



RY-LGSO38-10

19" switch with management, strong security features, Light Core

- 19" L2 and L3 Switch
- Copper ports: 2 x 1G/2.5G/5G/10G
- Fiber-Ports: 8 x SFP/SFP+ 1G/10G
- Manageable, ring-capable, static and dynamic routing
- OSPFv2/v3 and RIPv1/v2
- Regulated fan
- Power supply 230VAC



This Layer 2 and Layer 3 switch was developed specifically for applications with high data loads, such as Video over IP, video streaming also in conjunction with multicast. The switch has extensive security features that protect both the switch itself and network traffic. With the extensive management options, even complex network requirements can be met.

Video network special features

Active monitoring of the camera

Monitoring of the bandwidths present at the port. Definition of the maximum and minimum bandwidths with the DMS.

Active integration of the switch in video management systems

SW modules are available for the popular Milestone and Siveillance Video video management systems that allow direct integration of the switch management and the DMS into these VMS.

Jumbo frames even at 100 Mbit/s

Jumbo frames up to 10,240 bytes are also supported at 100 Mbit/s.

More information

Special features	The switch has extensive security functions. For example, the ACL not only allows the switch itself to be protected, but also the traffic in the network.
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DMS

DMS (Device Management System)

The switch has an integrated network monitoring and control system that gives the user a good overview of the entire network in a very simple way. This DMS system has the following features:

Graphical network overview

The network topology view provides a quick overview of all switches and end devices in the network, such as IP cameras or servers, with details of the IP address, device type and name. Plans and maps can be stored as background images, allowing the user to quickly access specific network devices even without knowledge of the IP structure.

Device search

This function makes it possible to access a specific device even in larger networks. Newly added devices, such as a replaced IP camera, are displayed immediately and allow the user immediate access without knowledge of the IP address.

Data traffic display

The data traffic can be displayed graphically per port via a time axis.

Error handling and security

Network diagnostics between master switch and connected end devices.

Protection mechanisms such as data rate limiting provide effective protection against unauthorised access.

Tools for structuring networks are available with IEEE802.3ah and IEEE802.1ag.



Technical data

General properties

supply voltage	100-240VAC, 50-60Hz
power consumption	Max. 40W
MTBF	25°C: 196'049h 40°C: 46'583h 50°C: 42'690h 60°C: 38'246
operating temperature	0°C bis 50°C
dissipation loss	136BTU
dimensions	220 x 242 x 44mm (WxDxH)
weight	2.3 kg

interfaces

copper ports	2 x 1G/2.5G/5G/10G TX, RJ45
optical fibre ports	8 x SFP/SFP+, 1G/10G We recommend the use of our barox SFPs. We do not test or guarantee the compatibility of our devices with SFPs from other manufacturers.
console port	1 x RS232, RJ45



network properties

management	HTTP/HTTPS, SSH, Telnet client, IPv6 management SNMP v1, v2c, v3 supports traps and USM DHCP client / DHCPv6 client DHCP server Embedded RMON agent supports RMON groups 1,2,3,9 (history, statistics, alarms and events) for improved traffic management, monitoring and analysis
backplane	200 GBit/s
MAC-table	32k
configuration	Web GUI, DMS, SNMPv1, v2c and v3, console, Telnet, RMON Individual management accesses can be deactivated
PoE Management	No PoE
port settings	Port disable/enable, autonegotiation 100/1000/10000Mbps, flow control disable/enable, data rate control on each port, max. framesize, power control
port status	Display per port: speed, link status, flow control status, autonegotiation status, trunk status
layer3 functions	IPv4 and IPv6 unicast: static routing RIP v1/v2: The Routing Information Protocol (RIP) is an internal routing protocol that is based on distance vector routing and is used within an autonomous system. OSPF v2/v3: OSPF is a link-state routing protocol. It is designed for internal operation in a single autonomous system. Each OSPF router maintains an identical database that describes the topology of the autonomous system. A routing table is calculated from this database by creating a shortest-path tree.
communications redundancy	Standard Spanning Tree (STP), IEEE802.1d Rapid Spanning Tree (RSTP), IEEE802.w Multiple Spanning Tree (MSTP), IEEE802.1s Ethernet Linear Protection Switching (ELPS), ITU-T G.8031 Ethernet Ring Protection Switching, (ERPS), ITU-T G.8032



VLAN

Tag-based VLAN according to 802.1Q

Supports up to 4K VLANs simultaneously (from 4096 VLAN IDs)

Port-based VLAN

A port member of a VLAN can be isolated to other isolated ports of the same VLAN and private VLANs.

Private VLAN Edge (PVE)

Private VLANs are based on the source port mask and there are no connections to VLANs. This means that VLAN IDs and private VLAN IDs can be identical.

Voice VLAN

The Voice VLAN function enables voice traffic to be forwarded on the Voice VLAN.

Guest VLAN

With the IEEE 802.1X guest VLAN function, a guest VLAN can be configured for each 802.1X port on the device to provide non-802.1X compliant clients with restricted services.

