

## 1 Introduction

Panel Software version 5.05 introduces the following enhancements:

- 1 Extended feature support of OPAL/TC800 Advanced loop devices to include support of up to 40 CLIP devices per loop and the logging or display of any device's parameters or serial number.
- 2 Introduction of optional specific 'nuisance environment' settings (Application Numbers) for SMART 4/ MCS4 multi-criteria sensors.
- 3 Configurable remote OPAL/TC800 Advanced sensor LED function.
- 4 Configurable individual sensor internal LED colour change when global LED colour setting is GREEN.
- 5 Single-fault-tolerant network sectoring functions in support of German FBF panels.

The various features offered by OPAL/TC800 Advanced protocol devices now supported by this version of panel software are described in this document in the following sections.

### 1.1 Compatibility Issues

These features are only fully available when the following installation requirements are met:

- i Panel software at version 5.05, or later
- ii All LIB\* software at version 14.01, or later.
- iii Advanced protocol-compatible loop devices (if in doubt check with your supplier).

\* Includes the two loop circuits on the Base PCB.

### 1.2 Off-line Configuration Tool

As with earlier versions of panel software, the recommended method of configuring fire alarm control panels with these new features is by using the Windows™ Configuration Tool (WCT) v. 3.05, or later.

**When using the WCT, ensure that the method of enabling OPAL/TC800 Advanced protocol is completely understood. The WCT contains an automatic setting (capable of being manually changed) which overrides the need to use the panel configuration option described in this document.**

If the WCT is used to download panel configurations some local editing may still be required at each panel, as with previous versions of panel software. This procedure has not changed with the introduction of the features described within this document.

## 2 OPAL/TC800 Advanced Protocol- Additional Features

Panel software version 5.05 introduces a number of performance enhancements and user-configurable features, as follows:

- a. Improvement in time taken for the auto-configuration process; this depends on which CPU card is fitted and/or whether this is a first or subsequent auto-configuration activity. See Section 3 for more details.

Up to 40 CLIP devices can now be supported on a mixed protocol loop. Support is also included for 2- and 3-channel multi-modules - no CLIP addresses are taken up as with some earlier versions panel software. Capability introduced to drive LEDs 2 and 3 of these modules. The yellow and green elements of these device's tri-colour LEDs is supported, although this function cannot be controlled by user intervention.

The new types of ZMX zone monitor modules (M710-CZR, M710-CZ) are supported in OPAL protocol.

- b. Synchronisation of sounders across panels on a peer-to-peer network. See Section 4 for more details.
- c. Specific 'nuisance environment' settings (Application Numbers) for SMART 4/ MCS4 multi-criteria sensors may now be configured. See Section 5 for more details.
- d. Support for sensor remote LED in a 'follow the sensor' internal LED mode, or as an output driven from a control matrix rule. See Section 6 for more details.
- e. Individual OPAL/TC800Advanced sensor LED colour change. See Section 7 for more details.
- f. Log/Display additional device information at access level 3, or higher. See Section 8 for more details.
- g. German VdS Standard only - Improved support for panels, with or without an FBF, over single-fault-tolerant network sectors. See Section 9 for more details.

### 3 OPAL/TC800 Advanced Auto-configuration Procedure

When a panel has the new CPU card fitted (PN: 124-360) the OPAL/TC800 Advanced auto-configuration method has changed in that it is completed in two passes; thereby allowing the panel to offer some fire cover before this process is completely finished. Pass 1 will take about 20 to 25 minutes the first time it is performed for a completely new installation. Subsequent passes through this process will take less time, in the order of five to six minutes, even after a complete power down of the panel.

When the previous CPU card (PN: 124-302) is fitted this procedure has remained unchanged in that only one auto-configuration pass is carried out.

For the duration of pass 1 the LCD still displays a progress bar, visible at all user access levels, which will clear after completion. However, it is possible to carry out any other panel-related commissioning tasks, while this is in progress, by pressing the CHANGE TABS pushbutton to display the panel user menus.

Any re-tries required, resulting from any suspected faults, will be carried out with a 'blank' progress bar displayed - re-tries on pass 1 faults will only take a few seconds.

```
Auto-Configuration of Advanced Protocol
(OPAL) Loop devices in progress:
NOTE: Panel is PARTIALLY operational
during this process.
```

```
Test User Fri 12-Nov-2010 14:49:55
```

Pass 2 is a background check and does not affect the fire cover of the panel, although some panel functions may exhibit slightly slower responses than normal.

