**Advantech AE Technical Share Document**

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| **Date** | 2017/11/23 | **SR#** |  |
| **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)

1. 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

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|  | P-Fail Trigger Mode | Functions | LED |
| EKI-7700 Series EKI-9612 | Open | Power FailureFiber Link-downPort Link-down | Alarm |
| EKI-7659 | Open | Power FailureFiber Link-downPort Link-down | P-Fail |
| EKI-7428 | Close & Open | Power FailureFiber Link-downPort Link-down | P-Fail |
| EKI-9628 | Close & Open | Power FailureFiber 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