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Building Networks for People

Product Highlights

Robust Design

High EMC endurance, fanless design, and wider operating temperature range combined with an IP40 housing to withstand harsh operating environments

Flexible Deployment

Small form factor design that support standard PoE and extended PoE (up to 250m range) of PoE-powered devices

Powerful Management

Features a variety of flexible management options including a web-based UI, industry-standard CLI, SNMP, and a dedicated RJ-45 console port

DIS-F2012P-E

Layer 2 Gigabit Industrial Smart Managed 250m PoE Switch

Features

Flexible Availability

- Support up to 250m PoE and Data transmission
- Industrial model variations with wider operating temperature ranges

Robust and High-Redundancy Design

- Fanless, passive cooling design
- High EMC endurance
- Built-in 6 kV surge protection on copper ports
- Run-Ring (Self-healing < 10ms)
- Dual power input for redundant power supplies

Layer 2 Features

- IEEE 802.1Q and port-based VLAN
- IEEE 802.1p Quality of Service (QoS)
- STP/RSTP/MSTP
- Port mirroring
- Link aggregation
- Bandwidth control
- Broadcast storm control
- IGMP/MLD Snooping

The DIS-F2012P-E Layer 2 Gigabit Industrial Smart Managed Switches are equipped with 8 PoE-capable 10/100/1000BASE-T ports and 4 SFP ports. DIS-F2012P-E feature a robust design making them ideal for deployment in industrial and outdoor cabinet surveillance settings, capable of withstanding the harshest environments. The DIS-F2012P-E furthermore support extended PoE of up to 250m and security functions to provide a complete industrial networking solution.

Durable and Reliable Design

The DIS-F2012P-E switches are housed in a highly resistant IP40-rated metal casing to protect them from harsh environmental conditions. The high electromagnetic compatibility (EMC) protects the DIS-F2012P-E from unwanted effects when operating in environments with strong electromagnetic interference. Meanwhile, the fanless design extends the life of the DIS-F2012P-E while also being able to operate in a wider temperature range of up to 75 °C. For increased flexibility, the DIS-F2012P-E can also be mounted on a DIN rail or wall-mounted.

Additionally, the DIS-F2012P-E features high-capacity 6KV surge protection on all copper ports to help prevent damage to the switch and connected devices caused by sudden power surges and lightning strikes. The built-in surge protection of up to 6 kV can mitigate the damage to the switch from both indoor and outdoor devices and network connections by absorbing the excess energy while still letting through the amount of power required for the switch to operate normally. This increases network reliability, reduces repair costs, and removes the need for replacement hardware in the event of an electrical surge or lightning strike.

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High Redundancy and Reliability

The DIS-F2012P-E supports Run Ring quick failover recovery for ring topologies that ensures minimal downtime and avoids any loss of data in mission-critical deployment settings. Meanwhile, the dual power input allows for a redundant power supply to make sure the device continues to operate in the event of a primary power supply failure.

Long distance 250m PoE

The DIS-F2012P-E supports the extended PoE features. This feature allow DIS-F2012P-E to provide PoE power to PoE devices over the distance of up to 250m on Cat 5E cable and above. This help to save cost by reducing the number of switch or PoE extender needed to support devices that is more than 100m distance away. With single unit of DIS-F2012P-E, it can help to reduce number of switches needed, thus reduce the overall prices in project implementation.

DIS-2012P-E can support a total power budget of up to 240W (depending on the power source), capable of supplying up to 30 W of power per port to connected PoE-enabled devices leveraging existing conventional Ethernet cabling. This effectively cuts down deployment times, reduces cable clutter, and eliminates the need for dedicated power supplies to allow PoE-devices to be installed in remote locations.

Easy Troubleshooting

The DIS-F2012P-E features loopback detection and cable diagnostics to help network administrators find and solve network problems quickly and easily. Loopback detection is used to detect loops created by a specific port and automatically shuts down the affected port. Cable diagnostics helps network administrators quickly examine the quality of the copper cables, recognize the cable type, and detect cable errors.

