



USER MANUAL

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## Chapter 1 COMMANDS FOR POE

### 1.1 Commands for PoE Configuration

#### 1.1.1 power inline dynamic detect enable

- **Command:** **power inline dynamic detect enable**
  - **no power inline dynamic detect enable**
- **Function:** Enable/disable the dynamic detection function of POE power.
- **Parameters:** None.
- **Default:** Disable.
- **Command Mode:** Port Configuration Mode.
- **Usage Guide:** Enable/disable the dynamic detection function of POE power through this command.
- **Example 1:** Enable the dynamic detection function of POE power of port 1/0/1-10.
  - Switch(config)#interface ethernet 1/0/1-10
  - Switch(config-if-port-range)# power inline dynamic detect enable
- **Example 2:** Disable the dynamic detection function of POE power of port 1/0/1-10.
  - Switch(config)#interface ethernet 1/0/1-10
  - Switch(config-if-port-range)#no power inline dynamic detect enable

#### 1.1.2 power inline dynamic detect interval <30-300>

- **Command:** **power inline dynamic detect interval <30-300>**
  - **no power inline dynamic detect interval**
- **Function:** Configure the dynamic detection interval of POE power of the port.
- **Parameters:** interval <30-300>, detection interval, range is from 30 to 300 and the unit is second.
- **Default:** 120s.
- **Command Mode:** Port Configuration Mode.
- **Usage Guide:** Configure the dynamic detection interval of POE power of the port through this command.
- **Example:** Configure the dynamic detection interval of POE power of the port 1/0/1-10 as 100s.
  - Switch(config)#interface ethernet 1/0/1-10
  - Switch(config-if-port-range)#power inline dynamic detect interval 100

#### 1.1.3 power inline enable (Global)

- **Command:** **power inline enable**
  - **no power inline enable**
- **Function:** Enable /disable global PoE.
- **Parameters:** None.
- **Command Mode:** Global Mode.

- **Default:** Disable.
- **Usage Guide:** With PoE globally disabled, there would be no power output no matter what the power state of a specified port is.
- **Example:** Globally disable PoE.
- Switch(Config)#no power inline enable

#### 1.1.4 power inline enable (Port)

- **Command:** power inline enable
  - no power inline enable
- **Function:** Enable/disable PoE power supply.
- **Parameters:** None.
- **Command Mode:** Port Mode.
- **Default:** Enable.
- **Usage Guide:** Enabled: Automatically detect PD. In such a state, PSE will automatically detect and classify a PD, and provide power supply for it according to the classification. If a PD connection is detected, its specified output power will be satisfied as long as there is enough available power, after which the corresponding LED indicator will be updated. Otherwise, the power distribution rules will decide whether or not to implement this power supply. During a normal power supply process, if PD requires for an extra power which exceeds the max threshold value, the supply will be cut off and the corresponding LED indicator will be updated. When the PD is disconnected from the PSE normally, PSE will stop outputting power supply and update the corresponding LED indicator.
  - Disabled: Disable power supply. With the PSE power supply disabled, no power will be output regardless of the existence of PD connections, which means the port will act as a regular Ethernet data port without affecting data transmission.
- When it is globally disabled, no power supply will be output regardless of the power supply is enabled or disabled on ports.
- **Examples:** Disable power supply on ports 1, 3, 4, 5, 6.
- Switch(Config)# interface ethernet 1/0/1;3-6
- Switch(Config-Port-Range)#no power inline enable

#### 1.1.5 power inline high-inrush

- **Command:** power inline high-inrush enable
  - no power inline high-inrush enable
- **Function:** Enable the allowed high-inrush current when nonstandard PD is powered instantaneously, disable the allowed high-inrush current.
- **Parameter:** None.
- **Command Mode:** Global mode
- **Default:** The allowed high-inrush current is not enabled.

