## Returning your faulty fan tray module

A Takeback and Recycle program is provided in compliance with the WEEE (Waste Electrical and Electronic Equipment) directive for the recycling of electronic equipment.

The program enables you to return an obsolete or excess nShield-branded product, which is then disposed of in an environmentally safe manner. For further information or to arrange the safe disposal of your faulty fan tray module, e-mail nShield.support@entrust.com.

## Entrust nShield® Connect Fan Tray Module

The nShield Connect fan tray module contains the main cooling fans and the backup batteries for the tamper detection functionality. The fan tray module is outside the security boundary, and can be safely replaced without activating a tamper event. Fan tray modules must not be modified in any way. Faulty fan tray modules must be returned for recycling, see *Returning your faulty fan tray module* in this document.

**Note:** The backup batteries on the fan tray module provide reserve capacity (a guaranteed minimum of 3 years) for the tamper detection functionality when the nShield Connect is in an unpowered state.

If you receive any of the following error messages, accompanied by the orange warning LED, follow the related action in the table below:

| Error message | Action |
| --- | --- |
| Single fan fail | Contact Support |
| Many fans fail | Replace fan tray |
| Battery power low | Replace fan tray |

If the error message is **Single fan fail**, the nShield Connect can continue operating under the specified operating environment. Although you are advised to contact Support, the limited nature of such a failure means you can replace the fan tray module at your convenience.

If the error message is either **Many fans fail** or **Battery power low**, you must replace the fan tray module immediately.

### Before you begin

Before you begin the replacement procedure, press the power button on the front panel to power down the nShield Connect. The unit is now in standby mode. Removing the fan tray module without powering down causes the unit to shut down to prevent damage from overheating.

We recommend that you keep the unit powered in standby mode when replacing the fan tray module. This provides auxiliary power to feed the tamper circuitry and allows you to replace the fan tray at your convenience. However, if you do remove mains power, you must install the replacement fan tray **within one hour** to ensure that a tamper event is not activated.

**Note:** Tamper detection functionality remains operational for **at least an hour** after the fan tray module is removed for replacement. Removing and replacing the fan tray cover does not affect the nShield Connect or the tamper detection functionality.

For more information about the physical security measures implemented on the nShield Connect, see the *nShield Connect User Guide.*

## Replacing the fan tray module

**Note:** Always handle HSMs correctly. For more information, see the *nShield Connect Installation Guide*.

To replace the fan tray module, as Figure 1 shows:

1. If the unit is rack mounted, loosen the thumb screws (D) and carefully pull the unit out of the rack (checking the cabling) until the slide rail latches lock.

2. Using the T10 Torx screwdriver supplied with your replacement fan tray module, remove the fan tray cover (A) by carefully removing the four retaining screws (C). Retain the screws.

3. Remove the fan tray module (F).

   **Note:** Use the handle bar (B) on the front of the fan tray module to pull the fan tray module from the chassis. Removing the fan tray module may require a firm pull.

4. Install the replacement fan tray module in the chassis carefully. Ensure that the fan tray module is:

   • Slotted into the mounting rail (G)

   • Fully seated in the chassis

   If the fan tray module is not fully seated, the fans may not work when you place the nShield Connect in operational mode. You may also receive a low battery warning. If you encounter such an issue, check for obstructions in the chassis cavity and reseat the fan tray module.

   **Note:** Do **not** use a screwdriver or other tools to lever the fan tray module in or out of the chassis cavity because this can cause damage to the EMC gasket (E).
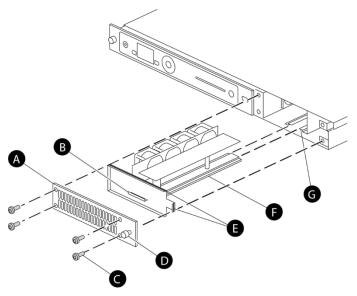
5. Replace the fan tray cover (A) over the fan tray module, taking care to align the four screw holes in the fan tray cover with the four screw holes on the unit. Using the T10 Torx screwdriver, secure the fan tray cover with the screws retained in Step 2.

   **Note:** Take care not to over tighten the screws.

6. If the unit is rack mounted, unlock the slide rail latches and carefully push the unit back into the rack. Lock it in place with the thumb screws (D), and check the cabling.

7. Restart the nShield Connect using the power button on the front panel. Monitor start up to ensure that no problems are reported.

**Figure 1. Removing and replacing the fan tray module**



| Key | Description |
|-----|-------------|
| A | Fan tray cover |
| B | Handle bar. Use the handle bar to pull the fan tray module out of the chassis and push the replacement fan tray module into the chassis cover. |
| C | Four returning screws used to secure the fan tray cover. Remove and replace using a T10 Torx screwdriver. |
| D | Thumb screw (secures the fan tray cover in the rack). |
| E | EMC gasket fitted to the edges of the fan tray module front grill. Take care not to damage the EMC gasket when pushing the fan tray module into the chassis cavity. |
| F | Fan tray module. |
| G | Mounting rail. |