

## DCN 8 Port Gigabit PoE++ Switch with 2 Gigabit RJ45 and 1 Gigabit SFP Uplink



An important breakthrough, Configure-free Gigabit UPoE+ (bt 90W) Switch for System Integrators.

Datacomm Networks **DCN-PS-8P-GB280**, an ideal Gigabit UPoE+ Switch, provides a cost-effective advantage to local area networks of SMBs. Offering Layer 2 data packet switching and stable operation, this model also complies with IEEE 802.3bt ultra Power over Ethernet Plus (UPoE+) at an affordable price. By offering reliable switching technology and advanced networking features, the SP5210-8PGE2GE1GF-4BT optimizes the installation and power management of network devices such as wireless access points, VoIP phones, and PTZ cameras.

The **DCN-PS-8P-GB280** is equipped with 10 10/100/1000BASE-T Gigabit Ethernet ports and 1-1000BASE-X SFP interfaces with inner power system. Its 4 Gigabit Ethernet ports are integrated with an 802.3bt PoE++ up to 90W injector function, 4 Gigabit Ethernet ports are integrated with an 802.3at PoE+ up to 30W injector function. It offers a rack-mountable, safe and reliable power solution for SMBs deploying Power over Ethernet networks.

The PoE in-line power following the IEEE 802.3bt/at/af standard makes the SP5210-DCN-PS-8P-GB280 able to deliver Gigabit speed data and up to 90 watts of power port to 8 PoE compliant powered devices (PDs) with a combined power output budget of up to 300 watts. The DCN-PS-8P-GB280 provides more flexibility in power requirement for all kinds of PDs with affordable installation costs.

### Highlights

The Datacomm Networks Gigabit Unmanaged UPoE+ Switches provides a great value, By offering reliable switching technology and advanced networking features, the UPoE+ switch optimizes the installation and power management of network devices such as wireless access points, LED lighting, and PTZ cameras. It also eliminates time and cost of deployment by integrating power and data switching into one unit and freeing network devices from restrictions of power outlet locations and the additional AC wiring.



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### Key features include:

- Complies with IEEE 802.3af/at/bt Power over Ethernet end-span PSE
- Up to 90W of IEEE 802.3af/802.3at/802.3bt devices powered
- Supports PoE power up to 90 watts for 1-4 PoE port, 30 watts for 5-8 PoE port, all power up to 280W PoE budget.
- PD alive check function
- Each port supports 52V DC power to PoE powered device
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- Remote power feeding up to 100m
- Hardware-based 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X
- Flow control for full duplex operation and back pressure for half duplex operation
- Integrates address look-up engine, supporting 8K absolute MAC addresses
- Automatic address learning and address aging
- Supports Energy-Efficient Ethernet (EEE) function (IEEE 802.3az)

### Build a future-proof network with DCN:

- Solid performance with non-blocking architecture, 8K MAC addresses, 24Gbps Backplane bandwidth, 16.37Mpps Switch Throughput, 9216 bytes Jumbo Frame
- Up to 4 ports of IEEE 802.3af/802.3at/802.3bt and 4 ports of IEEE 802.3af/802.3at devices powered
- UPoE+ support on 1-4 ports, PoE power up to 90 watts for each PoE port
- PoE+ support on 5-8 ports, PoE power up to 30 watts for each PoE port
- 1 Dedicated SFP fiber uplink, Extends network distance with highly Gigabit performance via fiber optic cable.

### 802.3bt UPoE+ 90-watt for high power consuming network PD

• Adopt the IEEE 802.3bt UPoE+ standard technology, it is capable to source up to 90 watts of power by using all the four pairs of standard Cat5e/6 Ethernet cabling to deliver power and full-speed data to each remote PoE compliant powered device (PD). Its power capability is three times more than that of the conventional 802.3at PoE+ and it is an ideal solution for those high power consuming network PDs.

### Datacomms Network Quality and Reliability

- Low power consumption, fanless, high-strength metal casing.
- High redundancy design, providing a long term and stable PoE power output.
- CE, FCC, RoHS, CB.
- The user-friendly panel can show the device status through the LED indicator of PWR, Link.

