

Power over Coax (PoC) Network Switches

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

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 solution contains the following modules:

- 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.

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.



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

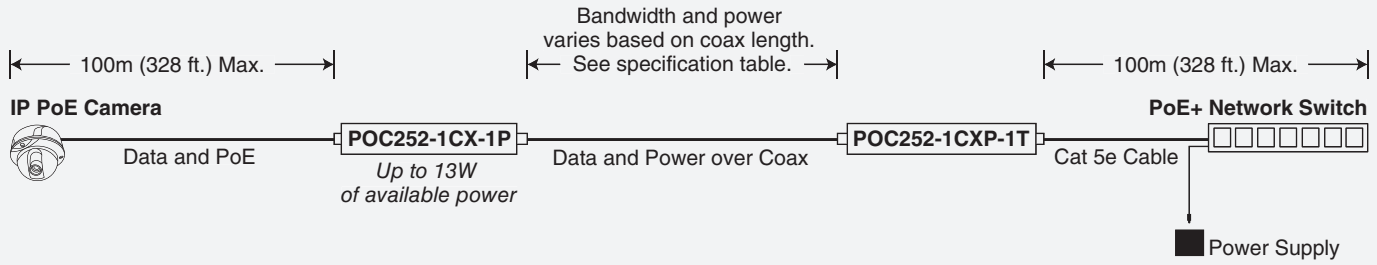
- 10/100Mbps Ethernet (POC252 series)
- Auto-negotiation and auto-MDI/MDI-X
- Half-duplex back pressure and IEEE802.3x full-duplex pause-frame flow control
- Gigabit RJ45/SFP fiber ports (POC2502 series)

Power over Ethernet

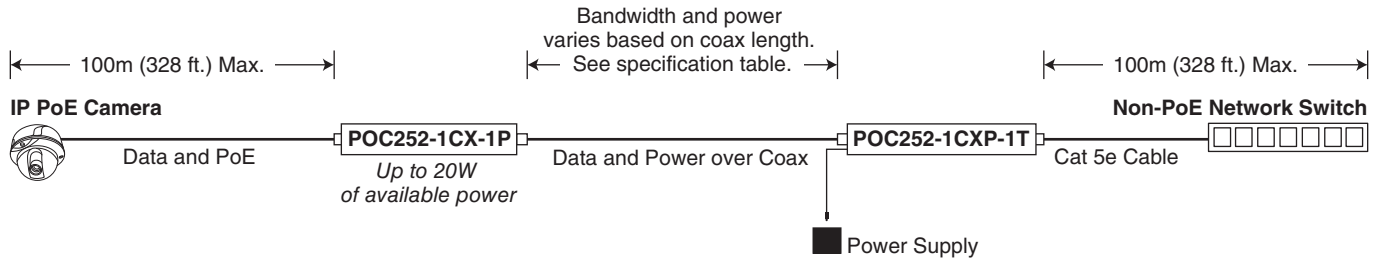
- IEEE 802.3-af/at compliant on RJ45 Ethernet port (POC252 series)
- Up to 36W insertion power per coax port (POC2502 series)
- Up to 440W total power budget (dependent on switch model)
- Remote power up to 3,281 ft. (1Km) with RG6 75Ω coaxial cable
- Full PoE management
 - Total power budget control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

