Power over Coax (PoC) Network Switches

8- or 16-port Coax Network Switches and Ethernet to Coax Media Converters

POC2502-8CXP-2T-2S

POC2502-16CXP-2T-2S

POC252-1CX-1P

POC2052-4P-1CX

POC252-1CXP-1T

OVERVIEW

The IFS® Power over Coax Network Switches and Media Converters from Interlogix are designed to transmit both Ethernet data and power transmission over coax cable up to 3,281 ft. (1Km). This solution provides a cost-effective way to reduce installation costs and increase ROI by utilizing existing coax to migrate an analog video system to an IP surveillance system. The PoC Network Switches also provide built-in PD-alive health and status monitoring of an IP camera. In addition, this solution eliminates the need for providing local power at an IP PoE camera location.

- The POC2502-8CXP-2T-2S is an 8-port Power over Coax Managed Switch that supplies data and power transmission on coax via BNC ports. In addition, the two RJ45 and two SFP Gigabit ports provide a connection to an Ethernet network.

- The POC2502-16CXP-2T-2S is a 16-port Power over Coax Managed Switch. The switch supplies data and power transmission on coax via BNC ports as well as two RJ45 and two SFP Gigabit ports for connection to an Ethernet network.

- The POC252-1CX-1P Power over Coax Media Converter is for use at the camera end to convert the data/power from the coax. The media converter provides 10/100Mbps data and IEEE 802.3-af/at compliant power on the RJ45 port for an IP camera.

- The POC252-1CXP-1T Power over Coax Media Converter transmits data and injects power over coax for use with the POC252-1CX-1P. This media converter is used to deploy a single IP camera on a length of coax cable when a multi-port BNC switch is not needed.

- The POC2052-4P-1CX Power over Coax camera end switch has 4-ports with IEEE 802.3-af/at compliant power for up to 4 IP cameras. It can be powered optionally via the POC switch or POC media convertors (providing up to 20 watts of shared POE power) or can be powered locally to provide more POE power (up to 120 watts).

STANDARD FEATURES

Coax Ports
- 1, 8 or 16 BNC ports
- IEEE 1901 standard compliant for power
- Wavelet-OFDM modulation
- 128-bit AES security encryption
- Daisy-chain (up to 4 devices on one link)

Ethernet Ports
- 10/100Mbps Ethernet (POC252 series) or 4 x 10/100Mbps Ethernet (POC2052-4P-1CX)
- Auto-negotiation and auto-MDI/MDI-X
- Half-duplex back pressure and IEEE802.3x full-duplex pause-frame flow control
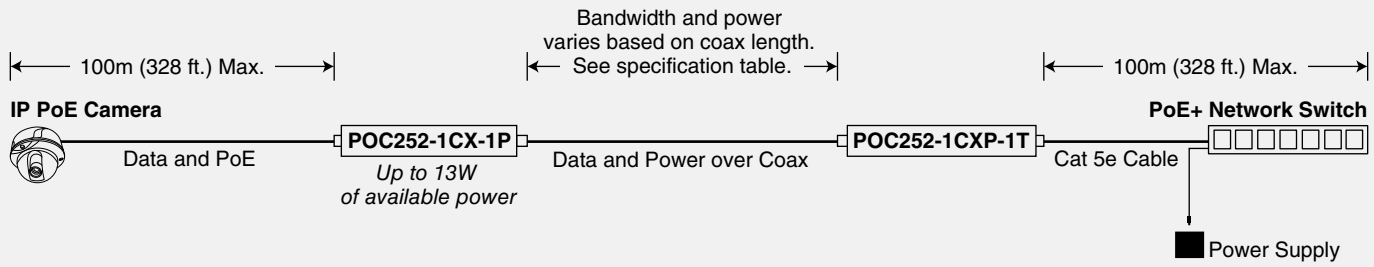- Gigabit RJ45/SFP fiber ports (POC2502 series)