Pass 2 starts as soon as pass 1, and any re-tries, are completed. A progress bar is displayed but this is only available at user access level 3, or higher.

This is a change to the Panel Configuration Manual, Section 11.4 Pulsing Sounder Modes

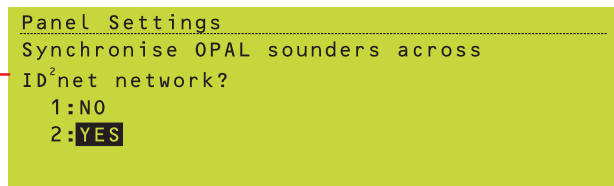
## 4 Synchronise Sounder Patterns Across Network

This option is only displayed when the panel is operating OPAL/TC800 Advanced protocol **and** is configured as part of a single-fault-tolerant network.

The configuration option Pulsing Sounder Modes, located under Panel Settings, allows this function to be enabled/disabled. Available only at access Level 3A.

Having accessed the Panel Settings menu scroll down to select '**5: Pulsing Sounder Modes**'. Step through the options until the screen below is displayed:

Will the Honeywell version say XLSnet here?



To enable synchronised sounder pulsing select 'Yes'. The default setting is 'No'.

However, take care not to select the previous menu option '*Synchronise Sounders on Loop using Enhanced Protocol*' as this is not applicable to OPAL/TC800 Advanced protocol; it being provided for a synchronised pulsing solution for earlier CLIP-only systems (this feature was introduced with panel software version 4.54).

Initially, for a period of a few seconds, non-synchronised pulsing will occur before synchronised pulsing is fully implemented.

**Note:** It is strongly recommended that if this option is not required it should not be selected. By **not** selecting this option, when it is not required, will shorten the non-synchronised phase in any single, networked panel, thereby permitting sounder synchronisation at the panel to be established more quickly.

## 5 SMART 4/ MCS4 Multi-criteria Devices - Application Number

This is a change to the Panel Configuration Manual, Section 5.1.2 Change Device Configuration - Sensors

This option is accessible from the Individual Device Configuration screen. With the appropriate SMART 4/ MCS4 sensor selected, press the 'right arrow' key repeatedly until the typical device configuration screen, as shown below, is displayed:

Will the Honeywell version say MCS4 here? —

```
Device Configuration - Loop n Sensor nn
Type SMT4* Zone nn Cell n
Zone <(no zone text defined) >
Loc. <Device text description >
SMART 4 Application no.: ONE ▶
◀=select *=edit ◆=next device ✓=finish
```

By default, this function is disabled as careful consideration is required before selection of any of the application numbers. The sensitivity of various criteria alarm thresholds is modified to accommodate the requirements of the different 'nuisance' environments. **The selection of one of these must be in agreement with the appropriate authority and local fire officer.** This option is clearly labelled in the menu as '7 SEEK ADVICE BEFORE USE'.

With the appropriate device configuration screen displayed press the \* key to select the application number which has the closest description of the 'nuisance environment' causing the incidence of a false alarm condition.

```
Set device type - Loop 4 Sensor 28
Set Application Number for SMART 4
1:Default: No Application
2:0 Shower/Boiler Room
3:1 Dormitory/Smoking Room
▼ 4:2 Insect/Attic/Heavy Manuf./Strobes
```

```
Set device type - Loop 4 Sensor 28
Set Application Number for SMART 4
▲ 4:2 Insect/Attic/Heavy Manuf./Strobes
5:3 Dust/AHU/Lift Motor
6:4 Discotheque/Bar/Smoking
▼ 7:5 Car Park/Loading Bay/Kitchen
```

```
Set device type - Loop 4 Sensor 28
Set Application Number for SMART 4
▲ 6:4 Discotheque/Bar/Smoking
7:5 Car Park/Loading Bay/Kitchen
8:6 Paint Shop
9:7 SEEK ADVICE BEFORE USE
```

Take care when selecting the application number as the first number, i.e. to the left of each colon is the list position and it is the number to the right of the colon that is required.

For guidance, a table describing each application number and its corresponding nuisance environment is provided below. Select the desired application number.