### Easy operation and maintenance

- Hardware-based 10/100/1000Mbps auto-negotiation and auto MDI/MDI-X.
- Flow control for full duplex operation and back pressure for half duplex operation
- Supports Energy-Efficient Ethernet (EEE) function (IEEE 802.3az)
- Rack mount installation, Silent Operation
- Plug and play, No configuration required



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### Hardware at a Glance

FRONT					REAR		SIDE
Model Name	10/100/1000Base-T RJ45 ports	1GBASE-X Fiber SFP Ports	UPoE+ 802.3bt Ports	PoE+ 802.3bt Ports	Power Budget	Power Supply	Fans
DCN-PS-8P-GB280	10	1	4 UPoE+	4 PoE+	300W	1 internal PSU, fixed	Fanless

### Performance at a Glance

Model Name	Packet buffer	Chip	Fabric	Switch Throughput@64bytes	MAC Address Table	Jumbo Frame	Latency (Max Connection Speed)
DCN-PS-8P-GB280	1.2MB	Realtek	24Gbps line-rate	16.37Mpps	8K	9216 bytes	1G Copper: <3.35µs 1G Fiber: <2.5µs

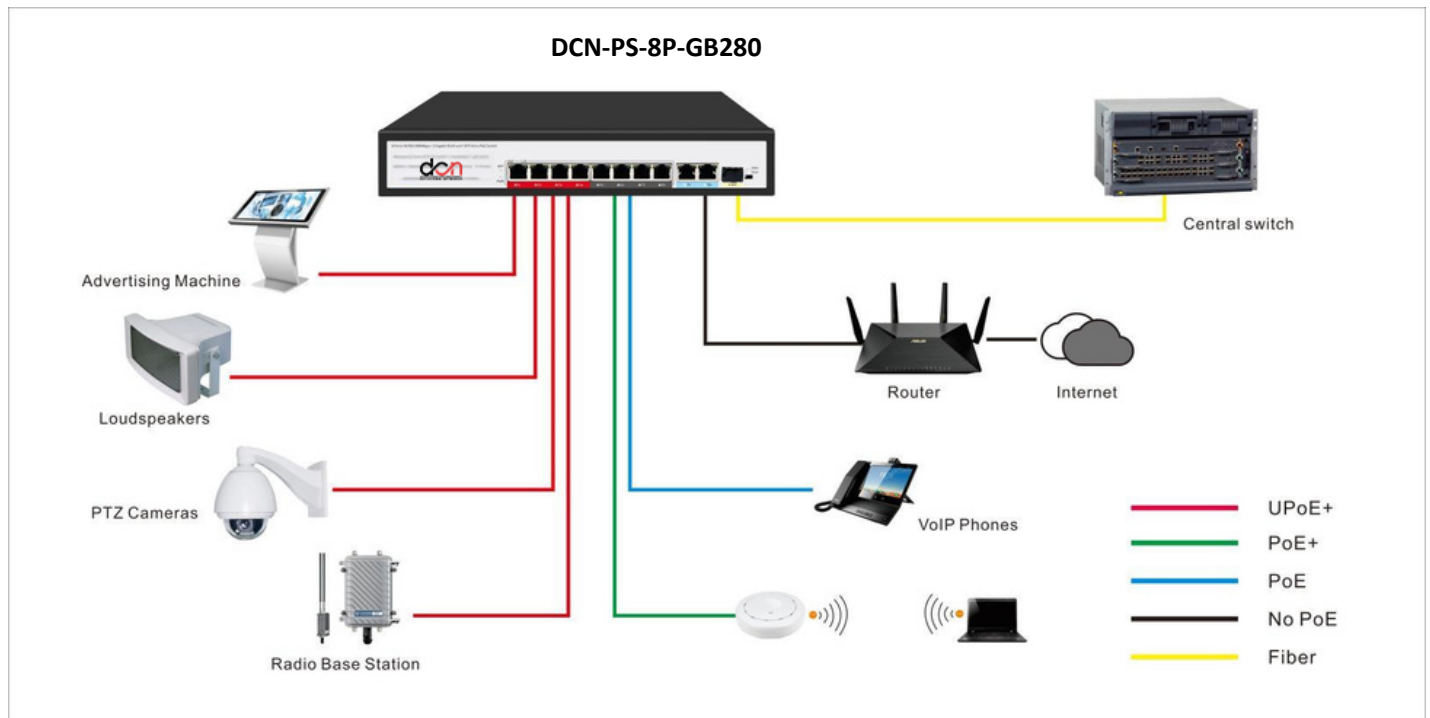
### Features and Benefits

Hardware Features	
1000BASE-T Copper Ethernet UPoE+ connections	Support LED lighting, PTZ Camera and Wi-Fi 6 AP deployments, scalable for future growth. Never face the risk of running out of PoE ports. One 1G SFP ports for aggregation to the network core. Support for
1GBASE-X Fiber SFP ports	Fiber and Copper modules. 280W PoE budget available across 4 Gigabit UPoE+ ports and 4 Gigabit
Great choice of PoE port counts and PoE power budgets that can adapt to the business's needs	PoE+ ports— Connect multiple power demanding devices to your network with a single wire for power and connectivity. Maximum power reduction for ongoing operational cost savings.
Energy Efficient Ethernet (IEEE 802.3az)	