Power over Ethernet
- IEEE 802.3-af/at compliant on RJ45 Ethernet port (POC252 series)
- Up to 36W insertion power per coax port (POC2502 series)
- Up to 440W total power budget (dependent on switch model)
- Remote power up to 3,281 ft. (1Km) with RG6 75Ω coaxial cable
- Full PoE management
  - Total power budget control
  - Power enable/disable per port
  - Power priority per port
  - Power limitation per port
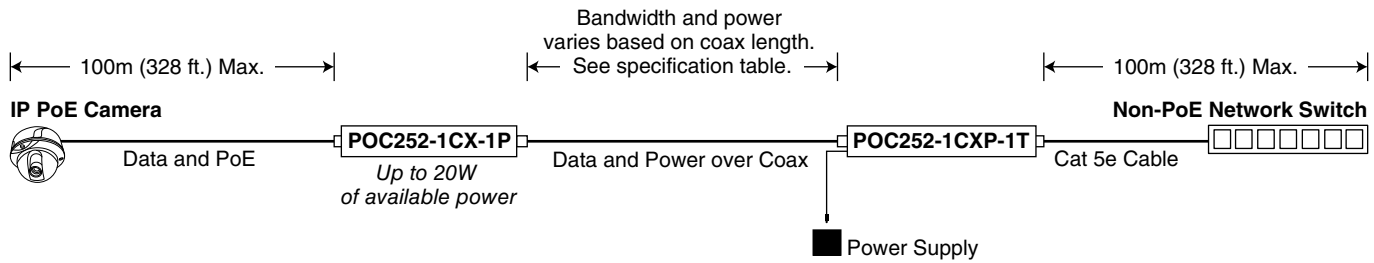 - Power scheduling per port
  - PD alive-checking

Note: The actual data rate and power will vary based on the quality of the copper wire, distance and environmental factors. See specifications table for more information.
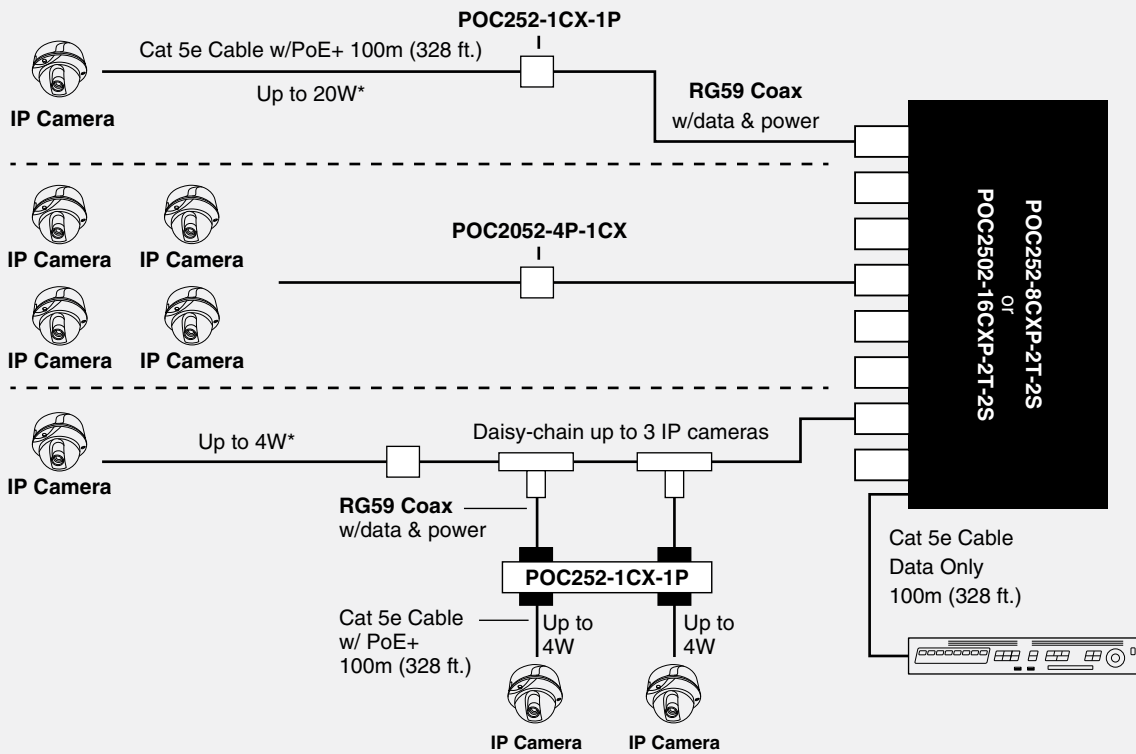
interlogix.com/ifs