- **Usage Guide:** high-inrush current will be brought when nonstandard PD is powered instantaneously, it will result PSE self-protection to make PD power failure. Here, if this nonstandard PD must be powered, it needs to allow the high-inrush current.
- **Example:** Enable the allowed high-inrush current when nonstandard PD is powered instantaneously.
- Switch(config)#power inline high-inrush enable

### 1.1.6 power inline legacy

- **Command: power inline legacy enable**
  - no power inline legacy enable
- **Function:** Set whether or not to provide power supply for non-standard IEEE PD.
- **Parameters:** None.
- **Command Mode:** Global Mode.
- **Default:** Do not provide power supply for non-standard IEEE PD.
- **Usage Guide:** With this function enabled, the switch will be compatible with and provide power supply for non-standard IEEE PD.
- **Examples:** Set the switch to provide power supply for non-standard IEEE PD.
- Switch(Config)#power inline legacy enable

### 1.1.7 power inline max (Global)

- **Command: power inline max <max-wattage>**
  - no power inline max
- **Function:** Set the global max output power of PoE.
- **Parameters:** max-wattage: value of the max output power, in W. The ranging of 52T-PoE and 28T-POE from 37 to 740W is valid.
- **Command:** Global Mode.
- **Default:** The global max output power of 52T-PoE and 28T-POE is 740W. The **no power inline max** will resume the default configuration.
- **Usage Guide:** Setting a global max output power can guarantee a secure power supply and an effective method to control the power consumed by connected subordinate devices.
- **Example:** Set the global max output power to 50W.
- Switch(Config)#power inline max 50

### 1.1.8 power inline max (Port)

- **Command: power inline max <max-wattage>**
  - no power inline max
- **Function:** Set the max output power of a specified port.
- **Parameters:** max-wattage: the value of the max output power, in mW, ranging from 1 to 15400mW (802.3af)/1 to 3000mW (802.3at), with a granularity of 100mW. Any value less than 100mW will be taken as 100mW, that is, 1~100 equals 100, 15301~15400 equals 15400. But the value set by users will be maintained without being rounded up.

- **Command Mode:** Port Mode.
- **Default:** The max output power of a port is 15400mW (802.3af)/3000mW (802.3at).
- **Usage Guide:** This configuration will effectively control the output power of each port in cooperation with the global max power.
- **Example:** Set the max output power of Port 1 to 0.8W.
- Switch(Config)#interface ethernet 1/0/1
- Switch(Config-Ethernet1/0/1)#power inline max 800

### 1.1.9 power inline police

- **Command:** **power inline police enable**
  - **no power inline police enable**
- **Function:** Enable/disable the power priority management policy mode.
- **Parameters:** None.
- **Command Mode:** Global Mode.
- **Default:**The power priority management policy mode is disabled.
- **Usage Guide:** Decide whether to use priority policy in power management policy. The “enable” command will make priority policy in effect, while “no” command will recover the first-come-first-served policy. With priority policy enabled, port priority can be configured individually.
- In priority mode, when not enough PSE power is available, ports with low priority will be closed to satisfy the power supply for ports with high priority, no matter how long the access time of a PD is. If two ports have same priority, the one with smaller sequence number is higher privileged.
- In first-come-first-served mode, new PDs will not get power supply if available PSE power is not enough.
- **Example:** Enable the power priority policy mode.
- Switch(Config)#power inline police enable

### 1.1.10 power inline priority

- **Command:** **power inline priority {critical | high | low}**
- **Function:** Set power supply priority of a port.
- **Parameters:** **critical:** the highest-level priority. **high:** high-level priority. **low:** low-level priority.
- **Command Mode:** Port Mode.
- **Default:** Port priority is low.
- **Usage Guide:** This command will take effect in the mode of “power inline police enable”. Without enough available power for newly connected PD, ports with higher priority will get power supply first.
- **Examples:** Set the priority of Port 1 to high and that of Port 2 to critical.
- Switch(Config)#interface ethernet 1/0/1
- Switch(Config-Ethernet1/0/1)#power inline priority high
- Switch(Config)#interface ethernet 1/0/2

- Switch(Config-Ethernet1/0/2)#power inline priority critical

## 1.2 Commands for PoE Monitoring and Debugging

### 1.2.1 Monitoring and Debugging Information

#### 1.2.1.1 *show power inline*

- **Command:** show power inline
- **Function:** Display global PoE configurations and status.
- **Parameters:** None.
- **Command Mode:** Admin Mode.
- **Default:** None.
- **Usage Guide:** The meanings of each field are listed in the following table:

