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## “Gen 6” 850 Series MX Detectors as Substitutes for 814 Series

*“Generation 6” 850 Series MX detectors are shipping as substitutes for out-of-stock 814 Series equivalents. Certain firmware versions are required to support them.*

The new 850 Series MX detectors will operate on MX1 or MX4428 systems as a drop-in replacement for the corresponding 814 Series MX detector, provided a compatible version of firmware as noted below is installed in the MX1 or MXP:

- For VIGILANT MX1 – firmware must either be V1.52, or V1.62 (or higher) to fully support 850 Series MX Detectors
- For VIGILANT MX4428\* – MXP Firmware **only** must be V1.21 (or higher) to fully support 850 Series MX Detectors (V1.18 onwards has partial support)
- Both firmware upgrades are a download – no physical chip change is required
- Existing firmware versions can be determined by procedures outlined below.

**\*Note:** VIGILANT F4000 systems do not support MXP Responders or MX detectors unless they have been upgraded to MX4428 specification (master firmware V3.10 or higher). You will not encounter an MX detector swap-out situation unless this has occurred.

With the relevant firmware updated to the versions listed above, a service swap-out replacement of 814 Series to the equivalent 850 Series detector is possible.

To achieve this:

**The detector address will need to be pre-programmed\*\* to the same address as the previous detector without needing to change the MX4428 or MX1 database. The fire alarm panel will automatically make all the necessary adjustments and operate with the algorithm closest to the one originally programmed. The equivalences are as follows:**

Existing Device	Corresponding 850 Series Device
814PH	516.850.051.E (850PH)
814P	516.850.052.E (850P)
814H	516.850.053.E (850H)

**Note:** there are currently no 850 Series replacements for the 814I or 814CH, or for the 801PC (used in New Zealand only).

\*\*You can use either the standard (blue) 801APK MX service tool or the new (orange) 850EMTK Engineering Management Tool to program addresses of both 814 Series and 850 Series detectors. As an alternative, the panel’s automatic addressing feature can be used to re-address a new (unaddressed) detector to replace the one removed. This is detailed later in this bulletin.

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**Obtaining firmware upgrades**

Version 2.5.3.0 of SmartConfig is now available and includes full programming support for the new 850 Series devices. Those who have not been trained, and therefore do not have this capability, will need to contact their Tyco representative to discuss options.

**MX1 Firmware V1.62** is included with the latest releases of SmartConfig (V2.5.3.0) and should be used for any new *MX1* panels, or those with V1.60 firmware.

For **existing MX1 panels with V1.50 or V1.51** firmware, a new V1.52 firmware needs to be used, which is also included with the latest SmartConfig (V2.5.3.0). This avoids the need to update the site-specific configuration to use V1.6x firmware.

**MX4428 MXP Firmware V1.21** (SF0250) is available from the **Resources/ Downloads ANZ** section of the public area of the [Fireplace](https://www.tycosafetyproducts-anz.com/public/public-anz-downloads.asp) at:  
<https://www.tycosafetyproducts-anz.com/public/public-anz-downloads.asp>

It comes as a zip file containing executable and data files, with programming instructions in a “readme.txt” file, plus a software license agreement. You will also need an F4000/MX4428 programming lead (TFPP Part Number LM0041) to connect from the PC/Laptop to the MXP programming port. The MXP will need to be physically accessed.

**Procedures to determine the current firmware version loaded**

**For the MX1** the firmware version will normally be displayed on the LCD. If something else is displayed press CANCEL repeatedly to get back to the base screen then use the key sequence MENU /MENU /MENU /MEMORY (F3) /PROGRAM (F3) to view the firmware version.

**For the MXP** (MX4428 V3.12 master firmware onwards) the panel’s Programming /Diagnostic port can be used to remotely determine the MXP firmware version(s). Connect a PC/Laptop to the MX4428 in the usual way using the MX4428 programming lead (LM0041), log on and use the DG/DA/VR command to interrogate the responder firmware versions.

<b>Firmware</b>	<b>DG/DA/VR response</b>	<b>MXP Status</b>
V1.21	213 \$D5	850P/PH “parameter error” fixed
V1.20	212 \$D4	Supports 850 series
V1.19	211 \$D3	Supports 850 series
V1.18	210 \$D2	Supports 850 series
older	192 \$C0 thru 209 \$D1	No support for 850 series

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## **Procedures for automatic MX device re-addressing**

### **MX1 Panels**

See “Replacing an MX Device” in the MX1 Operator Manual (LT0439 – Australia, LT0344 – New Zealand) for details.

### **MX4428 Panels (requires MXP V1.14 and later firmware)**

For the automatic re-addressing function to operate, the following conditions must be met:

- One, and only one, device on the MXP’s loop must be non-responding, i.e., in the Node Fail state (e.g., the faulty detector has been removed from its base).
- This device has been isolated at the MX4428 panel.
- A replacement (brand new, i.e., has address 255) device of the same (or equivalent) type has been connected to the loop (e.g., the new detector has been plugged into the base that the faulty detector was removed from).

Assuming these conditions have been met, the new device will then be addressed with the address of the missing device within 10 seconds, and the “NodeF” fault will clear shortly thereafter. The device can then be de-isolated at the MX4428 panel.

Follow the procedure below to replace an existing dirty or faulty device with a new one, and to have the new one automatically re-addressed with the existing device’s address:

1. Check that there are no MX devices already in the Node Fail state on that MX loop (other than possibly the one being replaced).
2. Point Isolate the device to be replaced.
3. Remove the dirty/faulty device from its base, or disconnect it from the MX loop wiring.
4. Fit the new replacement device of the same (or equivalent) type to the base, or MX loop.
5. Wait for a burst of activity on the device’s LED and then for it to start flashing every 5 seconds (provided LED flashing on Poll is enabled for the MXP).
6. Return to the MX4428 and check the point status for the device. It should be Isol and not NodeF (any Dirty state may still be present).
7. Do a Reset Tracking command and a Reset History command on the point to re-initialise the detection algorithms.
8. De-isolate the point.