Typical Applications

Remote PoC Power via Network PoE+ Switch*

|← 100m (328 ft.) Max. →| | Bandwidth and power
varies based on coax length.
|← See specification table. →| | |← 100m (328 ft.) Max. →|

IP PoE Camera

Data and PoE — **POC252-1CX-1P** — *Up to 13W of available power* — Data and Power over Coax — **POC252-1CXP-1T** — Cat 5e Cable — **PoE+ Network Switch**

■ Power Supply

Remote PoC Power via POC252-1CXP-1T*

|← 100m (328 ft.) Max. →| | Bandwidth and power
varies based on coax length.
|← See specification table. →| | |← 100m (328 ft.) Max. →|

IP PoE Camera

Data and PoE — **POC252-1CX-1P** — *Up to 20W of available power* — Data and Power over Coax — **POC252-1CXP-1T** — Cat 5e Cable — **Non-PoE Network Switch**

■ Power Supply

Multi-port PoC IP Camera Solution

POC252-1CX-1P

IP Camera — Cat 5e Cable w/PoE+ 100m (328 ft.) — Up to 20W* — **RG59 Coax** w/data & power

POC2052-4P-1CX

IP Camera **IP Camera**
IP Camera **IP Camera**

POC252-8CXP-2T-2S or **POC2502-16CXP-2T-2S**

IP Camera — Up to 4W* — Daisy-chain up to 3 IP cameras

RG59 Coax w/data & power

POC252-1CX-1P

Cat 5e Cable w/ PoE+ 100m (328 ft.) — Up to 4W — Up to 4W

IP Camera **IP Camera**

Cat 5e Cable Data Only 100m (328 ft.)

Application Note: Total power is limited to 30 watts when using a "T" Tap Configuration.
Bandwidth and final output PoE power varies based on coax length and Cat 5e or 6 cable. See specification table.

*The actual data rate and power will vary based on the quality of the coaxial cable, distance and environmental factors.
 See instruction manual for a complete listing of data rates and power at various coax transmission distances.

