

Document Number: HC0001-2024 Version: V002 SERVICE BULLETIN Hyconext HC16MT6XP-UP BAT/AC Series Switches At-Risk 24V Non-isolated Powered Devices Connectivity Issues Application: Global Effective Date: 16 April 2024 Expiry Date: N/A

## **SERVICE BULLETIN**

## *Please tick accordingly*

BULLETIN	□ Warranty (Maintenance, repair related within warranty period)
ТҮРЕ	☑ Notification (general announcements or changes related to products or services)
	□ Specific Request, please state:
SEVERITY	☑ High (ie. Urgent action required)
RECOMMENDATION	☐ Middle (ie. Perform at the next agreed maintenance)
	$\Box$ Low (ie. Perform only when symptoms appears again)

## **SUBJECT:**

For some corner cases, *At-Risk 24V Non-isolated Passive PoE PDs* connected to very early Hyconext HC16MT6XP-UP BAT/AC Series Switches, may be damaged.

## **DEFINITION:**

Active PoE PDs: IEEE 802.3af/at/bt standard based active PoE Powered Devices. The standard request that the PSEs and PDs shall provide isolation between all accessible external conductors, including but not limited frame ground (if any), and all MDI leads including those not used by the PD or PSE. Any equipment that can be connected to a PSE or PD through a non-MDI connector that is not isolated from the MDI leads needs to provide isolation between all accessible external conductors, including frame ground (if any), and the non-MDI connector. Accessible external conductors are specified in Section 6.2.1 b) of IEC 60950-1:2001 and Section 5.4.10.1 b) of IEC 62368-1:2018.

*Isolated Passive PoE PDs:* No-standard based passive PoE powered Devices, which have no progressing of detecting and classification vs standard active PoE PD, but complies with the isolation regulations of the standard. Simply, that means any pin of the PoE RJ45 port 8 pins should be isolated to all accessible external conductors, including but not limited to Grounding Rod (if any), the RJ45 Sheild (if any), the radio antenna shield (if any), the hoop holding metal kit (if any).

*Non-isolated Passive PoE PDs:* No-standard based passive PoE powered Devices, which have no progressing of detecting and classification vs standard active PoE PD, and **does not** comply with the isolation regulations of the standard.

*At-Risk 24V Non-isolated Passive PoE PDs:* We found some non-isolated 24V Passive PoE PD, Passive PoE 2-pair (4, 5+; 7, 8 -) or Passive PoE 4-pairs (1, 2+; 3, 6-) (4, 5+; 7, 8-), the pin 3,6 and/or pin 7, 8 are shorted to the accessible external conductors, including but not limited to Grounding Rod (if any), the RJ45 Sheild (if any), the radio antenna shield (if any), the hoop holding metal kit (if any). For example, Ubiquiti airMAX PowerBeam 5AC.

Affected Product/System	Very early Hyconext HC16MT6XP-UP BAT/AC Series Switches
Issue Description	<ul> <li>This issue applies to Hyconext HC16MT6XP-UP BAT/AC Series Switches, hardware version 1.17 and 1.18 (Affected Switch).</li> <li>When using At-Risk 24V Non-isolated Passive PoE PDs (Affected PDs), for some corner cases, the Affected PDs may be damaged when condition 1 and 2 are both encountered:</li> <li>PoE pin 3,6 and/or pin 7,8 of the affected PDs are short-circuited to the ground in the following way: Grounding Rod, the RJ45 Sheild, the radio antenna shield or the hoop holding metal kit.</li> <li>The pin4/pin5 (GND) of the Affected Switch RJ45 console port or the pin4 (GND) of the Affected Switch USB port, through connected computers and other equipment which short-circuit the console and USB GND to the earth.</li> </ul>
Resolution or Recommendation	If this problem exists, the solution is to use an external isolated Ethernet surge protector that will isolates the improperly grounded device from Hyconext HC16MT6XP-UP Series Switch. Please connect the switch and <i>At-Risk 24VNon-isolated Passive PoE PD</i> through the <i>isolated Ethernet surge protector</i> with Cat5e (or above) cables, you should connect the Grounding Cable of the <i>isolated Ethernet surge protector</i> to the Earth, and <b>do not</b> connect the Earth to any accessible external conductors of the <i>At-Risk 24V Non-isolated Passive</i> <i>PoE PD</i> , including but not limited to Grounding Rod (if any), the RJ45 Sheild (if any), the radio antenna shield (if any), the hoop holding metal kit (if any). Please discuss with Your Hyconext support team for guidance on a solution. Fig.1 must be performed for the <i>At- Risk 24V Non-isolated Passive PoE PD</i> . Cate5e or above cable Shielded is not mandatory Hc-IESP EARTH EARTH Fig. 1 Connection of At-Risk 24V Non-isolated Passive PoE PD to PSE Switch with Isolated Ethernet Surge Protector
Other Useful	How to check the hardware version of the affected AC and BAT model switches?
Information	1. Execute "show version" under the CLI, as shown in Fig.2, the hardware version is
	Insteal.         Hyconex>show version         Hyconext NetOS         Copyright (c) 2023 Reserved by Hyperconn Pte.Ltd         Hyconext Software Version V380R220         Building revision M01         HC16MT6XP-BAT Switch         System Uptime is 0 days 0 hours 57 minutes 35 seconds         Hardware Version : 1.17         BIOS Version : 1.00         FPGA Version : N/A         Serial Number : HYC16TX002         System Memory : 1010852K         Fig.2 Check hardware version on CLI         2.       Click System → Chassis View at the top left corner of main GUI in the WEB System, and enter the page of Equipment Information. As shown in Fig.3, the hardware version is
	listed.



Contact Information	If you have questions or concerns, please contact Hyconext Technical Support at the following: <u>https://hyconext.com/community</u> <u>support@hyconext.com</u>
	And for those customers who ordered the AC or BAT model switches with hardware version 1.17 or 1.18 can obtain the HC-IESP for free. If you want to get the <i>isolated Ethernet surge protector</i> , contact Hyconext Sales at the following. <u>https://hyconext.com/product-category/accessories</u> <u>sales@hyconext.com</u> <u>Jet.L@hyconext.com</u>

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