Agate7306

Preliminary

3G 6 FE Port DIN rail Industrial Security Ethernet Gateway

Agate7306 is an Industrial Security Ethernet Gateway with 3 gigabit ports and 6 fast thernet ports. It is positioned in the Industrial Control Networks under Industrial Control Systems (ICS) to provide a Cyber Security Solution in Utility, Steel, Oil & Gas and many other industrial applications. A wide variety of security features are supported on Agate7306 to protect ICS from source address cheat, DOS and many other attacks. As it supports "Deep Packet Inspection (DPI)", Agate7306 can work as an Industrial Firewall thereby recognizing industrial protocol frames and forward them safely . Agate series Industrial Ethernet Security Gateway design is based on high performance FPGAs. Up to 1K data packet filtering rules can be executed in parallel, and the data packets can be handled at line rate with a negligible latency of under 20us. The requirements of ICS in both real time and security can be met at the same time by deploying Agate series Industrial Security Ethernet Gateway.

Features & Benefits

- Supporting data packets forwarding in a line rate with a tiny latency (under 20 us).
- Support data packet filter based on 5-tuples, 7-tuples, 12-tuples.
- Support data packet filter based on user-defined rules.
- Support Deep Packet Inspection(DPI), up to 250 bytes.
- Support white list or black list.
- Support Virtual Private Networks(VPN), including IPSec VPN\ SSL VPN \ L2TP VPN.
- Support secondary development interface to protect private protocol against leakage.
- Supporting session based traffic statistics and traffic anomaly detection.

Software Functions

Redundancy technology
- Supporting DT-Ring protocol family
- Supporting DRP protocol family
- Supporting link aggregation control protocol (LACP)

Multicast technology
- Supporting IGMP snooping
- Supporting static multicast

Security technology
- Supporting IEEE 802.1x
- Supporting HTTPs/SSL
- Supporting SSH
- Supporting Radius
- Supporting Tacacs+
- Support Multi-level user passwords secures
- Supporting white list

- Supporting black list
- Supporting IP Address and MAC Address Binding
- Supporting MAC Address Binding
- Supporting Deep Packet Inspection(DPI)
  - Supporting data packet filter based on 5-tupls,7-tupls,12-tupls
  - Supporting data packet filter based on user-defined rules
  - Supporting built-in industrial protocols: Modbus TCP, IEC61850 (GOOSE \ SV \ MMS), ETHERNET/IP, ETHERCAT, POWERLINK, PROFINET, OPC, IEC-104, DNP3
- Supporting session based traffic statistics and traffic anomaly detection
- Supporting IP Sec VPN, SSL VPN, L2TP VPN

Administration
- Supporting to be managed via console, telnet, WEB, SNMPv1/v2c/v3
- Supporting upgrading via FTP / TFTP
- Supporting alarm output triggered by IP/MAC conflict, power failure, temperature, port link down
- Supporting system logging
- Supporting secondary development interface
- Supporting link layer topology discovery via LLDP
- Supporting port mirror

Technical Specifications

Standard
IEEE 802.3i (10Base-T), IEEE 802.3u (100Base-TX), IEEE 802.3ab (1000Base-T), IEEE 802.3x (Flow Control), IEEE 802.1p, IEEE 802.1D (LAN), IEEE 802.1x, IEEE802.1Q(VLAN), IEEE802.1AB(LLDP), IEEE802.3ad(LACP), IEC62439-6(DRP)

Switching Property
Packet buffer: 8 Mbit
Packet forwarding rate: 4.91Mpps
Switching delay: < 20 μs

Interface

Console port: Mini USB
Alarm port: 5-Pin 5.08 mm-spacing plug-in terminal block
Outband Management Port: 10/100/1000Base-T(x) RJ45 Port

Indicator

Alarm indicator: Alarm
Run indicator: Run
Power indicator: PWR1, PWR2
Interface indicator: Link/ACT
Interface rate indicator: Speed

Power supply

Input voltage: 24DC (18-36 VDC)
48DC (36-72 VDC)
220AC/DCW (85-264 VAC/77-300 VDC)
Access terminal: 5-Pin 5.08 mm-spacing plug-in terminal block
Power : < 15W
Overload protection: Supported
Protection for reverse connection: Supported
Redundancy protection: Supported

Mechanical structure

Shell: Metal material
Heat dissipation mode: Natural cooling, Fanless design
Protection grade: IP40
Dimensions: 92mm×135mm×137mm(W×H×D)
Weight: < 1.25Kg
Installation mode: DIN rail mounting

Environment

Operating temperature: -40℃ to +85℃
Storage temperature: -40℃ to +85℃
Relative humidity: 5% to 95% (non-condensing)

Quality assurance

MTBF: 300000h
Warranty period: 5 years

Certification

CE (Pending), FCC(Pending), Evaluation Assurance Level - EAL3 (Pending),
For the latest dynamics of the product, visit the website of Kyland

Industry standards

EMI: FCC CFR47 Part 15, EN55022/CISPR22, Class A
EMS: IEC61000-4-2 (ESD) ±8 kV (contact), ±15 kV (air)
IEC61000-4-3 (RS) 10 V/m (80 MHz-2 GHz)
IEC61000-4-4 (EFT) Power Port: ±4 kV; Data Port: ±2 kV
IEC61000-4-5 (Surge) Power Port: ±2 kV/DM, ±4 kV/CM; Data Port: ±2 kV
IEC61000-4-6 (CS) 3 V (10 kHz-150 kHz); 10 V (150 kHz-80 MHz)
IEC61000-4-8 (power frequency magnetic field) 100 A/m (cont.), 1000 A/m (1s-3s)
IEC61000-4-9 (pulse magnetic field) 1000 A/m
IEC61000-4-10 (damped oscillation) 100 A/m
IEC61000-4-12 (oscillatory wave) 2.5 kV/CM, 1 kV/DM
IEC61000-4-16 (common-mode conduction) 30 V(cont.), 300 V(1s)
Mechanical standards: IEC60068-2-6 (vibration), IEC60068-2-27 (impact),
IEC60068-2-32 (free fall)

Mechanical Drawing
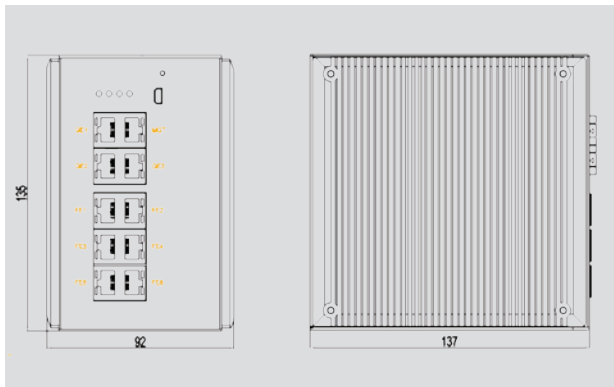
Ordering Information

Recommended model

Product Model	Agate7306-PS1-PS2
Code definition	Code selection
PS1: power input 1	HV=220AC/DCW (85-264 VAC/77-300 VDC)
	L1=48DC (36-72 VDC)
	L3=24DC (18-36 VDC)
PS2: power input 2	HV=220AC/DCW (85-264 VAC/77-300 VDC)
	L1=48DC (36-72 VDC)
	L3=24DC (18-36 VDC)
	NA: no redundant power supply

Optional accessories

Accessory Model	Accessory Description
DT-FCZ-RJ45-01	Single-port RJ45 dust plug
DT-XL- Mini USB-USB-2m	USB management cable, Mini USB to USB, 2m