Specifications

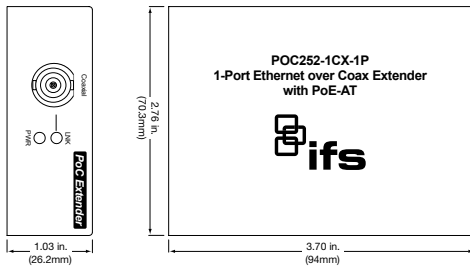|	Part No.	POC252-1CX-1P	POC252-1CXP-1T	POC2052-4P-1CX	POC2502-8CXP-2T-2S	POC2502-16CXP-2T-2S
	Description					
Physical Ports	10/100Base-T(x) Ports	RJ-45 (1) & BNC (1)		RJ-45 (4) & BNC (1)	BNC (8)	BNC (16)
	GigE Combo Uplink Ports	N/A			RJ-45 (2) & SFP (2)	
	Port Configuration	Auto MDI/MDI-X				
	Port Speed	Auto-negotiate				
Switch Performance	Switch Architecture				Store-and-Forward	
	Switch Fabric				9.6Gbps (non-blocking)	11.2Gbps (non-blocking)
	MAC Address Table				8K entries, automatic source address learning and ageing	
	Share Data Buffer				4.1Mb embedded memory for packet buffers	
	Maximum Frame Size				10KBytes on Gig Uplink Ports	
	Flow Control				Back pressure for Half-Duplex; IEEE 802.3x Pause Frame for Full-Duplex	
Layer 2 Functions	Management Interface				Web browser, Telnet, SNMP v1 & v2c, 1 x RS323-to-RJ45 serial port (1115200, 8, N, 1)	
	Port Configuration				Port enable/disable; Auto-negotiation; 10/100/1000Mbps full-and-half duplex mode selection; Flow control	
	Port Status				Display each port's speed duplex mode, link status and flow control status. Auto negotiation status, trunk status	
	Port Mirroring				TX/RX/Both; Many to 1 monitoring	
	VLAN				802.1Q tagged-based VLAN Up to 256 VLAN groups, out of 4094 VLAN IDs 802.1ad Q-in-Q tunneling Voice VLAN Protocol VLAN Private VLAN (Protected port) GVRP	
	Link Aggregation				IEEE 802.3ad LACP and static trunk Supports 4 groups of 4-port trunk	
	Quality of Service (QoS)				8 mapping ID to 8 level priority queues - Port number - 802.1p priority - 802.1Q VLAN tag - DSCP field in IP packet Traffic classification based, strict priority and WRR	
	Multicasting/IGMP				IGMP (v2/v3) Snooping IGMP Querier Up to 256 multicast groups	
LED Indicators & Switch	LEDs	PWR, LRP LNK, PoE-in-use, LNK/ACT		PWR, LRP LNK, PoE-in-use, PoE power meter	PWR, SYS, LNK, PoE-in-Use, 1000, LNK/ACK, Fan 1 Alert, Fan 2 Alert, PoE PWR Alert	
	Reset Button	N/A			< 5 sec: System reboot > 5 sec: Factory default	
Electrical and Mechanical	Power Input	Via Power Over Coax	Via PoE Switch or 56VDC	Via Power Over Coax or 52~56VDC	100~240V AC, 50/60Hz	
	Power Consumption (Full PoE load)	Max 29 Watts	Max 40 Watts	Max 130 Watts	Max. 280 Watts / 961 BTU	Max. 495 Watts / 1698 BTU
	Dimensions (W x D x H)	3.70 x 2.76 x 1.02 in. (94 x 70 x 26 mm)		5.31 x 3.46 x 1.02 in. (135 x 88 x 2.20 mm)	17.32 x 11.81 x 1.75 in. (440 x 300 x 44.5 mm), 1U height	
	Weight	0.83 lbs. (375g)	0.44 lbs. (200g)	1.42 lbs. (644g)	9.44 lbs. (4.28kg)	9.77 lbs. (4.43kg)
Environmental	Operating Temperature	-10°C to +60°C		-20°C to +70°C	0°C to +50°C	
	Storage Temperature	-40°C to +75°C		-40°C to +75°C -10°C to +70°C	-10°C to +70°C	
	Relative Humidity	0% to 95% (non-condensing)				
	Regulatory Standards	FCC Part 15 Class A, CE				
Standards Compliance	IEEE Standards	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus			IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3z Gigabit Ethernet IEEE 802.3x Full-duplex flow control IEEE 802.1Q VLAN IEEE 802.1p QoS IEEE 802.1D Spanning Tree Protocol IEEE 802.1w Rapid Spanning Tree Protocol IEEE 802.3af Power over Ethernet IEEE 802.3at Power over Ethernet Plus	
Power over Ethernet	PoE Standard	IEEE 802.3-at / 802.3-at PoE				
	PoE Power Supply Type	End-span				
	PoE Power Budget	Up to 25 Watts via Coax	30.8 Watts (Max)	Up to 24 Watts (when powered via coax), up to 120 Watts (when powered locally)	240 Watts (Max)	380 Watts (Max)
	PoE Power Output Per Port		Max. 30.8 Watts (via PoE Switch) 36 Watts (via PSU)	Max. 30.8 Watts	Per Port 54V DC, Max. 36 Watts	Per Port 52V DC, Max. 36 Watts
	Power Pin Assignment (RJ45)	1/2(+), 3/6(-)				
	Power Pin Assignment (COAX)	BNC center pole : DC+ / Hi; BNC shield : DC - / Lo				
IP Over Coax Interface	Cabling	Coaxial cable: 75 ohm; RG-6/U cable (Improved Performance)				
	Communication Standard	IEEE1901				
	Modulation Type	Wavelet-OFDM				
	Security	128-bit AES encryption				
	Frequency Band	2 ~ 28 MHz				
	Multiple Nodes		Supports up to 3 POC Media Convertors (Camera End) within 1km (Limited by DC/PoE Power Input and the length of coaxial cable)		Supports up to 3 POC Media Convertors (Camera End) within 1km (Limited by DC/PoE Power Input and the length of coaxial cable)	
Data Rate (Upload/ Download)*	200m	93 / 93 Mbps		91 / 88 Mbps	93 / 93 Mbps	
	400m	93 / 92 Mbps		89 / 87 Mbps	93 / 92 Mbps	
	600m	92 / 88 Mbps			92 / 88 Mbps	
	800m	83 / 75 Mbps		68 / 69 Mbps	83 / 75 Mbps	
	1000m	74 / 55 Mbps		57 / 60 Mbps	74 / 55 Mbps	
Typical Power Over Coax*	200m		29W (56VDC in) 16.9W (PoE+ in)	N/A	23.2W	
	400m		22W (56VDC in) 14.3W (PoE+ in)	N/A	20.1W	
	600m		13W (56VDC in) 10.2W (PoE+ in)	N/A	16.2W	
	800m		10W (56VDC in) 8.3W (PoE+ in)	N/A	12.8W	
	1000m		8W (56VDC in) 7.1W (PoE+ in)	N/A	10W	