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### Target Application

#### Network Convergence

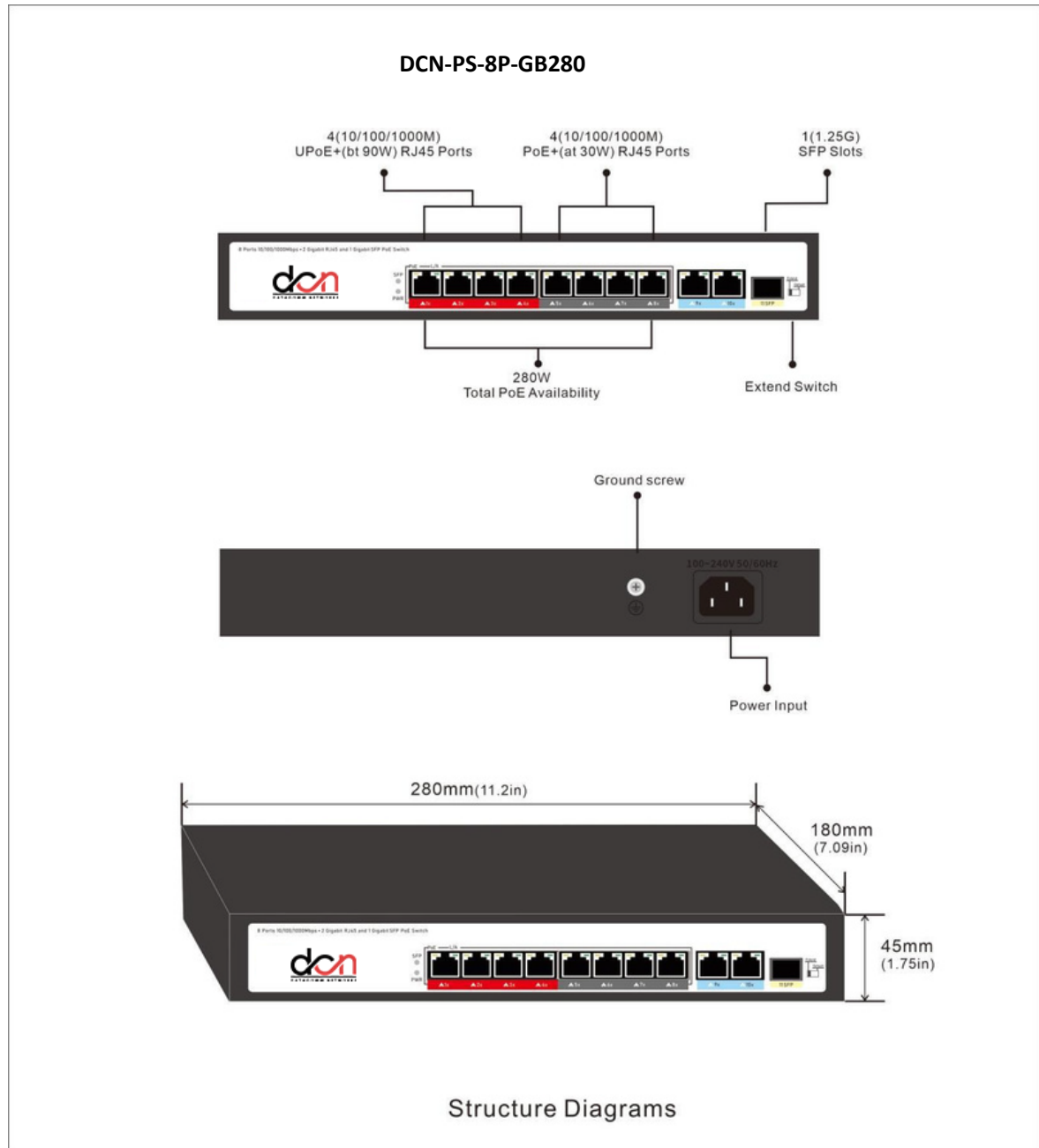


Within small and medium-sized organizations — especially in the hospitality, catering, education, and retail industries — there is growing deployment of VoIP phones, IP security cameras, video-over-IP endpoints, proximity sensors, LED lighting, secure access door locks, and other IoT devices. The dense proximity of these devices requires network switches capable of supporting PoE so a network manager can add power-hungry devices to the network with a single wire for power AND connectivity. Wave 2 802.11ac wireless access points and pan-tilt-zoom HD surveillance cameras with features such as night vision and built-in motion tracking also require UPoE+ power (802.3bt), increasing the power demands on UPoE+ switches. The new 8-port Datacomm Network UPoE+ Switches support dense deployments of these modern high-power UPoE+ devices. with enhanced performance and a focus on usability within commercial environments:

- 280W PoE budget across 4 Gigabit UPoE+ ports and 4 Gigabit PoE+ Ports
- 2 x 1Gb RJ45 and 1 x 1Gb SFP fiber ports for aggregation to the network core to facilitate users' flexible networking
- Comply with IEEE 802.3 af/at/bt PoE power supply standard, automatically identify PoE equipment for power supply.
- Built-in 802.3bt type-4 PoE 90W injector function
- PoE ports support priority mechanism. When the remaining power is insufficient, priority is given to ensuring the power supply of high-priority ports to avoid equipment overload.
- Support non-blocking wire-speed forwarding.
- Plug and play, no configuration, simple and convenient.
