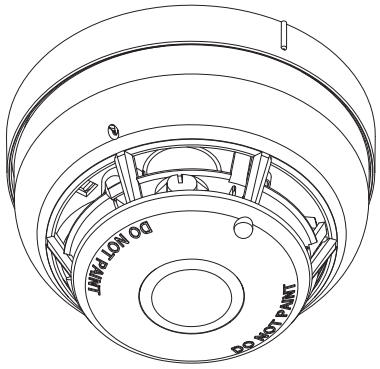
# Product Leaflet

## 6000PLUS Detectors




The Protec 6000PLUS Detectors are approved alarm devices. The range of loop powered fire sensors can report Smoke, Thermal and Carbon Monoxide levels in their installed locations to the fire alarm control panel. The sensors can also be equipped with an integrated loop powered sounder or talking sounder and an integrated loop isolator.

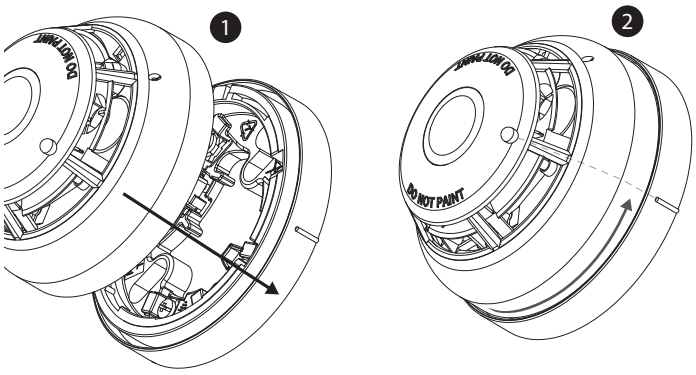
### Compatible Bases

| | |
|---|---|
| Standard Base | 6000PLUS/BASE |
| Fast-Fix Base | 6000PLUS/FFBASE |

Refer to the relevant section of DEL2220 to ensure correct fitting and wiring of each base.

### Installation

Figure 1




| ID | Description |
|---|---|
| 1 | After installing the appropriate base (refer to DEL2220), engage the 6000PLUS device with the 6000PLUS Base. |
| 2 | Rotate the 6000PLUS device until the indicator aligns with the notch on the base. |

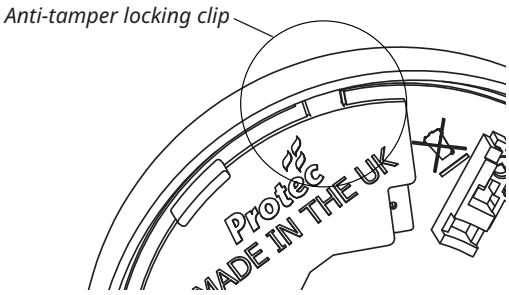
### Installation Parameters

1 Ensure tests are carried out on the cabling using a 500 V dc insulation tester (Megger®). The readings between each cable core, and each core and earth (screen) should be greater than 10 MΩ. Ensure that all cabling is completely discharged before connecting to the 6000PLUS device.

2 Refer to DEL2220 for base wiring details.

3 If anti-tamper is required ensure locking clip is released, See figure 2. Install the device into the base and turn firmly clockwise.
**Important Note:** If the detector is located in an area that is classed as 'wet' as referenced in BS5839-1, then the detector must be locked into its base using the locking mechanism provided.

Figure 2




### Commissioning

1 Each 6000PLUS device has a unique serial number which will be used as part of the commissioning of the fire alarm system. It is necessary to remove one of the 'peelable ' bar code labels present on the product and place it in the commissioning booklet supplied with each Protec addressable control panel. The bar code sticker should be placed at the relevant loop and address position intended for the device. It is important that serial numbers are not mixed otherwise the addressing of the 6000PLUS device will be incorrect when commissioned.

2 Commission the device onto the system as detailed in the installation and commissioning manual for the fire alarm panel being used.

### Maintenance

No regular device maintenance is required (e.g. cleaning). Please refer to panel manual for system testing requirements.

