

# Managed Industrial Ethernet Link Optical Switch

## HSTW-IEL-6800M(8G4SF)Series



- 8 Port 10/100/1000Base-TX and 2 Port 100/1000Base-LX, 2 Port 100/1000/2500Base-LX, 1 console Port 지원.
- ITU-T ERPS G.8032, STP(802.1D), RSTP(802.1W), 802.1s (MSTP), HSTW-Ring 프로토콜 지원.  
(Recovery time 15ms 이내)
- WEB, CLI, TELNET, SSH, SNMP 지원.
- IEEE802.3af-2003, IEEE802.3at-2009 POE 지원
- 동작온도 범위 -40℃ ~+85℃(산업용 부품 사용).
- 산업용 표준디자인.
- Packet 무손실.



### ■ 소개(Introduction)

HSTW-IEL-6800M(8G4SF) Series의 산업용 광장비는 8포트 10/100/1000 Base-TX and 2 Port 100/1000Base-LX, 2 Port 100/1000/2500Base-LX 슬롯을 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 전압 입력을 제공합니다. KCC 표준, 산업용 표준 설계, 이중화 전원 입력, -40℃~85℃ 작동 온도로 외부 환경에 매우 적합 합니다..

### ■ 특징(Features)

- Recovery time(절체 시간) ≤15ms.
- IEEE802.3af-2003, IEEE802.3at-2009(Optional).
- IPv4/IPv6 지원.
- STP/RSTP/MSTP/ITU-T ERPS G.8032/HSTW-Ring Ethernet Ring Protection 지원.
- Auto-Negotiation, Half-Duplex, Full-Duplex 설정 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 ROMN/System syslog 지원.
- Bypass 모듈(Optional).
- 광 감지 기능(Optional).

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## 사양(Specifications)

Technical parameters	Specification	
Product Name	12 ports Full Gigabit Managed Industrial Ethernet Switch	
Product Model	HSTW-IEL-6800M(8G4SF)Series	
Interface	8x 10/100/1000M copper RJ-45 Ports, 2x 100/1000M SFP Slot, 2x 100/1000/2500M SFP Slot, 1 Console Port	
Network Protocols	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	
Port Management	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	
Spanning Tree Protocol	IEEE 802.1d	STP (Spanning Tree Protocol)
	IEEE 802.1w	RSTP (Rapid Spanning Tree Protocol)
	IEEE 802.1s	MSTP (Multiple Spanning Tree Protocol)
ITU-T G.8032/ Y.1344	ERPS (Ethernet Ring Protection Switching) Recovery time 15ms Single Ring, Sub-Ring, Multiple Ring Topology Network	
사설 Ring Protocol	HSTW-Ring Protocol	
Link Aggregation	Support static manual aggregation, Support LACP dynamic convergence IEEE 802.3ad	
IEEE802.3af-2003, IEEE802.3at-2009	Power over Ethernet(POE)	
VLAN	Support up to 4K VLANs simultaneously (out of 4096 VLANIDs) Support Port based VLAN and IEEE 802.1Q VLAN	
IGMP Snooping	Support static add/delete	

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Technical parameters	Specification	
GMRP	Supports GARP multicast registration protocol	
MAC	Support static add/delete MAC address learning limit Support dynamic aging time settings	
ACL	Based on the source MAC, destination MAC, protocol type, source IP, Destination IP, L4 port number Support time-range time management	
QOS	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	
MPLS	MPLS supports static LSP Support VPN MPLS	
LLDP	Support LLDP link discovery protocol	
802.1x	Support 802.1x port authentication (Radius, local)	
Prevent attack	DOS defense Support for CPU protection, limited to send CPU message rate	
System Management	User add / delete user User login, operation, status, event log Device reset, configuration save / restore, upgrade management, time setting, etc.	
Management Function	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	
Network Media	10BASE-T: Cat3,4,5 UTP(≤100 meter) 100BASE-TX: Cat5 or later UTP(≤100 meter) 1000BASE-TX: Cat6 or later UTP(≤100 meter)	
Fiber Media	Multi-mode: 850nm/1310nm, ~500m/~2Km Single-mode: 1310nm/1550nm, ~20/40/60/80/100/120Km	
Performance Specification	Switching Fabric:35Gbps Packet Buffer Memory:4Mbit Packet Forwarding Rate:22.32Mpps Address Table:8K Switching delay:< 5μs	
IGMP / MLD Snooping	GMP 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	



