Advantech AE Technical Share Document

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Category	■FAQ □ SOP	Related OS	N/A
Abstract	What is the meaning of *P-Fail* and how does it work on the machines?		
Keyword	P-Fail, Relay, P-Fail LED, Alarm LED, Power Failure, Port Link-down, Fiber Link-down, Dual Power, Single Power		
Related Product	EKI-7700 series, EKI-7428, EKI-7659, EKI-9612, EKI-9628, EKI-9728		

■ **Problem Description:**

Q1: What is the meaning of *P-Fail*, and how does it work on the machines?

Q2: How to set the corresponding P-Fail actions among different models?

■ **Answer:**

For Q1:

P-Fail is a relay that we can use it to quickly diagnose the status of switches. P-Fail can stand for *Power-Failure* or *Port-Failure* which means normally it can be related to the power issues or connection problems. When the power or connection on switch fails, the relay circuit will be triggered as on/off which can then trigger gadgets attached onto it, such as LED (*Alarm/P-Fail*) indicators, to inform failure information.

P-Fail relay has two action modes. Users can distinguish it by expressions on switches, and please refer to the **Figure 1** and **Figure 2**.

1. As the expression of figure 1 describes, the arrow directs inward of the P-Fail which means the relay circuit is *CLOSED* when P-Fail is triggered.
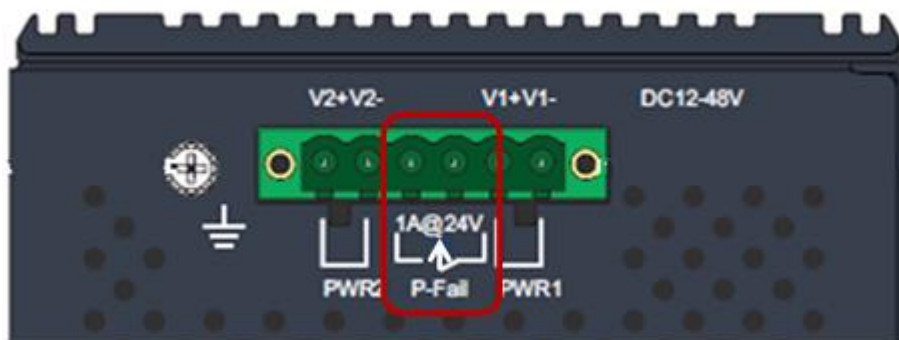

Figure 1. P-Fail graphic expression (Close)

2. As the expression of **Figure 2** describes, the arrow directs outward of the P-Fail which means the relay circuit is *OPENED* when P-Fail is triggered.
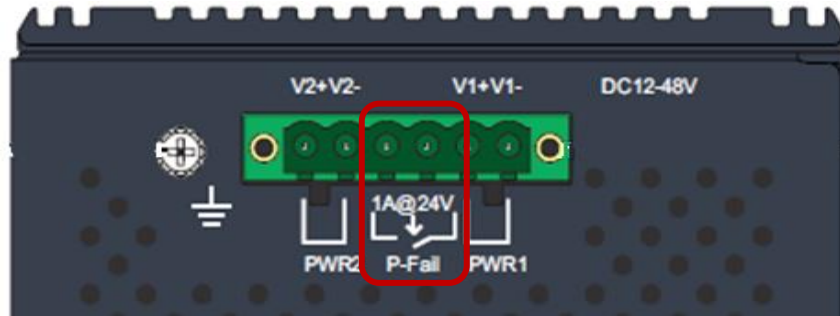

Figure 2. P-Fail graphic expression (Open)