## Technical Specification

| | |
|---|---|
| **Electrical Specification** | |
| Loop Voltage | 18 V to 28 V |
| Number of loop addresses used | 1 |
| Loop isolator | Yes (Refer to DEL2110) |
| Device protocol | 6000/6000PLUS |
| Control panel compatibility | Protec 6500, 6400, 6300, 6100 |
| Sounder frequencies – Sounder only | Continuous 990Hz, Warble 730Hz to 990Hz, Dutch Whoop 500 Hz to 1.2 kHz |
| Sounder frequencies – Talking Sounder | Continuous 990Hz, Warble 730Hz to 990Hz, Bell 800Hz , Voice Alarm (F-Evac2 message) Dutch Whoop 500 Hz to 1.2 kHz |
| Sound pressure level (SPL) | See Polar Diagram overleaf |
| Sounder synchronisation | Sounder synchronisation is achieved by panel control |
| **Environmental Specification** | |
| Environmental Rating | Type A (IP21C) |
| Operating ambient temperature range | -10 to 50 °C (no condensation or icing) |
| Humidity limit | 0% to 95% relative humidity (no condensation or icing) |
| **Mechanical Specification** | |
| Weight | 98g |
| Dimensions | 98.6 mm (D) x 49 mm (H) |
| Material | Casing made from white polycarbonate to UL94-V2 flammability rating |

## Loop Alarm Current and Power (24V average)

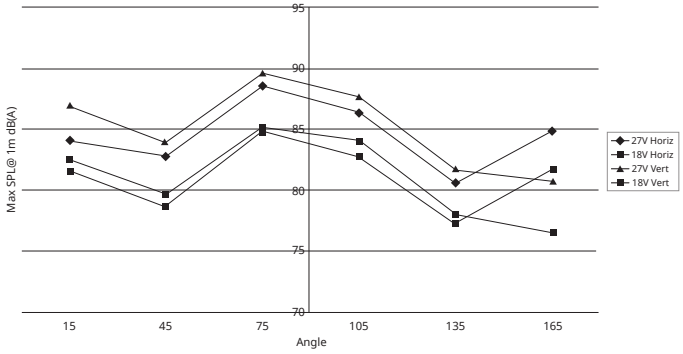
| Type | Quiescent Current | Alarm Current | Loop Isolator |
|---|---|---|---|
| 6000PLUS/HT | 0.2 mA | 2.4 mA | No |
| 6000PLUS/HT/S | 0.4 mA | 5 mA | Yes |
| 6000PLUS/OP | 0.2 mA | 2.4 mA | No |
| 6000PLUS/OP/I | 0.4 mA | 2.4 mA | Yes |
| 6000PLUS/OP/S | 0.4 mA | 6 mA | Yes |
| 6000PLUS/OP/SX | 0.4 mA | 5 mA | Yes |
| 6000PLUS/OPHT | 0.2 mA | 2.4 mA | No |
| 6000PLUS/OPHT/I | 0.4 mA | 2.4 mA | Yes |
| 6000PLUS/OPHT/S | 0.4 mA | 5 mA | Yes |
| 6000PLUS/OPHT/SX | 0.4 mA | 6 mA | Yes |
| 6000PLUS/OPHT/TS | 0.4 mA | 8 mA | Yes |
| 6KPPOL/OPHT/TS | 0.4 mA | 8 mA | Yes |
| 6000PLUS/OPHT/TSX | 0.4 mA | 8 mA | Yes |
| 6000PLUS/OPHTCO | 0.45 mA | 2.58 mA | Yes |
| 6000PLUS/OPHTCO/S | 0.45 mA | 5 mA | Yes |
| 6000PLUS/OPHTCO/SX | 0.45 mA | 6 mA | Yes |

## Analogue Values

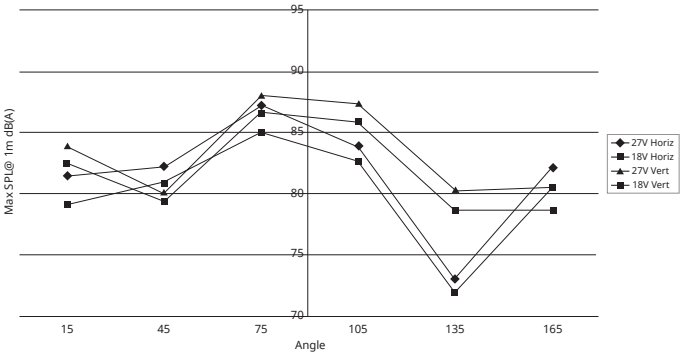
| Smoke | | Thermal | | Carbon Monoxide | |
|---|---|---|---|---|---|
| Normal | 40 to 60 bits | Normal | 80 to 180 bits | Normal | 30 to 100 bits |
| Fault Low | < 35 bits | Fault Low | < 25 bits | Fault Low | < 20 bits |
| Fault High | > 90 bits | Fault High | > 250 bits | Fault High | > 150 bits |

