

# SOLUCIONES TECNOLÓGICAS EN MEDIDA, GESTIÓN, AUTOMATIZACIÓN, PROTECCIÓN Y CONTROL.



**enertronic**  
PROYECTOS Y  
SUMINISTROS S.A.

ISO 9001

BUREAU VERITAS  
Certification



Achilles

Repro

Registrado

# Soluciones Network IEC 61850



# Rackmount L2/L3 Switch

## 10G High Throughput Ethernet Switching

- 52-port Ethernet, including 48-port Gigabit Ethernet and 4-port 1/10GbE dual speed SFP+
- Outstanding throughput and flexibility for high-density and ultra high speed connection
- 131Mbps maximum forwarding rate, 176Gbps switching capacity
- 32K MAC address table, 4MBytes packet buffer, 12Kb Jumbo Frame

## High Throughput Ethernet Switching (RS428/628)

- 28-port Full GbE, by 20-port GbE RJ45 and 4-port GbE RJ45/SFP Combo, and 4 1G/2.5G SFP fiber ports
- DDM function for high quality fiber connectivity monitoring
- Less than 12.5W power consumption at full loading
- 16K MAC address table, 4MBytes packet buffer, 9Kb Jumbo Frame

## Enhanced Cyber Security for Critical Applications

- ACL for L2/L3/L4, IPv6 ACL for L3/L4
- IP Source Guard, DAI, DHCP Snooping
- 802.1X/RADIUS, TACACS+
- Port MAC secure learning
- Private VLAN/IP Security/Port Security
- Management IP filtering (SNMP/Web/Telnet/SSH)

## Dynamic Routing with Redundancy Protection

- IPv4 and IPv6 routing: OSPF, OSPFv3, BGP4, and ECMP
- Multicast routing features for IGMP v1/v2/v3, PIM-DM/SM, MLD v1/v2 and PIM-DM6/SM6
- VRRP guarantees sustainable routing in a single point of failure

## Management Features

- Various configuration paths, including WebGUI, CLI, SNMP and RMON
- IEEE 1588v1 PTP time management
- LLDP topology control
- USB for easy field configuration and firmware update
- ViewMaster for batch device configuration and version control
- NetMaster for Network Management, auto topology and ERPS Group Setting

## Rugged Design for Industrial Control Room and Wayside Network Switching

- EN50121-4 compliance for Railway Tracksides, Roadside, Industrial Control Room applications
- IEC61850/IEEE1613 compliance for power substation
- Excellent heat dissipation design for operating in 40-75°C environments
- EN 61000-6-2/4 Heavy Industrial Environment



Model	Cooper	Fiber	L3 Managed	L2 Managed	USB	Power Input	Vertical Standard
RS328	24 x FE	4 x GE SFP	-	Yes	Yes	110/220V AC	EN50121-4
RS428	20 x GE	4 x GE Combo	-	Yes	Yes	110/220V AC	EN50121-4
RS428-2AC		4 x GE SFP				2 x 110/220V AC	
RP428-AC-P200	20 x GE 802.3at	4 x GE Combo(PoE)	-	Yes	Yes	110/220V AC	EN50121-4
RP428-AC-P200+2DC54V		4 x GE SFP				110/220V AC+ 2 x 54V DC	
RS628	20 x GE	4 x GE Combo	Yes	Yes	Yes	110/220V AC	EN50121-4
RS628-2AC		4 x GE SFP				2 x 110/220V AC	
RP628-AC-P200	20 x GE 802.3at	4 x GE Combo(PoE) 4 x GE SFP	Yes	Yes	Yes	110/220V AC	EN50121-4
RS752	48 x GE	4 x 1GE/10GE SFP	Yes	Yes	-	2 x 110/220V AC	-

# Rugged Ethernet L2/L3 Switch

## ITU-T G.8032 v1/v2 ERPS Ring Redundancy

- The ITU-T standard for Ring redundancy Protocol
- Provide sub-50ms protection and recovery switching for Ethernet traffic
- Interoperate with 3rd party industrial switch and still remain fast recovery time
- Interoperate with commercial switch instead of STP/RSTP
- Efficient network interconnection and topology with ERPS Chain, multiple chains

## Dynamic L3 Routing with Redundancy Protection

- RIPv1&v2, OSPFv1&v2 for intra-domain routing within an autonomous system
- Efficient unicast/multicast static routing
- VRRP guarantees sustainable routing in a single point of failure

## Management Features

- Various configuration paths, including WebGUI, CLI, SNMP and RMON
- IEEE 1588v1/v2 PTP time management
- LLDP topology control
- USB for easy field configuration and firmware update
- ViewMaster for batch device configuration and version control
- NetMaster for Network Management, auto topology and ERPS Group Setting

## Enhanced Cyber Security for Critical Applications

- L2-L7 IPv4/IPv6 Access Control List (ACL)
- DHCP Snooping, IP Source Guard, Dynamic ARP Inspection
- 802.1Q VLAN, Private VLAN, Advanced Port Security
- Multi-Level user passwords
- HTTPS/SSH/SFTP, 256-bit encryption
- 802.1X MAB for non-802.1X compliant end devices
- RADIUS/TACACS+ centralized password authentication

## Rugged Design for Wayside Surveillance

- EN50121-4 for railway trackside applications
- Top level EMC protection and excellent heat dissipation design for operating in -40-75°C environment
- EN 61000-6-2/4 Heavy Industrial Environment



Model	Ethernet Cooper	Ethernet Fiber	L3 Managed	L2 Managed	ERPS v2	USB	Power Input	Vertical Standard
DS101	1 x FE	1 x FE SC/ST	-	-	-	-	12/24/48V DC	EN50121-4
DS105	5 x FE	-	-	-	-	-	24V DC or USB 5V DC	Heavy Industrial
DS108	8 x FE	-	-	-	-	-	12/24/48V DC	Heavy Industrial
DS108F	6 x FE	2 x FE SC/ST	-	-	-	-	12/24/48V DC	Heavy Industrial
DS208	8 x GE	-	-	-	-	-	12/24/48V DC	Heavy Industrial
DS210	8 x FE + 2 x GE	-	-	-	-	-	12/24V DC	EN50121-4
DS310	8 x FE	2 x GE Combo	-	Yes	Yes	1	24/48V DC	EN50121-4
DS406	4 x GE	2 x GE SFP	-	Yes	Yes	1	12/24/48V DC	EN50121-4
DS409	6 x GE	3 x GE Combo	-	Yes	Yes	1	12/24/48V DC	EN50121-4
DS410F	2 x GE	6 x GE SFP + 2 x GE Combo	-	Yes	-	-	12/24/48V DC	EN50121-4
DS412	8 x GE	4 x GE SFP	-	Yes	Yes	1	12/24/48V DC	EN50121-4 IEC61850-3
DS612	8 x GE	4 x GE SFP	Yes	Yes	Yes	1	12/24/48V DC	EN50121-4 IEC61850-3

**GRACIAS POR SU ATENCIÓN**

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