Taking dual power as an example, switches that support dual power will have the P-Fail triggered while one of the power supply failed (please refer to the **Figure 3**). In this mode, LED indicators on these switches will then be activated because its default action is set to be turned on when the circuit is opened.
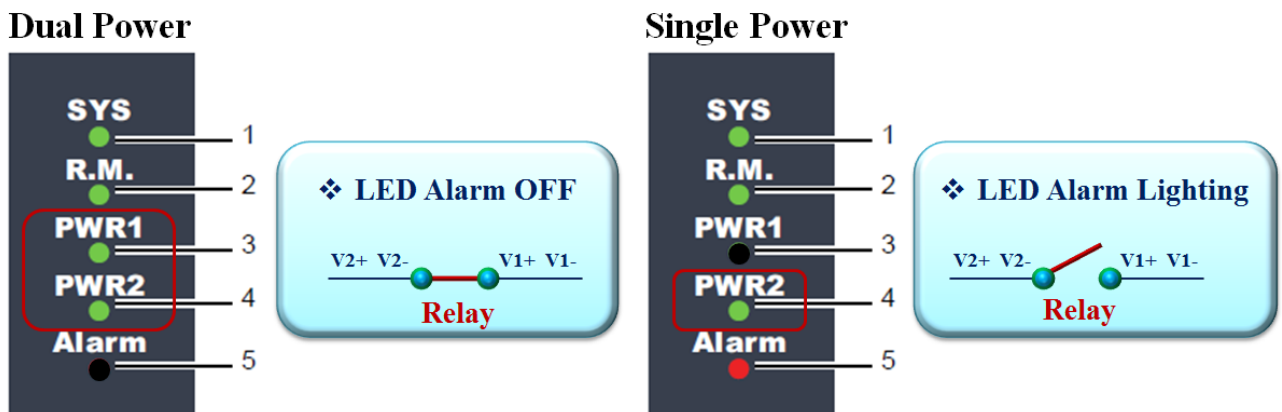

Figure 3. Alarm LED for dual power

For Q2:

The LED indicators are called *Alarm* or *P-Fail* LED on switches and can be configured to activate when *Power Failure* or *Fiber Link-down* or *Port Link-down* based on different models. **Figure 4** shows the overall P-Fail comparison. Besides, **Figure 5 (a) and (b)** shows examples of how to set the indicators on websites

	P-Fail Trigger Mode	Functions	LED
EKI-7700 Series **EKI-9612**	Open	Power Failure Fiber Link-down Port Link-down	Alarm
EKI-7659	Open	Power Failure Fiber Link-down Port Link-down	P-Fail
EKI-7428	Close & Open	Power Failure Fiber Link-down Port Link-down	P-Fail
EKI-9628	Close & Open	Power Failure Fiber Link-down	P-Fail