## Sounder Polar Profiles

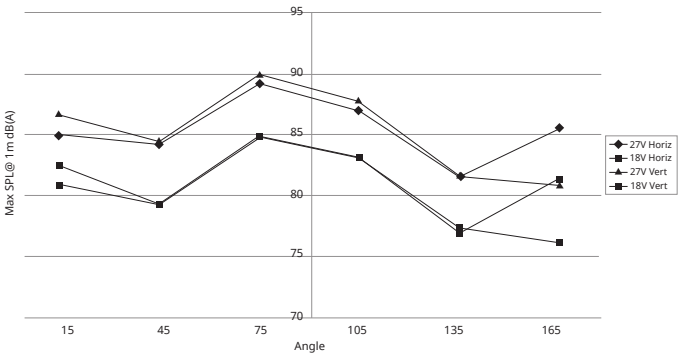
6000PLUS Sounder - Continuous tone



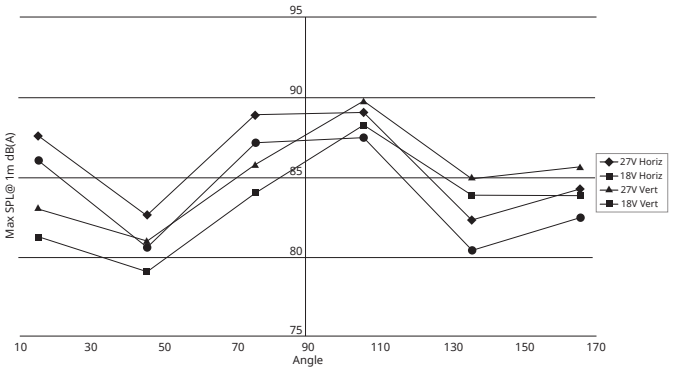

6000PLUS Sounder - Bell tone




6000PLUS Sounder - Warble tone




6000PLUS Sounder (X Variants) - Dutch whoop




## Sounder Polar Outputs

EN54 Approved message: Female voice ‘evacuation message‘ V2. “Attention, Attention. This is an emergency. Please leave the building by the nearest available exit”

## Detector Sensitivity

| Type | High Sensitivity | Medium Sensitivity | Low Sensitivity |
|---|---|---|---|
| All HT variants | EN 54-5:2017 + A1: 2018, Class A2 | EN 54-5:2017+A1:2018, Class A2 | Not approved.<br>Equivalent to EN 54-5:2017+A1:2018, Class B |
| All OP variants | Not approved. | EN 54-7: 2018 | Not approved. |
| All OPHT and OPHTCO variants | Not approved. | EN 54 - 5:2017+A1:2018, Class A2<br>EN 54-7:2018<br>CEA 4021:2003-07 | EN 54-5:2017+A1:2018, Class A2<br>EN 54-7: 2018<br>CEA 4021:2003-07 |

