



- 16 Port 10/100/1000 Base-TX and 6 Slot 100/1000Base-LX, 2 Slot 100/1000/2500Base-LX, 1 console Port 지원.
- ITU-T ERPS G.8032, STP(802.1D), RSTP(802.1w), MSTP(802.1s), HSTW-Ring 프로토콜 지원. (Recovery time <50ms, 15ms 이내)

- WEB, CLI, TELNET, SSH, SNMP 지원.
- IEEE802.3af-2003, IEEE802.3at-2009 POE 지원.
- 동작온도 범위 -40°C ~ +85°C(산업용 부품 사용).
- 산업용 표준디자인.
- Packet 무손실.

## Introduction

HSTW-IEL-6800M(16G8SF) Series의 산업용 광장비는 16 Port 10/100/1000 Base-TX와 6 Slot 100/1000Base-LX, 2 Slot 100/1000/2500Base-LX를 지원하며, 이중화 링 네트워크, VLAN, 트렁킹, 서비스 품질, 속도 제어, 포트 미러링, 장애 경보 및 온라인 펌웨어 업그레이드와 같은 고급 네트워크 관리 기능을

제공합니다. 모든 구성 요소는 산업 등급을 사용하므로 제품 신뢰성이 매우 좋고, 넓은 입력 전압을 제공 합니다. KC표준, 산업용 표준 설계, 이중화 전원 입력, -40°C~85°C 작동온도로 외부 환경에 매우 적합 합니다.

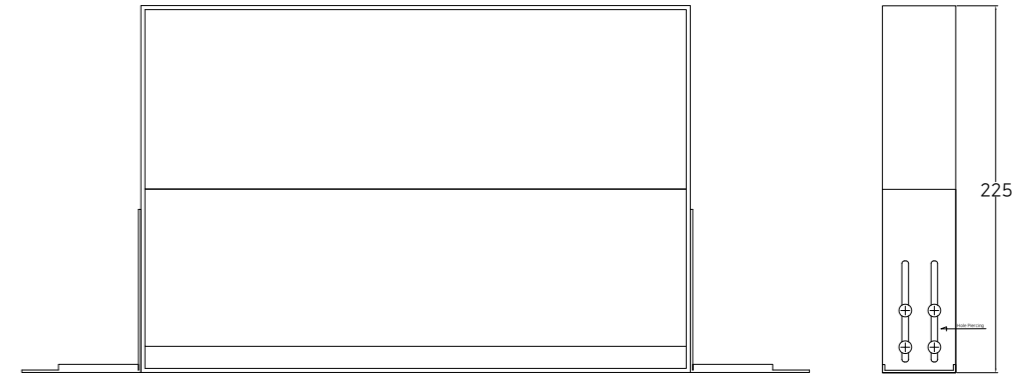
## Features

- Recovery time <50ms, 15ms 이내.
- IEEE802.3af-2003, IEEE802.3at-2009(Optional).
- IPv4/IPv6 지원.
- L2 장비 Standard
- STP/RSTP/MSTP/ITU-T ERPS G.8032/HSTW-Ring Ethernet Ring Protection 지원.
- IGMP v1/v2/v3 Snooping, MLD v1/v2 Snooping 지원.
- IP source guard/RADIUS/TACACS+/ACL/SSH v2/HTTPS 지원.
- Port-based IEEE802.1X/Single and multiple IEEE802.1X /MAC-based authentication/VLAN Assignment 지원.
- Port Trunking, port speed limit, broadcast storm control 지원.
- LACP/Link Aggregation Static 지원.
- DNS client/proxy 지원.
- IEEE802.1Q VLAN/MAC based VLAN/Protocol based VLAN /IP subnet based VLAN/GVRP/MVR 지원.
- IETF RFC 1213 MIB-II (Management Information Base) 지원.
- Web Interface Management CLI-Console/Telnet, SNMP v1/v2/v3 RMON/System syslog 지원.
- Bypass 모듈(Optional).
- 광 선로 감지 기능(Optional).