* Based on RG-59 Bare Copper (BC) cable : Data rate and power performance is subject to the quality of Coax cable used and is subject to external environmental factors

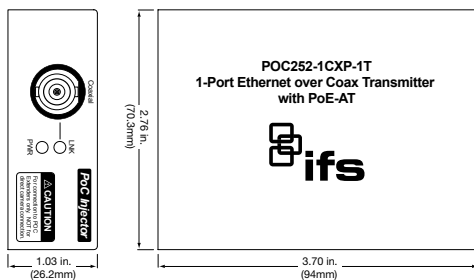# Power over Coax (PoC) Network Switches

8- or 16-port Coax Network Switches
and Ethernet to Coax Media Converters
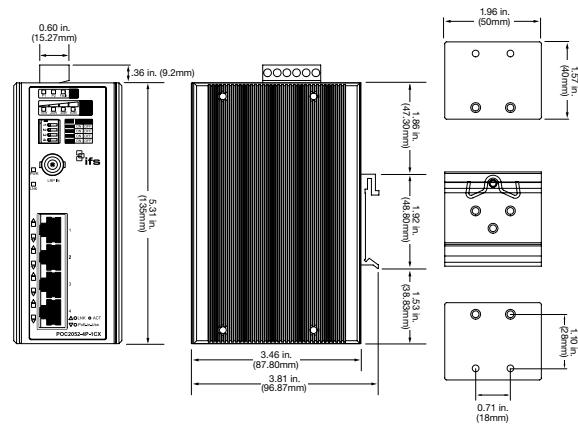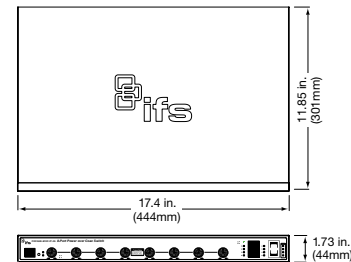
Dimensional Diagrams

POC252-1CX-1P

POC252-1CXP-1T

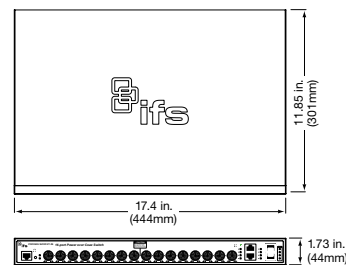**POC2052-4P-1CX**

POC2502-8CXP-2T-2S

POC2502-16CXP-2T-2S

Ordering Information

POC252-1CX-1P	IP Power over Coax (camera end) Media Converter with 1-port RJ45 PoE-at
POC252-1CXP-1T	IP Power over Coax (head end) Media Converter - Injects Power over Coax
POC2052-4P-1CX	Industrial 4-Port PoE-at Power over Coax Switch (camera end)
POC2502-8CXP-2T-2S	8-port BNC IP Power over Coax PoE-at Managed Switch Plus 2 SFP and 2 RJ45 Gigabit Uplink Ports
POC2502-16CXP-2T-2S	16-port BNC IP Power over Coax PoE-at Managed Switch Plus 2 SFP and 2 RJ45 Gigabit Uplink Ports

Note: Not compatible with the MCE-COAX or MC252 Series Ethernet to Coax Media converters.

Accessories

PS56VDC65W-US	56VDC - 65w Wall Mount Power Supply*

*For use on single channel operation without a PoE or PoC switch to inject power onto coax when using the POC252-1CXP-1T (switch end) as a standalone unit.
For use with POC252-1CX-1P (camera end) to inject power remotely in field when higher power is needed at camera location.

Agency Compliances

• FCC
• CE

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