## Conformity

| CE | UKCA |
|---|---|
| 2797 | 0086 |
| Protec Fire Detection PLC,<br>Protec House, Churchill Way, Nelson, Lancashire, BB9 6RT, United Kingdom | |
| 19 | 21 |
| PFD-CPR-0026 6000PLUS/OP<br>PFD-CPR-0027 6000PLUS/OPHT<br>PFD-CPR-0028 6000PLUS/HT<br>PFD-CPR-0029 6000PLUS/OPHT/S<br>PFD-CPR-0030 6000PLUS/OPHT/SX<br>PFD-CPR-0032 6000PLUS/OPHT/TS<br>PFD-CPR-0033 6000PLUS/OPHT/TSX<br>PFD-CPR-0035 6000PLUS/OPHTCO<br>PFD-CPR-0036 6000PLUS/OPHTCO/S<br>PFD-CPR-0037 6000PLUS/OPHTCO/SX<br>PFD-CPR-0041 6000PLUS/HT/S<br>PFD-CPR-0044 6000PLUS/OP/S<br>PFD-CPR-0045 6000PLUS/OP/SX<br>PFD-CPR-0046 6000PLUS/OPHT/I<br>PFD-CPR-0047 6KPPOL/OPHT/TS<br>PFD-CPR-0155 6000PLUS/OP/I | PFD-UKCA-0026 6000PLUS/OP<br>PFD-UKCA-0027 6000PLUS/OPHT<br>PFD-UKCA-0028 6000PLUS/HT<br>PFD-UKCA-0029 6000PLUS/OPHT/S<br>PFD-UKCA-0030 6000PLUS/OPHT/SX<br>PFD-UKCA-0032 6000PLUS/OPHT/TS<br>PFD-UKCA-0033 6000PLUS/OPHT/TSX<br>PFD-UKCA-0035 6000PLUS/OPHTCO<br>PFD-UKCA-0036 6000PLUS/OPHTCO/S<br>PFD-UKCA-0037 6000PLUS/OPHTCO/SX<br>PFD-UKCA-0041 6000PLUS/HT/S<br>PFD-UKCA-0044 6000PLUS/OP/S<br>PFD-UKCA-0045 6000PLUS/OP/SX<br>PFD-UKCA-0046 6000PLUS/OPHT/I<br>PFD-UKCA-0155 6000PLUS/OP/I |

| EN 54–3:2001<br>Sounder Devices | EN 54–5:2017+A1:2018<br>Heat Detectors | EN 54–7:2018<br>Smoke Detectors | EN 54–17:2005<br>Short Circuit Isolator |
|---|---|---|---|
| 6000PLUS/HT/S<br>6000PLUS/OP/S<br>6000PLUS/OP/SX<br>6000PLUS/OPHT/S<br>6000PLUS/OPHT/SX<br>6000PLUS/OPHT/TS<br>6KPPOL/OPHT/TS<br>6000PLUS/OPHT/TSX<br>6000PLUS/OPHTCO/S<br>6000PLUS/OPHTCO/SX | 6000PLUS/HT/S<br>6000PLUS/HT<br>6000PLUS/OPHT<br>6000PLUS/OPHT/I<br>6000PLUS/OPHT/S<br>6000PLUS/OPHT/SX<br>6000PLUS/OPHT/TS<br>6KPPOL/OPHT/TS<br>6000PLUS/OPHT/TSX<br>6000PLUS/OPHTCO<br>6000PLUS/OPHTCO/S<br>6000PLUS/OPHTCO/SX<br>6KPPOL/OPHT/TS | 6000PLUS/OP<br>6000PLUS/OP/I<br>6000PLUS/OP/S<br>6000PLUS/OP/SX<br>6000PLUS/OPHT<br>6000PLUS/OPHT/I<br>6000PLUS/OPHT/S<br>6000PLUS/OPHT/SX<br>6000PLUS/OPHT/TS<br>6KPPOL/OPHT/TS<br>6000PLUS/OPHT/TSX<br>6000PLUS/OPHTCO<br>6000PLUS/OPHTCO/S<br>6000PLUS/OPHTCO/SX<br>6KPPOL/OPHT/TS | 6000PLUS/OPHT/S<br>6000PLUS/OPHT/SX<br>6000PLUS/OPHT/TS<br>6KPPOL/OPHT/TS<br>6000PLUS/OPHT/TSX<br>6000PLUS/OPHTCO<br>6000PLUS/OPHTCO/S<br>6000PLUS/OPHTCO/SX<br>6000PLUS/HT/S<br>6000PLUS/OP/S<br>6000PLUS/OP/SX<br>6000PLUS/OPHT/I<br>6000PLUS/OP/I |
| Technical Data included in this datasheet | Technical Data included in this datasheet | Technical Data included in this datasheet | Refer to Protec DEL2110 for Technical Data |

The word Megger is a registered trademark.

Refer to DEL2241 Talking Sounder Audio Reference Guide for talking sounder settings.

Refer to DEL2207 Safety and Regulatory Information (6000 Devices)

Protec Fire Detection PLC
Protec House, Churchill Way
Nelson, Lancashire
BB9 6RT, United Kingdom

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