이주혜성테크윈  
HYESUNGTECHWIN co., Ltd

HSTW-IEL-6800M(8G4SF) Series

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Technical parameters	Specification
Forwarding Mode	Store-And-Forward
LED Display	Run indicator: LED-Green Power supply indicator: LED-Green 10/100/1000-TX indicator: LED-Yellow, LED-Green 100/1000/10000M LINK indicator: LED-Green
Power Supply	Input Voltage: AC(85 ~ 264VAC), DC(12~72VDC), Optional Input Voltage: 12VDC, 24VDC(10 ~ 36VDC), 48VDC(18 ~ 72VDC) Dual power supplying redundancy
소비전력(W)	≤10W
Working Environment	Working temperature: -40 ~ 85℃ Storage temperature: -40 ~ 90℃ Relative Humidity: 5%~95 % ( no condensation)
Industry Standard	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
Certification	CE mark, commercial FCC Part 15 Class B VCCI ClassB EN 55022 (CISPR 22), ClassB
Mechanical Structure	Shell: IP30 protect grade, metal shell Installation: DIN-Rail or Wall mounts
MIB	RFC1213 MIB II, Private MIB
Over load protection	Support
Redundancy protection	Support
MTBF	200,000 hours
Warranty	5 years warranty



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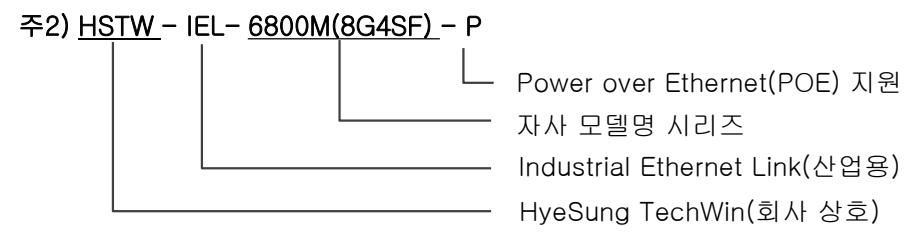
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## 주문(Ordering Information)

HSTW-IEL-6800M(8G4SF)	8x 10/100/1000M copper RJ-45 Ports, 2x 100/1000M SFP Slot, 2x 100/1000/2500M SFP Slot
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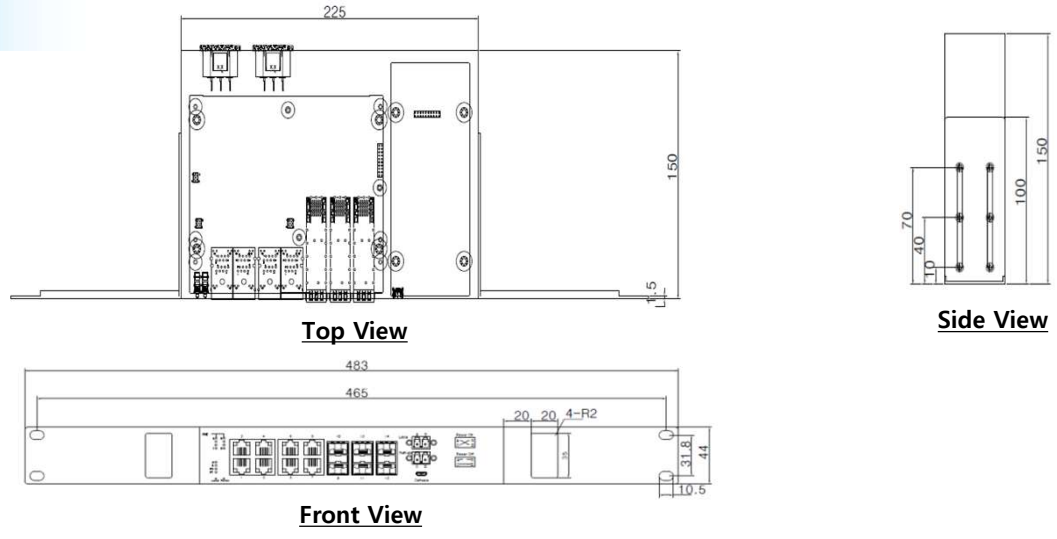
HSTW-IEL-6800M(8G4SF) _P	8x 10/100/1000M copper RJ-45 Ports, 2x 100/1000M SFP Slot, 2x 100/1000/2500M SFP Slot, POE 지원
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주1) SFP Module CWDM/WDM Version Optical Output Wavelength(nm)  
 A 1470, B 1490, C 1510, D 1530, E 1550, F 1570, G 1590, H = 1610, M 1270, N 1290, P 1310, Q 1330, R 1350, S 1370, T 1390, U 1410, V 1430, W 1450



## 장비 규격(Dimension)

### AC Type



### DC Type