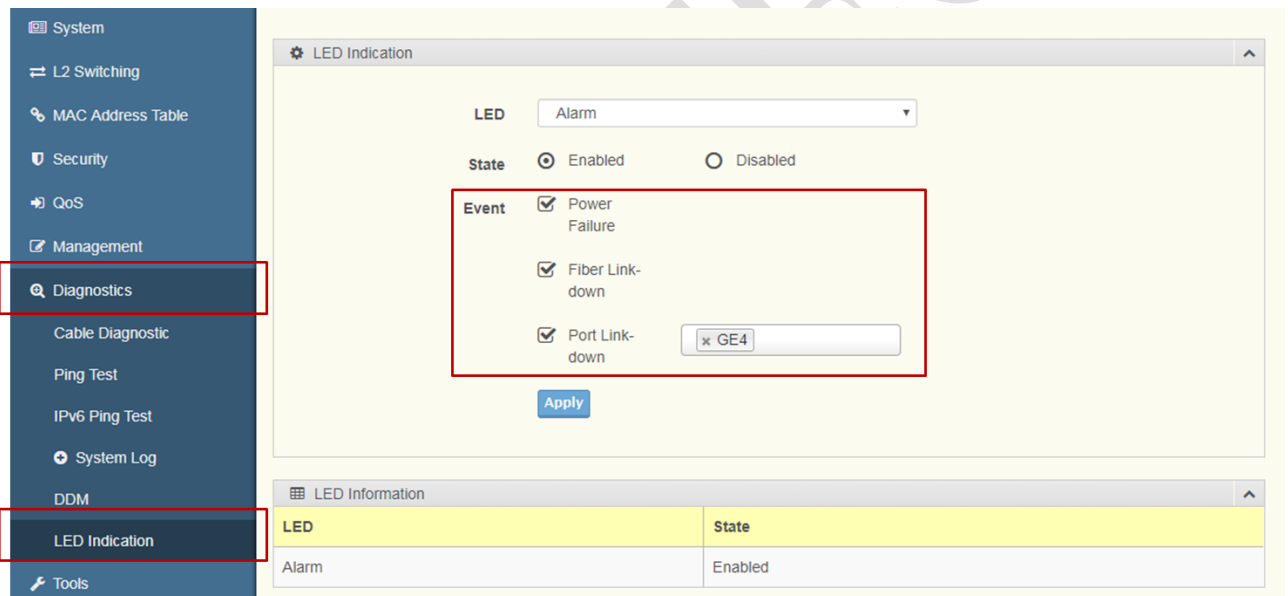Figure 4. Overall P-Fail Comparison

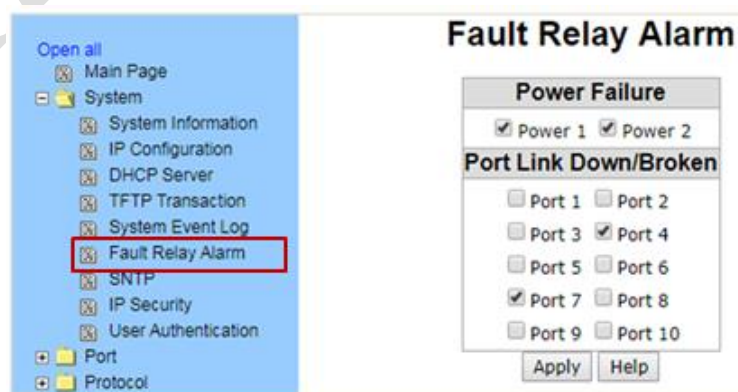
Figure 5(a). EKI-7710 Alarm LED settings

Figure 5(b). EKI-7659 P-Fail LED settings

■ **EKI-9728G:**

There is a special model **EKI-9728G** that adopts more complicated *event-based* alarm LED settings. The LEDs have three modes: ***On**, **Blinking**,* and ***No action*** and it will be activated depend on the severity level of different events (please refer to **Figure 6**). We can set these event severity levels and which events should be triggered by using web GUI. Noted that the *Blinking* LED status can only be seen in the console, it won't be shown on the website.
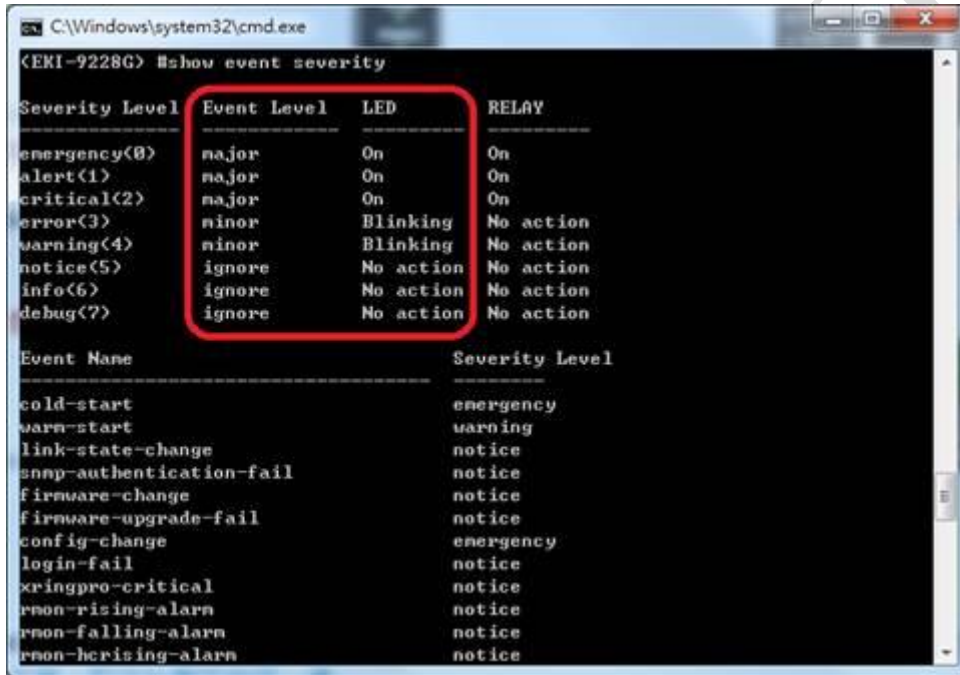

Figure 6. EKI-9728 Event-based Alarm LED in console