions
- ITU-T G.8032 EPRS ring, STP/RSTP/MSTP redundancy
- RIP, OSPF, Sstatic routing, PIM supported Layer-3 switching on RHG7628
- EN50155 / EN50121-4 certified for railway applications
- UL/CB(IEC)60950-1:2006 and UL/CB(IEC)62368-1:2014 certified
- Security features based on IEC 62443

Comparison chart

Railway-certified product range

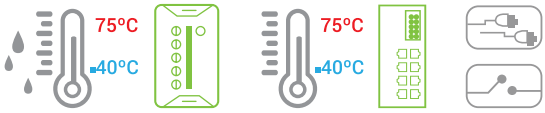
	Managed L2 Switches						Managed L3 Switches
General information							
Model number	EHG7504	EHG7508	EHG7512	EHG7516	EHG7520	RHG7528	RHG7628
Network Interfaces							
Total number of ports	4	8	12	16	20	Max 28	Max 28
Fast Ethernet 10/100 BaseT(X)	-	-	-	-	-	-	-
Fast Ethernet Fiber ports (SFP, LC or ST)	-	-	-	-	-	-	-
Gigabit 10/100/1000 BaseT(X)	Max 4	Max 8	Max 8	Max 12	Max 16	Max 24	Max 24
Gigabit 100/1000Base-X SFP	-	-	Max 8	Max 12	Max 16	Max 24	Max 24
Gigabit 1000Base-X SFP	Max 4	Max 8	-	-	-	4 or 4x10 G	4 or 4x10 G
PoE/PoE+ ports	Max 4	Max 8	Max 8	Max 8	Max 8	Max 24	Max 24
Power Supply Input							
Low Voltage DC power Input	9-57 V	9-57 V	9-57 V	9-57 V	9-57 V	48-57 V	48-57 V
Power input for PoE	(PoE from 45 V)	(PoE from 45 V)	(PoE from 45 V)	(PoE from 45 V)	(PoE from 45 V)	(PoE from 48 V)	(PoE from 48 V)
Power Redundancy	•	•	•	•	•	•	•
Relay Output	•	•	•	•	•		
Mechanical							
Housing	Metal	Metal	Metal	Metal	Metal	Metal	Metal
Ingress Protection	IP30	IP30	IP30	IP30	IP30	IP30	IP30
Dimensions (L x H x D) in mm	54 x 113 x 145	54 x 113 x 145	76 x 160 x 200	95 x 160 x 200	95 x 160 x 200	440 x 44 x 340	440 x 44 x 340
Operational Temperature	-20 to +70°C	-20 to +70°C	-40 to +70°C	-40 to +70°C	-40 to +70°C	-40 to +70°C	-40 to +75°C
Network Redundancy							
STP/RSTP/MSTP	•	•	•	•	•	•	•
ITU-T G.8032 ERPS Ring	•	•	•	•	•	•	•
MRP (Manerger/Client)	•	•	•	•	•	•	•
Compliance							
UL/EN/IEC(CB)60950-1 and/or 62368-1	•	•	•	•	•	•	•
EN60950-1 and/or EN62368	•	•	•	•	•	•	•
EN50155 / EN50121-4	•	•				•	•
UL61010-2-201							
Atex Zone 2 - UL C1D2							
E-Mark							
NEMA TS2	•	•	•	•	•		
Marine (DNV.GL)			•	•			

Security

- Network component authentication via RADIUS
- Logical segmentation of separate sections of the network (VLAN)
- Prioritization management (QoS)
- Access control lists
- Meet the technical requirements defined in the IEC 62443 standard

