andasis
ELEKTRONİK SANAYİ ve TİCARET A.Ş.

TECHNICAL INFORMATION DOCUMENT

TACTICAL SWITCH

Overview

14 Port managed military IP65 Ethernet switch is suitable for a wide range of uses in the industry with its second layer switching capabilities as well as G.8032 and 1588v2 PTP support.

The device, which has a total of 14 RJ45 type LAN ports, offers 10/100/1000 Mbps connection. All ports of the device support PoE+ up to 30W per port.

Device management can be done via the console port. The USB port provides access to a temporary configuration application.

Sectors and Applications

With 1588v2 PTP feature and G.8032 ERPS support, AND-CMS8GE2CG PoE+ is ideal for use in:

- Defense Systems Communication Networks
- Railway Networks
- Power Distribution Networks
- Industry 4.0 Networks
- 5G Networks
- Mobile Backhaul Networks alongside with CCTV
- Enterprise networks as edge connection entity

Supported Technologies

- **G.8032 Ethernet Ring Protection Switching (ERPS):** G.8032 provides recovery time of sub-50ms up to 25 nodes for improved resiliency in security applications such as border
- **Optional Exceptional Precision with IEEE 1588v2 (TC, BC) and Sync-e:** The switch performs both IEEE1588v2 and Sync-e, including transparent and boundary clock capabilities, implementations in hardware, so there is no performance penalty on packet processing. The hardware architecture ensures low latency and high time accuracy, which is critical for delay-sensitive industrial, power, backbone and finance applications.
- **Rugged Design:** The mechanics of the device are designed to operate at the IP65 sealing level in military standards. Electronic boards are also designed to operate in military standards at a temperature range of -40 /+70 ˚C.

Software Specificaitons

LAYER 2 SWITCHING	
Spanning Tree Protokolü (STP)	Standard Spanning Tree 802.1d Rapid Spanning Tree (RSTP) 802.1w Multiple Spanning Tree (MSTP) 802.1s BPDU Guard
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad Up to 10 groups and up to 8 ports per group
VLAN	4K Vlan ID (Supports up to 1024 VLANs simultaneously) • Port-based VLAN • 802.1Q tag-based VLAN • Management VLAN • GARP VLAN Registration Protocol (GVRP)
IGMP v1/v2/v3 Snooping	IGMP Snooping optimizes the multicast traffic by sniffing the network and forwarding the traffic only to the requesting ports.
IGMP Querier	IGMP Querier is used to support IGMP Snooping in absence of multcast router. (255 Groups can be created.)
ICMP	Available.
DHCP	DHCP Client, DHCP Server ve Relay Option 82 available.
LAYER 3 ROUTING	
RIP v1	Supports FLSM.
RIP v2	Support VLSM
Enhanced Interior Gateway Routing Protocol (EIGRP)	AD (Administrative Distance) değeri 90'dır. VLSM is supported. Support IP, IPX, AppleTalk protocols. Auto Summarization EIGRP protocol works classless.
Border Gateway Protocol (BGP)	EBGP : Exterior Border Gateway Protocol supported. IBGP : Interior Border Gateway Protocol supported.
Intermediate System to Intermediate System (IS-IS)	Available
IPv4	Support Static Route.
IPv6	Static RIPng, OSPFv3.
Multicast	Supports PIM-SM and PIM-DM.
QUALITY of SERVICE (QoS)	
Hardware Queue	Supports 8 hardware queues
Scheduling	Strict priority and weighted round-robin (WRR) Queue assignment based on DSCP and class of service
Classification	Port based 802.1p VLAN priority based IPv4/IPv6 precedence / DSCP based Differentiated Services (DiffServ)
Rate Limiting	Ingress Policer Egress shaping and rate control Limitation Per port

SECURITY	
Security Shell (SSH)	SSH secures Telnet traffic in or out of the switch, SSHv2 is supported.
ACL	Access Control List is supported with MAC address based L3 and L4 instructions.
RADIUS (802.1x)	Support RADIUS authentication. Switch as a client. Dynamic VLAN and Guest VLAN assignment features. NAC Integration CoA
Port Security	Lock MAC addresses to ports MAC address lock application on ports. Arp Inspection DHCP Snooping
IP Source Guard	Prevent unauthorized IP addresses to manage device.
MANAGEMENT	
Remote Monitoring (RMON)	Embedded RMON agent supports RMON groups 1,2,3,9 (history, statistics) for enhanced traffic management, monitoring analysis.
Port Mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer
IEEE 802.1ab (LLDP)	Support LLDP-MED extensions
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration
CLI	For users to configure/manage switches in command line modes
Dual Image	Multiple concurrent images for easy recovery and fail-safe upgrade.
SNMP	SNMP version1, 2c and 3 with support for traps SNMP version 3 user-based security model (USM)
In-Device Testing and Monitoring	Temperature, CPU, RAM values and times Port statistics and CRC values
Firmware Upgrade	Web browser upgrade via HTTP and TFTP support Uprade from USB stick support for ease of use Upgrade through console and TFTP
SYSLOG	Supports.
Folder Transfer	USB
LOOP PROTECTION	
ITU-T G.8032	Supports ITU-T G.8032 Ethernet Ring Protection Switching
Loop Detection	Supports Loop Detection and Protection
TIME SYNC	
NTP	Network Time Protocol (NTP) is a networking protocol for clock synchronization between computers
IEEE 1588v2 PTP*	Supports IEEE 1588 v2 PTP (Precision Time Protocol) BC and TC aware Provides precise time control support

**Optional*

Hardware Specifications

Port Configurations

# Ports	LAN Ports	RJ45	USB
14	14 x LAN RJ45 Port	CLI, MNG	USB 3.0

Environmental Range

Operating Temperature	Storage Temperature	Environmental Standard	Altitude
-40°/+70 ° C	-40°/+85 ° C	IP 65	< 3000 meter

LEDs

Warning LEDs	Activity & Link LEDs
DC, Error, Warning	Link : Orange Activity : Green

Dimensions, Material & Color

Dimensions (WxHxD) **	Material	Color
220x340x44 mm	Aluminum Alloy 6061	RAL6031

Hardware Performance

Switching Capacity	Packet Forwarding Rate	Forwarding Bandwidth	Switching Bandwidth
2.8 Gbps	2.1 Mpps	10240 Byte	1.4 Gbps
RAM**	**Flash****	**Buffer**	**Jumbo Frames**
1 GB DDR3L	512 MB NAND	1.5 MB	10240 Byte

Voltage and Power

DC	Power Consumption
48-56 VDC	< 35 W : without PoE+ support < 455 W : with PoE+ support (all ports)

**Can be optionally increased.*
***Device size and weight may differ depending on the power supply configuration.*