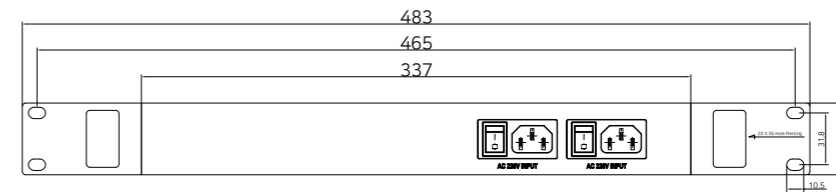
## Dimension

Top View

Side View



Rear View



Front View



## Ordering Information

### HSTW-IEL-6800M(16G8SF)

16x 10/100/1000M Copper RJ-45 Ports, 6x 100/1000M SFP Slot, 2x 100/1000/2500M SFP Slot

### HSTW-IEL-6800M(16G8SF) - P

16x 10/100/1000M Copper RJ-45 Ports, 6x 100/1000M SFP Slot, 2x 100/1000/2500M SFP Slot, POE 지원

### · SFP Module CWDM/WDM Version Optical Output Wavelength(nm)

A 1470, B 1490, C 1510, D 1530, E 1550, F 1570, G 1590, H 1610, M 1270, N 1290, P 1310, Q 1330, R 1350, S 1370, T 1390, U 1410, V 1430, W 1450

## · HSTW - IEL- 6800M(16G8SF) - P

HyeSung TechWin  
(회사 상호)

Industrial Ethernet Link  
(산업용)

자사 모델명 시리즈

Power over Ethernet(POE)  
지원

# Specifications

Technical parameters	Specification	
<b>Product Name</b>	24ports L2 Full Gigabit Managed Industrial Ethernet Switch	
<b>Product Model</b>	HSTW-IEL-6800M(16G8SF)Series	
<b>Interface</b>	16x 10/100/1000M Copper RJ-45 Ports, 6x 100/1000M SFP Slot, 2x 100/1000/2500M SFP Slot, 1 console Port	
<b>Network Protocols</b>	IEEE802.3i	10Base-T 10Mbit/s Ethernet
	IEEE 802.3u	100Base-TX, 100Base-FX, Fast Ethernet
	IEEE 802.3ab	1000Base-T Gigabit/s Ethernet over twisted pair
	IEEE 802.3z	1000/2500Base-LX Gigabit/s Ethernet over Fiber-Optic
	IEEE 802.3x	Flow control, Back pressure
	IEEE 802.3ad	Link aggregation for parallel links with LACP (Link Aggregation Control Protocol)
	IEEE 802.1p	LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization
	IEEE 802.1q	Virtual LANs (VLAN)
	IEEE 802.1ad	Stacked VLANs, Q-in-Q
	IEEE 802.3az	EEE (Energy Efficient Ethernet)
IEEE 802.1x	Port based and MAC based Network Access Control, Authentication	
<b>Port Management</b>	Enable/Disable port Speed, duplex, MTU settings, etc. Flow-control flow control setup Port mirroring Support port access direction, VLAN image To support the port speed limit Support port isolation settings Unknown unicast, multicast, broadcast storm suppression	
<b>Spanning Tree Protocol</b>	IEEE 802.1D	STP (Spanning Tree Protocol)
	IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)
	IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)
<b>ITU-T G.8032/ Y.1344</b>	ERPS (Ethernet Ring Protection Switching) Recovery time <50ms, 15ms 이내 Single Ring, Sub-Ring, Multiple Ring Topology Network	
<b>사설 Ring Protocol</b>	HSTW-Ring Protocol	
<b>Link Aggregation</b>	Support static manual aggregation, Support LACP dynamic convergence IEEE 802.3ad	
<b>IEEE802.3af-2003, IEEE802.3at-2009</b>	Power over Ethernet(POE)	
<b>VLAN</b>	Support up to 4K VLANs simultaneously (out of 4096 VLAN IDs) Support Port based VLAN and IEEE 802.1Q VLAN	
<b>IGMP Snooping</b>	Support static add/delete	
<b>GMRP</b>	Supports GARP multicast registration protocol	
<b>MAC</b>	Support static add/delete MAC address learning limit Support dynamic aging time settings	
<b>ACL</b>	Based on the source MAC, destination MAC, protocol type, source IP, Destination IP, L4 port number Support time-range time management	
<b>QOS</b>	Based on 802.1p (COS) classification Based on DSCP classification Based on the source IP, destination IP, port number classification Support SP,WRR, DRR scheduling strategy Support traffic speed limit CAR	
<b>MPLS</b>	MPLS supports static LSP / Support VPN MPLS	
<b>LLDP</b>	Support LLDP link discovery protocol	
<b>802.1x</b>	Support 802.1x port authentication (Radius, local)	