Field	Description
Power Inline Status	The global PoE status: enabled or disabled
Power Available	The global max value of available power
Power Used	The global value of used power
Power Remaining	The global value of remaining power
Min Voltage	The global threshold of under-voltage
Max Voltage	The global threshold of over-voltage
Police	The power priority policy status: enabled or disabled
Legacy	The non-standard PD detection status: enabled or disabled
Disconnect	The PD disconnection mode
HW Version	The hardware version of the PoE module
SW Version	The software version of the PoE module
Mode	Power supply mode

Signal: power supply over signal cables (Alternative A)
spare: power supply over spare cables (sAlternative B)

- **Examples:** Display the current global PoE status
- Switch#show power inline
- Power Inline Status: On
- Power Available: 370 W
- Power Used: 0 W
- Power Remaining: 370 W
- Min Voltage: 44 V
- Max Voltage: 57 V
- Police: Off
- Legacy: Off
- Disconnect: Ac
- Mode: Signal
- HW Version: 30
- SW Version: 05.0.5

### 1.2.1.2 show power inline interface ethernet

- **Command:** show power inline interface [ethernet <interface-number> | <interface-name>]
- **Function:** Display the PoE configuration and status on specified ports.
- **Parameters:** interface-list: a list of specified ports, specifying all ports by default.
- **Command Mode:** Admin Mode.
- **Default:** None.
- **Usage Guide:** The meaning of each field is listed in the following table.

Field	Description
Interface	Ethernet port number
Status	Power supply status Enable: Power supply enabled Disable: Power supply disabled
Oper	Working status On: PD is normally connected and powered Off: PD is not connected



	faulty: PD detection failed deny: not enough available power or the required power is over the limit																		
Power	The power used by the port currently																		
Max	The max power allowed to be distributed to the port																		
Current	The present current of the port																		
Volt	The present voltage of the port																		
Priority	The Power supply priority Critical: the highest-level priority High: the high-level priority Low: the low-level priority																		
Class	<table border="1"> <thead> <tr> <th>Class</th> <th>Usage</th> <th>PD Input Power (W)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Default</td> <td>0.44~12.95</td> </tr> <tr> <td>1</td> <td>Optional</td> <td>0.44~3.84</td> </tr> <tr> <td>2</td> <td>Optional</td> <td>3.84~6.49</td> </tr> <tr> <td>3</td> <td>Optional</td> <td>6.49~12.95</td> </tr> <tr> <td>4</td> <td>Reserved</td> <td>treated as class 0 and reserved for future use</td> </tr> </tbody> </table> <p>It is impossible for a compatible PD to provide a class 4 signal</p>	Class	Usage	PD Input Power (W)	0	Default	0.44~12.95	1	Optional	0.44~3.84	2	Optional	3.84~6.49	3	Optional	6.49~12.95	4	Reserved	treated as class 0 and reserved for future use
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3	Optional	6.49~12.95																	
4	Reserved	treated as class 0 and reserved for future use																	

- **Examples:** Display the current PoE status on port 1 to port 6.
- Switch# show power inline interface ethernet 1/0/1-6

```

• Interface  Status  Oper  Power(mW) Max(mW) Current(mA) Volt(V) Priority Class
• -----
• Ethernet1/0/1  enable  off   0    15400    0    0    high  0
• Ethernet1/0/2  enable  off   0    15400    0    0    low   0
• Ethernet1/0/3  enable  off   0    15400    0    0    low   0
• Ethernet1/0/4  enable  off   0    15400    0    0    low   0
• Ethernet1/0/5  enable  off   0    15400    0    0    low   0
• Ethernet1/0/6  enable  off   0    15400    0    0    low   0

```

### 1.2.1.3 *debug power inline*

- **Command:** `debug power inline`
  - `no debug power inline`
- **Function:** Enable or disable the PoE debugging.
- **Parameters:** None.
- **Command Mode:** Admin Mode.
- **Default:** None.
- **Usage Guide:** With debugging enabled, relative information will be printed in the key processes while implementing commands, for further debugging reference whenever an error occurs. The “no” command will disable the debugging.
- **Examples:** Enable PoE debugging.
- `Switch#debug power inline`