- Limited Lifetime\* Warranty, Tech support

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## Structure Diagrams





## DCN 8 Port Gigabit PoE++ Switch with 2 Gigabit RJ45 and 1 Gigabit SFP Uplink

Technical Specifications		DCN-PS-8P-GB280	
10M/100M/1G RJ-45 copper ports		10	
1G SFP (fiber) ports		1	
PoE / PoE+/UPoE+ ports		UPoE+	
PoE / PoE+ ports		4 PoE+	
Power over Ethernet			
PoE Standard		IEEE 802.3bt Power over Ethernet Plus+/PSE	
		IEEE 802.3at Power over Ethernet Plus/PSE	
		Backward compatible with IEEE 802.3af Power over Ethernet	
PoE Power Supply Type		1/2 /4/5(+), 3/6/7/8 (-)	
PoE Power Output		Per port 52V DC, 300mA. max. 15.4 watts (IEEE 802.3af)	
		Per port 52V DC, 600mA. max. 30 watts (IEEE 802.3at)	
		Per port 52V DC, 1800mA. max. 90 watts (IEEE 802.3bt)	
PoE Power Budget		280 Watts	
Number of PDs, 15 watts		8	
Number of PDs, 30 watts		8	
Number of PDs, 45 watts		4 (1-4 Port)	
Number of PDs, 60 watts		4 (1-4 Port)	
Number of PDs, 75 watts		3 (1-4 Port)	
Performance Specification			
Chip		Realtek	
Packet buffer memory (Dynamically shared across only used ports)		1.2 Mb	
Forwarding modes		Store-and-forward	
Bandwidth		24 Gbps	
Packet forwarding rate (64 byte packet size) (Mpps)		16.37Mpps	
MAC address database size (48-bit MAC addresses)		8K	
Jumbo frame support (bytes)		Up to 9K packet size	
Forwarding Mode		Store and Forward(Full Wire Speed)	
Mean Time Between Failures (MTBF) @ 25°C		121,136 hours	
100M Copper Latency (64-byte; 1518-byte; 9216-byte frames)		8.314μs; 8.412μs; 8.551μs	
1G Copper Latency (64-byte; 1518-byte; 9216-byte frames)		3.414μs; 3.545μs; 3.628μs	
1G Fiber Latency (64-byte; 1518-byte; 9216-byte frames)		2.980μs; 3.101μs; 3.179μs	