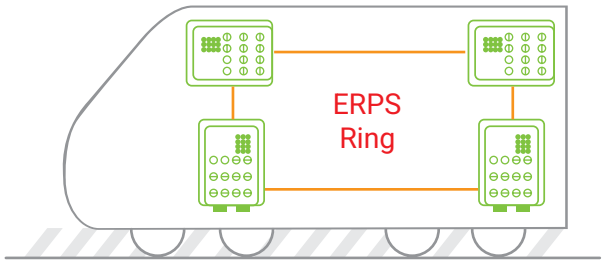
Robustness and ruggedness

- IP67 protection for outdoor deployments, with -40/75°C operation temperature
- IP30 protection for on-rack or on-cabinet deployments, with -40/75°C operation temperature
- Redundant power inputs and relay outputs



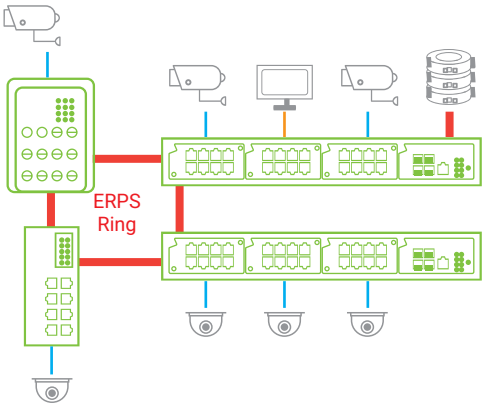
Redundancy through ITU-T G.8032 ERPS Ring

- Self-healing standardized redundancy protocol
- Up to 20ms recovery time with 40 devices
- Main ring or sub-ring definition allowed
- Simple and user-friendly configuration
- Bandwidth preservation



High-throughput

- Full-Gigabit on M12-X coded IP67 switches
- Full-Gigabit on RJ45/SFP IP30 switches
- Up to 127Gbps forwarding capacity and 40Gbps uplinks on aggregation switches
- Optional Layer-3 routing features: IPv4, RIP v1/v2, OSPF v1/v2, BGP and many more



PoE Management

- Up to 8x PoE/PoE+ ports on IP67 switches, for 240W power budget
- Up to 24x PoE/PoE+ ports on aggregation switches
- PoE schedule feature
- PoE reset feature, to avoid remote maintenance when a PD device fails

Rolling Stock

ATOP real-world applications

ATOP provides a wide range of EN50155 & EN45545-2 certified IP67 and IP30 unmanaged/managed switches and serial servers, suitable for supporting the challenges in rolling stock deployment. Equipped with an M12 connector or RJ45/SFP interface, our devices support Gigabit speeds and Power over Ethernet to build the trains of the future.

ATOP EN50155 rolling-stock networking devices are now deployed in multiple applications across Europe, Middle-East and South-East Asia. ATOP's SE8502, the 2-port IP68 Serial Device Server, combined with EMG8305 and EMG8508 Industrial M12 Switches Series support Italian and German Railways in providing Power-over-Ethernet to car surveillance and in transmitting data to serial-based passenger information system displays.

Trackside

ATOP real-world applications

ATOP's EN50121-4 certified IP67 and IP30 unmanaged and managed switches, serving up to 10G speeds, are the perfect choice for building the trackside network of next generation infrastructure. With either IP67 or IP30 protection, our devices can cover the market-specific needs both inside the cabinet or exposed to the harshest weather conditions, providing PoE power to cameras and other PD devices, and offering a redundant fault-tolerant backbone in case of breakdowns.

With many devices deployed globally, ATOP trackside networking devices are now the backbone of several sections of the tracks in Japan, East Asia and Northern Europe. Our customers rely on the secure, reliable, ruggedized advanced managed Layer-3 switches with 10Gigabit uplinks to aggregate surveillance footage and mission-critical signaling information, and to transmit along the track even when outdoor temperatures drop to -30 degrees Celsius.

OFFICIAL WEBSITE

LITERATURE LIBRARY

ATOP Technologies | by BlackBear TechHive

2F, No. 146, Sec. 1, Dongxing Rd., Zhubei City, Hsinchu County, Taiwan

+886-3-550-8137 +886-3-550-8131 info@atop.com.tw