# Technical bulletin

## Supplying power to the Cisco (formerly Fluidmesh) FM Ponte kit and 1200 Volo radio transceivers

As part of Cisco's ongoing commitment to improved product safety and reliability, we would like to draw your attention to the issues that may arise if an FM Ponte or 1200 Volo radio transceiver is connected to a non-approved power source.

This technical bulletin also gives a full description of how you can avoid damage to the FM Ponte and 1200 Volo units by using approved sources of electrical power.

Please note that electrical power requirements for the FM Ponte kit and 1200 Volo radio transceivers are clearly stated in the relevant User Manual or Installation and Configuration Manual, and in the relevant product data sheets. Under the terms of warranty of the relevant transceiver unit, damage caused by connecting unapproved power sources is not covered.

## 1. APPLICABILITY

This technical bulletin is applicable to:

- All FM Ponte devices.
- All FM1200 Volo devices.

## 2. PROBLEM DESCRIPTION

Edition 1.0 of the Fluidmesh PONTE 50 User Manual states: *2 x 24V PoE Injectors are included with 90 to 260V, 50/60 Hz AC input.*

Edition 1.2 of the Fluidmesh 1200 VOLO Installation and Configuration Manual states: *CAUTION: The unit is designed to take power through 24 VDC Power-over-Ethernet only, and does not have a dedicated power port. A 24 VDC PoE injector is included with the unit. Do not connect any 48 VDC PoE injector, and do not attempt to connect any other source of electrical power to the unit.*

A number of instances have recently been documented in which FM Ponte kit (previously known as FM PONTE 50) and FM1200 Volo (previously known as FM 1200 VOLO) radio transceiver units were supplied with power using the following non-approved methods. *Note that all the methods listed below will cause irreparable damage to FM Ponte kit and FM1200 Volo units, and said damages are not covered by warranty.*

- At least one unit was connected to an Ethernet switch through a *mode A* PoE injector, causing voltages to be applied to incorrect RJ45 connector terminals.
- At least one unit was connected to an IEEE 802.3af PoE adapter through a passive PoE injector, causing an over-voltage of 48 VDC to be applied to the unit.
- At least one unit was connected to an Ethernet switch equipped with unmanaged PoE, causing an over-voltage of 48 VDC to be applied to the unit.

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# 3. SOLUTION

To ensure reliable operation of the FM Ponte kit and FM1200 Volo units, follow the instructions in this technical bulletin.

When providing the power source for a FM Ponte or FM1200 Volo radio transceiver unit, do so only according to the directives given below:

1. If you are connecting the FM Ponte or FM1200 Volo directly to a power source, *only* use the included 24 VDC mode B passive PoE injector(s) (Cisco part number *FM-POE-STD*). If the included PoE injector(s) are non-functional, replacement PoE injectors can be ordered from Cisco.

2. If you are 'daisy-chaining' (in other words, connecting the FM Ponte or FM1200 Volo to an Ethernet switch or router through a 24 VDC PoE injector), note the following points:

   - *Only* use a 24 VDC mode B passive PoE injector. Do not connect any FM Ponte or FM1200 Volo unit to any mode A PoE power source under any circumstances.

     The RJ45 terminal assignments for mode B power are as follows:

       o Terminal 1: Rx +
       o Terminal 2: Rx –
       o Terminal 3: Tx +
       o Terminal 4: DC voltage +
       o Terminal 5: DC voltage +
       o Terminal 6: Tx –
       o Terminal 7: DC voltage –
       o Terminal 8: DC voltage –

   - *Do not* connect a FM Ponte or FM1200 Volo to an IEEE 802.3af or IEEE 802.3at PoE adapter, Ethernet switch or router through a passive PoE injector. The passive PoE injector included with the unit cannot regulate excessive voltages, and the DC power feed from Ethernet switches of this type cannot be turned off. This will result in a damaging over-voltage being supplied to the unit.

   - If connecting a FM Ponte or FM1200 Volo unit to an Ethernet switch or router equipped with unmanaged PoE, *only* use the 802.3af-to-24 VDC inline converter (Cisco part number *FM-POE-INL*). In this scenario, *do not* use the included 24 VDC mode B passive PoE injector (Cisco part number *FM-POE-STD*), as the passive PoE injector will supply a damaging over-voltage to the unit.

   - If connecting a FM Ponte or FM1200 Volo unit to an Ethernet switch or router equipped with power-management support, disable PoE on the RJ45 port of the Ethernet switch or router that is connected to the PoE injector. This will prevent 48 VDC from being supplied to the unit, and ensure that the unit receives only the approved 24 VDC.

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- If connecting the included PoE injector to a non-PoE Ethernet switch or router, no special precautions need to be taken.

The FM Ponte kit and FM1200 Volo Installation and Configuration Manuals have been updated to explicitly include the permissions and prohibitions described in this bulletin. We sincerely apologize for any inconvenience that may have been caused.


Sincerely,

*Cisco Systems*