Typical Applications

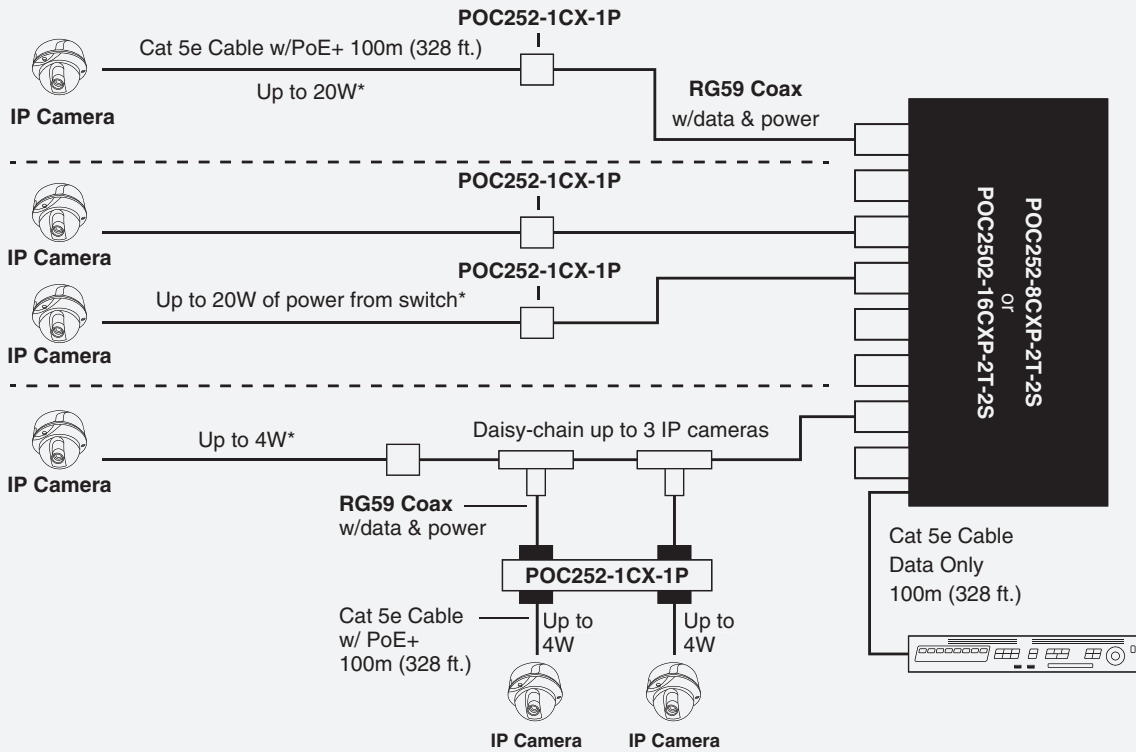
Remote PoC Power via Network PoE+ Switch*



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







Multi-port PoC IP Camera Solution



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 | | POC2502-8CXP-2T-2S | | POC2502-16CXP-2T-2S | |
|------------------------------|-----------------------------------|--|-----------------------------------|---|--|---|---|---|--|
| Description | |  | |  | |  | |  | |
| Physical Ports | 10/100Base-T(x) Ports | RJ-45 (1) & 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 | | | | | | | |
| Layer 2 Functions | Flow Control | Back pressure for Half-Duplex; IEEE 802.3x Pause Frame for Full-Duplex | | | | | | | |
| | 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, 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 | | 100-240V AC, 50/60Hz | | | |
| | Power Consumption (Full PoE load) | Max 29 Watts | | Max 34 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) | | | | 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) | | 9.44 lbs. (4.28kg) | | 9.77 lbs. (4.43kg) | |
| Environmental | Operating Temperature | -10°C to +60°C | | | | 0°C to +50°C | | | |
| | Storage Temperature | -40°C to +75°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 | | | |
| | | PoE Standard | IEEE 802.3-at / 802.3-at PoE | | | | | | |
| Power over Ethernet | PoE Power Supply Type | End-span | | | | | | | |
| | PoE Power Budget | Up to 25 Watts via Coax | | 30.8 Watts (Max) | | 240 Watts (Max) | | 380 Watts (Max) | |
| | PoE Power Output Per Port | | | Max. 30.8 Watts (via PoE Switch) 36 Watts (via PSU) | | 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) | | | |
| Data Rate (Upload/Download)* | 200m | 93 / 93 Mbps | | | | | | | |
| | 400m | 93 / 92 Mbps | | | | | | | |
| | 600m | 92 / 88 Mbps | | | | | | | |
| | 800m | 83 / 75 Mbps | | | | | | | |
| | 1000m | 74 / 55 Mbps | | | | | | | |
| Typical Power Over Coax* | 200m | | | 29W (56VDC in) 16.9W (PoE+ in) | | 23.2W | | | |
| | 400m | | | 22W (56VDC in) 14.3W (PoE+ in) | | 20.1W | | | |
| | 600m | | | 13W (56VDC in) 10.2W (PoE+ in) | | 16.2W | | | |
| | 800m | | | 10W (56VDC in) 8.3W (PoE+ in) | | 12.8W | | | |
| | 1000m | | | 8W (56VDC in) 7.1W (PoE+ in) | | 10W | | | |