Q-in-Q (double tag) VLAN

This allows specific requirements for VLAN IDs and the number of VLANs to be supported to be set.

802.1v protocol VLAN

The classification of multiple protocols into a single VLAN often enforces VLAN boundaries that are unsuitable for some of the protocols. This requires the presence of a non-standard entity that forwards the frames containing the protocols for which the VLAN boundaries are unsuitable between VLANs.

MAC-based VLAN

The MAC-based VLAN feature allows incoming untagged packets to be assigned to a VLAN, thus classifying traffic based on the source MAC address of the packet.

IP subnet-based VLAN

In an IP subnet-based VLAN, all end workstations in an IP subnet are assigned to a VLAN.

Management VLAN

Management VLAN is used to manage the switch from a remote location using protocols such as Telnet, SSH, SNMP, Syslog, etc.

link aggregation

IEEE 802.3ad LACP / Static Trunk, supports five groups of 16-port trunks or static trunks.



QoS

Hardware queue

Supports eight hardware queues.

Classification

Port-based: Traffic QoS by port

802.1p: VLAN priority based Layer 2 CoS QoS Class of Service is a parameter used in data and voice protocols to differentiate the types of payloads contained in the transmitted packet.

DSCP-based Differentiated Services (DiffServ) Layer 3 DSCP QoS: IP packets can carry either an IP Priority (IPP) value or a Differentiated Services Code Point (DSCP) value. QoS supports the use of both values, as DSCP values are downward compatible with IP priority values.

Classification and re-labelling of TCP/IP ACLs: QoS through ACL

Rate limiting

Ingress policer

Egress shaping and speed control per port

Scheduling

Strict priority and weighted round robin (WRR): Weighted Round Robin is a scheduling algorithm that uses the weights assigned to queues to determine how much data is flushed from a queue before it is moved to the next queue.



security

Certified authentication

A private HTTPS key can be stored for management access.

User administration

User rights can be freely set in up to 15 levels.

ACL

The switch allows up to 512 entries. Drop or rate restriction based on source/destination MAC/IP address or VLAN ID. Rules and conditions for incoming packets can be defined per port. The rules include protocols, IP ports and address ranges. The rules can be defined using either the authorization or exclusion method. The criteria are TCP/UDP source and destination ports, 802.1p priority, Ethernet type, ICMP packet (Internet Control Message Protocol).

Port security

MAC address management per port and IP source guard: The MAC address can be checked in combination with the IP address.

Storm Control

Prevents traffic in a LAN from being disrupted by a broadcast, multicast or unicast flood on a port.

RADIUS Authentication, 802.1X

authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions

Supports IGMP-RADIUS based 802.1X

Dynamic VLAN assignment

TACACS+ authentication

The switch supports TACACS+ authentication. Switch as client.

Secure Shell (SSH)

SSH secures Telnet traffic into or out of the switch, SSH v1 and v2 are supported

Secure Socket Layer (SSL)

SSL encrypts HTTP traffic and thus enables extended secure access to the browser-based management GUI in the switch.

HTTPS & SSL (Secured Web)

Hyper Text Transfer Protocol Secure (HTTPS) is the secure version of HTTP.

BPDU Guard

The BPDU Guard, an extension of STP, removes a node that reflects BPDUs back into the network. It enforces the boundaries of the STP domain and keeps the active topology predictable by not allowing network devices behind a BPDU Guard-enabled port to participate in STP.

DHCP Snooping

With DHCP Snooping, the switch has a function that acts as a firewall between



untrusted hosts and trusted DHCP servers.

Loop protection

Loop protection prevents unknown unicast, broadcast and multicast loops in Layer 2 switching configurations.



multicast

IGMP v1/v2/v3 snooping

IGMP restricts bandwidth-intensive multicast traffic to the requesters. Supports 1024 multicast groups.

IGMP Querier

IGMP Querier is used to support a layer 2 multicast domain of snooping switches if no multicast router is available.

IGMP Proxy

IGMP Snooping with proxy reporting or report suppression actively filters IGMP packets to reduce the load on the multicast router.

MLD v1/v2 Snooping

Delivers IPv6 multicast packets only to the required recipients.

Multicast VLAN Registration (MVR)

A dedicated, manually configured VLAN, the so-called multicast VLAN, to forward multicast traffic via a Layer 2 network in conjunction with IGMP snooping.

standards

- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-TX/100BASE-FX
- IEEE 802.3z Gigabit SX/LX
- IEEE 802.3ab Gigabit 1000T
- IEEE 802.3x Flow Control and Back pressure
- IEEE 802.3ad Port trunk with LACP
- IEEE 802.1d Spanning tree protocol
- IEEE 802.1w Rapid spanning tree protocol
- IEEE 802.1s Multiple spanning tree protocol
- IEEE 802.1p Class of service
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1x Port Authentication Network Control
- IEEE 802.1ab LLDP
- IEEE 802.az Energy Efficient Ethernet

Product variants



RY-LGSO38-10

RY-19"-Winkel

Pair of brackets for the mounting of RY-LGSO38-10 in a 19"-frame
Included

Version 10.07.2024, Changes without notice