Green Ethernet Technology

The DIS-F2012P-E features green technology, including IEEE 802.3az Energy- Efficient Ethernet (EEE), link status detection, and cable length detection. Energy Efficient Ethernet reduces the power consumption of the switches when network utilization is low, effectively lowering the cost of ownership during periods of inactivity. Link status detection automatically powers down ports when there is no link detected, saving power when the connected device has been shut down or disconnected. Cable length detection automatically adjusts the power output of the port based on the length of the cable, reducing the power requirements of the switch to only what is necessary for the installation.

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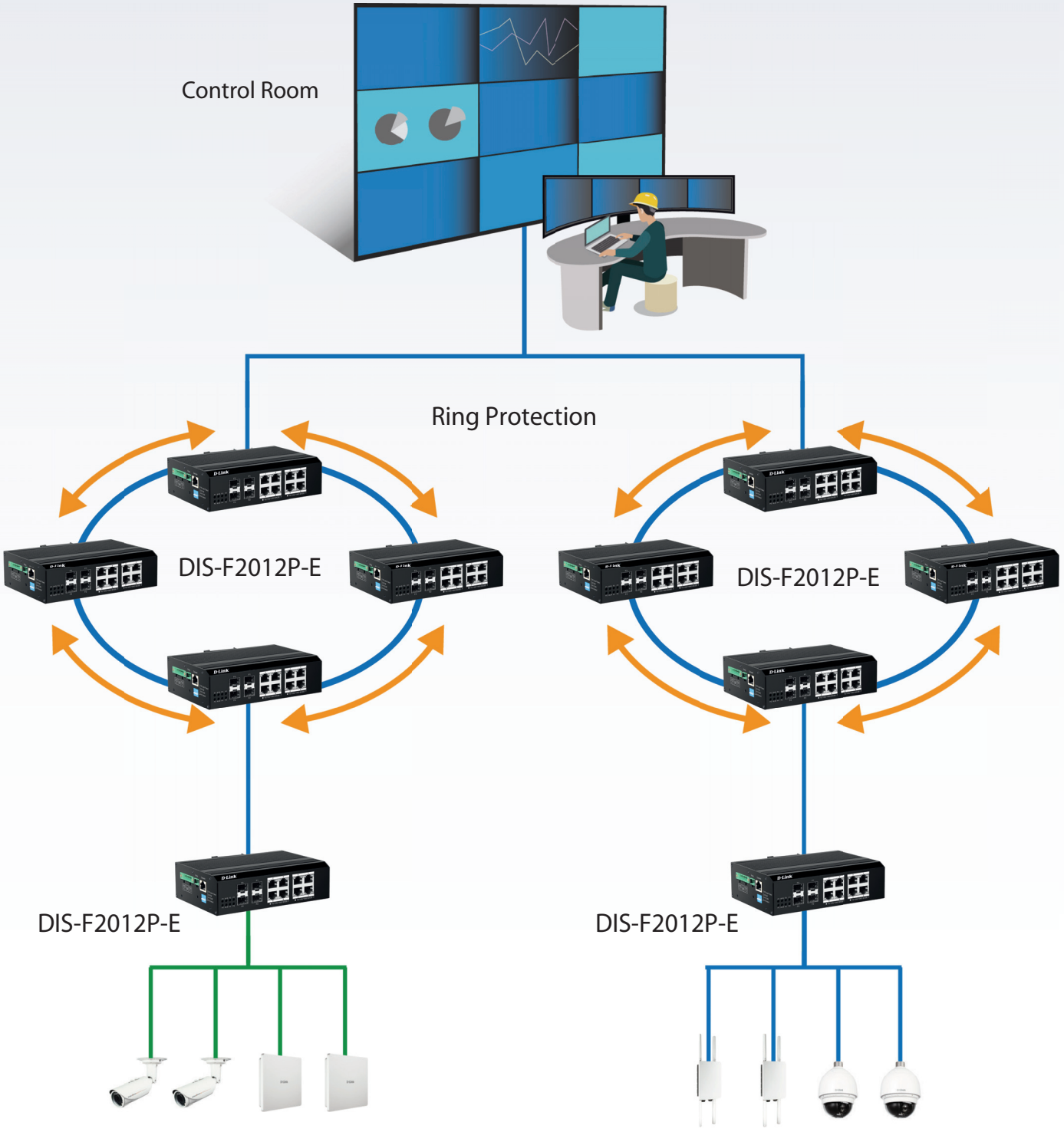
Deployment Scenario