Technical parameters	Specification	
<b>Prevent attack</b>	DOS defense Support for CPU protection, limited to send CPU message rate	
<b>System Management</b>	User add / delete User login, operation, status, event log Device reset, configuration save / restore, upgrade management, time setting, etc.	
<b>Management Function</b>	CLI	Support serial command line management
	TELNET	Support serial command line management
	SSH	Supports SSHv1/2 remote management
	SNMP	Cold Start, Warm Start, Link Down, Link Up SNMP v1/v2/v3 and so on
	WEB	Supports two layers, three layers of view, etc
	RMON	RMON I (1, 2, 3, 9 group), RMON II
<b>Network Media</b>	10BASE-T: Cat3,4,5 UTP(≤100 meter) 100BASE-TX: Cat5 or later UTP(≤100 meter) 1000BASE-TX: Cat6 or later UTP(≤100 meter)	
<b>Fiber Media</b>	Multi-mode: 1310nm, 2km Single-mode:1310nm, 20; 1550nm, 40/60/80/100/120km	
<b>Performance Specification</b>	Bandwidth:65Gbps Packet Buffer Memory:4Mbit Packet Forwarding Rate:40.176Mpps Address Table:8K Switching delay:< 5μs	
<b>IGMP / MLD Snooping</b>	IGMP Snooping v1, v2, v3 / MLD Snooping v1, v2 Port Filtering Profile Throttling, Fast Leave Maximum Multicast Group : up to 1022 entries Query / Static Router Port	
<b>Forwarding Mode</b>	Store-And-Forward	
<b>LED Display</b>	Run indicator: LED-Green Power supply indicator: LED-Green 10/100/1000M-TX indicator: LED-Yellow, LED-Green 100/1000/2500M LINK indicator: LED-Green	
<b>Power Supply</b>	Input Voltage: AC(85~264VAC), 48VDC Dual power supplying redundancy	
<b>Working Environment</b>	Working temperature: -40~85℃ Storage temperature: -40~90℃ Relative Humidity: 5%~95% (no condensation)	
<b>Industry Standard</b>	EMI: FCC Part 15, CISPR (EN55022) class A EMS: EN61000-4-2 (ESD) EN61000-4-3(RS) exceeds Level 3 EN61000-4-4 (EFT) IEC 61000-4-5 (Surge) IEC 61000-4-6 (CS) Level 2 IEC 61000-4-8 IEC 61000-4-11 IEC 61000-4-16 Shock(충격): IEC 60068-2-27 Free fall(낙하): IEC 60068-2-31 Vibration(진동,내시험): IEC 60068-2-6	
<b>Certification</b>	CE mark, commercial / FCC Part 15 Class B / VCCI ClassB / EN 55022 (CISPR 22), ClassB	
<b>Mechanical Structure</b>	Shell: IP30 protect grade, metal shell Installation: DIN-Rail or Wall mounts	
<b>MIB</b>	RFC1213 MIB II, Private MIB	
<b>Over load protection</b>	Support	
<b>Redundancy protection</b>	Support	
<b>MTBF</b>	200,000 hours	
<b>Warranty</b>	5 years warranty	