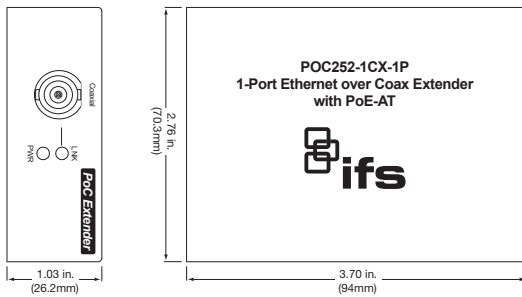
* Based on RG-59 Bare Copper (BC) cable : Data rate and power performance is subject to the quality of Coax cable used and is subject to external environmental factors

Power over Coax (PoC) Network Switches

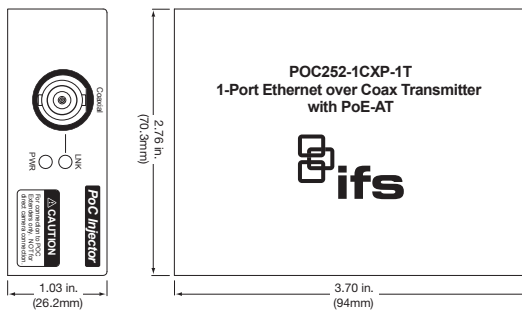
8- or 16-port Coax Network Switches
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Dimensional Diagrams

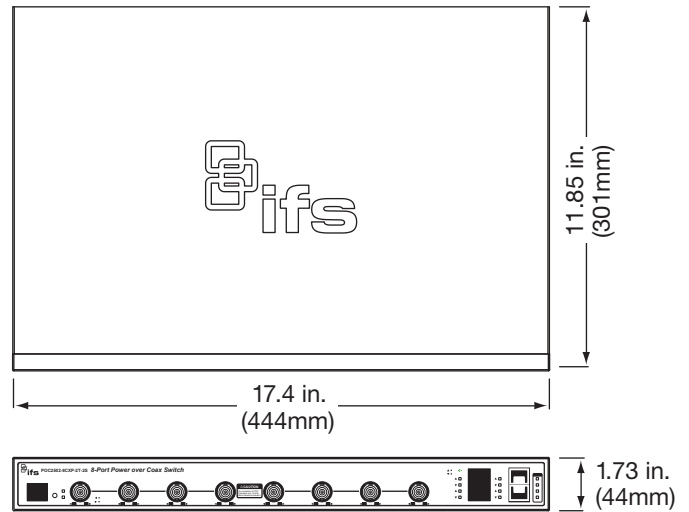
POC252-1CX-1P



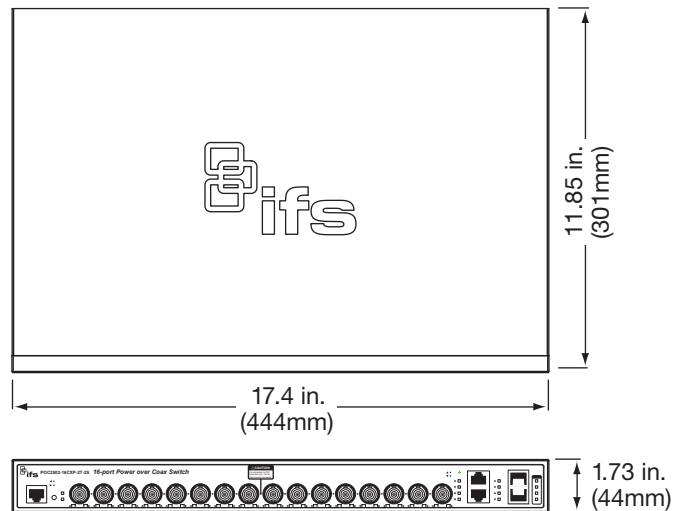
POC252-1CXP-1T



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 |
| 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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Specifications subject to change without notice.

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