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Technical Specifications	
General	**DIS-F2012P-E**
Hardware Version	• A1
Number of Ports	• 8 X 10/100/1000 Base-T ports • 4 X SFP ports • 1 X RJ-45 Console Port
Port Functions	• IEEE 802.3 for Ethernet • IEEE 802.3u for Fast Ethernet • IEEE 802.3ab for Gigabit Ethernet • IEEE 802.3z for Gigabit fiber • IEEE 802.3af/at Power over Ethernet • IEEE 802.3az-compliant
Media Interface Exchange	• Auto-MDI/MDIX adjustment for all twisted pair ports
Performance	
Switching Capacity	• 24 Gbps
Maximum Forwarding Rate	• 17.85 Mpps
MAC Address Table Size	• Up to 8K entries
Transmission Method	• Store-and-forward
PoE	
PoE Standards	• IEEE 802.3af/at
PoE Capable Ports	• Ports 1 to 8 (Up to 250m)
PoE Power Budget	• Max. 240 W[1]
Physical	
Diagnostic LEDs	• SYS • ALM • PWR 1/2 • Link/Activity/Speed • PoE status
Power Input	• 48 to 54 V DC terminal block dual input • 54 V DC 4-pin DIN single power input
Power Consumptions	• Maximum: 250 W (PoE on) • Maximum: 10 W (PoE off)
Weight	• 1 Kg
Dimensions	• 163 x 46.5 x 110 mm
Ventilation	• Fanless
Operating Temperature	• -40 to 75 °C (-40 to 167 °F)
Storage Temperature	• -40 to 75 °C (-40 to 167 °F)
Operating Humidity	• 5% to 95% RH, non-condensing
Storage Humidity	• 5% to 95% RH, non-condensing
Material	• IP40-rated metal casing
Installation	• DIN rail/wall
MTBF	• 360,000 hours
Certifications	• CE • FCC

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Layer 2 Gigabit Industrial Smart Managed 250m PoE Switch

Software Features		

VLAN	• IEEE 802.1Q tagged VLAN
	• Port-based VLAN
	• Voice VLAN
		• VLAN group
		  • Supports 128 static VLAN groups
		  • Max. 4094 VIDs
		• GVRP

L2 Features	• Flow Control
	  • IEEE 802.3x Flow Control
	• Jumbo frames up to 9600 bytes
	• IGMP Snooping
	  • IGMP v1/v2/v3
	  • Supports up to 256 IGMP snooping groups (shared with MLD snooping)
	  • IGMP Snooping Querier
	• MLD Snooping
	  • MLD snooping v1/v2
	  • Supports up to 256 MLD snooping groups (shared with IGMP snooping)
	  • MLD Snooping Querier
	• IEEE 802.3ad Link Aggregation
	  • Supports 6 groups per device, 8 ports per group
		• Loopback detection
		• LLDP
		• Port mirroring
		  • One-to-One
		  • Many-to-One
		• Statistics
		  • Tx Ok
		  • Tx Error
		  • Rx Ok
		  • Rx Error
		• Spanning Tree Protocol (STP)
		  • IEEE 802.1D STP
		  • IEEE 802.1w RSTP
		  • IEEE 802.1s MSTP

Quality of Service (QoS)	• IEEE 802.1p Quality of Service (QoS)
	  • 4 queues per port
	  • Queue handling
	  • Strict Priority Queue (SPQ)
	  • Weighted Round Robin (WRR)
	  • Port-based bandwidth control (rate limiting)
	  • Ingress: 8 kbps
	  • Egress: 64 kbps	

Security	• Traffic segmentation • Broadcast/Multicast/Unknown Unicast Storm Control • DoS attack prevention	• SSL • Port security
AAA	• Web-based access control	• RADIUS
Management	• Web-based UI (supports IPv4/IPv6) • Industry-standard CLI • SNTP • SNMP v1/v2c/v3 • SNMP trap • Telnet server	• System Log • DHCP client • TFTP client • LLDP

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