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IEEE Network Protocols		DCN-PS-8P-GB280	
<ul style="list-style-type: none"><li>• IEEE 802.3i 10BASE-T</li><li>• IEEE 802.3u 100BASE-T</li><li>• IEEE 802.3ab 1000BASE-T</li><li>• IEEE 802.3z Gigabit Ethernet 1000BASE-SX/LX</li><li>• IEEE 802.3az Energy Efficient Ethernet (EEE)</li></ul>		<ul style="list-style-type: none"><li>• IEEE 802.3af PoE</li><li>• IEEE 802.3at PoE+</li><li>• IEEE 802.3bt PoE+</li><li>• IEEE 802.3x Full-Duplex Flow Control</li></ul>	
Monitoring			
LEDs		Yes	
Per port		Speed, Link, Activity;PoEindifferent mode	
Per device		Power	
Physical Specifications			
Dimensions		280x 180 x 44.5mm(11.02x7.09 x 1.75 in)	
Weight		1.6 kg(3.53lb)	
Power Requirements		AC 100~240V 50/60Hz	
Power Consumption (when all ports used, line-rate traffic and max PoE)		300W	
Max power (worst case, all ports used, full PoE, line-rate traffic) (Watts)		12W	
Idle power consumption (all ports link-down standby) (Watts)		8W	
Energy Efficient Ethernet (EEE) IEEE 802.3az		Yes (deactivated by default)	
Fan		Fanless	
Environmental Specifications			
Operating			
Operating Temperature		-20° to 50°C(-4° to 122°F)	
Humidity		90% maximum relative humidity (RH), non-condensing	
Altitude		10,000 ft (3,000m) maximum	
Storage			
Storage Temperature		-20° to 70°C(-4° to 158°F)	
Humidity (relative)		95% maximum relativehumidity, non-condensing	
Altitude		10,000 ft (3,000m) maximum	



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Electromagnetic Emissions and Immunity		
Certifications	CE mark, commercial	
	FCC Part 15 Class A, VCCI Class A	
	Class A EN 55022 (CISPR 22) Class A	
	Class A C-Tick	
	EN 55024	
	CCC	
	47 CFR FCC Part 15, SubpartB, Class A ICES-003: 2016 Issue 6, Class A	
	ANSI C63.4:2014	
IEC 60950-1:2005 (ed.2)+A1:2009+A2:2013AN/NZS CISPR 22:2009+A1:2010 CLASS A		
Safety		
Certifications	CB mark, commercial	
	CSA certified (CSA 22.2 #950)	
	UL listed (UL 1950)/cUL IEC 950/EN 60950	
	EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 60950-1:2005	
	(ed.2)+A1:2009+A2:2013	
	AN/NZS 60950.1:2015	
CCC (China Compulsory Certificate)		
Warranty and Support		
Hardware Limited Warranty		Limited Lifetime*
Technical Support via Phone and Email*		Limited Lifetime*
Limited Lifetime* 24x7 Online Chat Technical Support		Limited Lifetime*
Package Contents		
All models	Smart PoE++ Switch	
	AC Power cord with C13 connector (localized to region of sale)	
	Brackets and screws for rack mounting	
	Rubber protection caps, which are already installed in the SFP sockets Installation guide	
	User's manual	