Application Number	Possible 'Nuisance' Environment: Application Details	Recommended Alarm Threshold setting
NONE	- Vacuum cleaning - dust causing photo sensor only alarm. Default configuration: no effect.	4
0	- Hotel bedroom near shower. Steam and ROR in heat from sensor near bathroom door - Boiler rooms. Dust and ROR heat causing false alarms. Heat response changed.	4 4
1	- Student dormitories, smoking hotel rooms. Small appliance cooking/cig. smoke	5
2	- Insect alarms. Uses Photo element only. - Condensation in attics and similar unheated spaces, e.g. pump houses, service intake rooms, etc. Uses Photo element only. - Heavy manufacturing. Photo element alarms from dust/dirt (may also include welding) - Strobes in industrial areas. Photo element alarms from dazzling light/welding.	5 5 5 4
3	- Dusty environments (and settled dust turbulence in the chamber before drift alarm reached). Uses Photo element only. - AHU rooms and lift motor rooms. False alarm from 'dust burst' reduction.	5 5
4	- Synthetic smoke in discotheques and dazzling lights from strobes. Photo sensor alarm threshold raised to maximum; CO enhancement significantly reduced. - Bar areas - photo sensor alarm from steam from glass washers/cigarette smoke. - Smoking areas - alarm from photo and CO sensors' response due to cigarettes, etc.	5 5 5
5	- Car parks and loading bays with trucks with upward exhaust pipes or poor operating engines. Includes traffic build-up in cities. Alarm from Photo, CO ROR heat sensors. - Kitchens including industrial, canteens and retirement homes - Photo alarms from burning food and ROR alarms from ovens being opened.	5 5
6	- Paint shops and repair shops. Alarm from photo and ROR sensor elements. This Application may include welding and vehicles running inside building.	5
7 (*)	- Extremely long-lasting optical-only stimulus (special disco fog, anti-burglar smoke, misty/foggy area, etc.). Long lasting (>10 minutes) optical stimulus which is not caused by an incipient fire.	5
* APPLICATION 7 WARNING - This setting must be treated with EXTREME CAUTION - Do not select without consulting your local fire officer. For further information regarding this setting, contact Technical Support or your Regional Sales Manager.		

**Note:** Selection options 'NONE' and '0' are not the same.

## 6 Sensor Remote LED Operation

This is a change to the Panel Configuration Manual, Section 5.1.2 Change Device Configuration - Sensors

Add new sub-section **5.1.2.11 Sensor Remote LED Operation** as follows:

'An option is now provided to enable the function of an OPAL/TC800 Advanced sensor's remote LED (not all OPAL/TC800 Advanced sensors have these). The action of a remote LED is undefined, by default, if not configured using either method described below.

**Option 1:** Enabling the remote LED function via the the Change Device Configuration edit screen. With the appropriate sensor selected, repeatedly press the 'right arrow' key until the 'No remote LED' field is displayed, as below:

```
Device Configuration - Loop n Sensor nn
Type HEAT Zone nn Cell n
Zone <(no zone text defined) >
Loc. <Device text description >
No remote LED Time-of-day-var.=NONE
◀=select *=edit ◆=next device ✓=finish
```

Press the '\*' key to edit. The screen below is displayed:

```
Device Configuration - Loop n Sensor nn
1:No remote LED
2:Rem. LED fitted
```

Press the '2' key to select the sensor remote LED function. Upon selection the previous screen is re-displayed; 'Rem. LED fitted' now replaces 'No remote LED'.

Note that there are differences between the operation of internal and remote LEDs. The remote LED is activated only for an alarm condition and not for other panel states. However, these LEDs can be tested by the user. If the panel is configured so that the internal LED mode changes from steady to blinking when the alarm input data drop below the alarm threshold, the remote LED does not operate in the same way; it remains steady and continues to do so until the panel is reset.

**Option 2:** Configuring the remote LED action independently of the internal LED operation, using one or more Control Matrix rules.

At user access level 3, create a new Control Matrix rule with an input capable of activating an output, e.g. an alarm, and an individual sensor (not its zone) as the output. Refer to **Section 7.6 Defining a Control Matrix Entry** of the Panel Configuration Manual for creating the new rule.

Note that if the LED operation is controlled by such a control matrix rule then it takes precedence over the 'follow internal LED' mode of operation. The activation of the remote LED is treated as non-silenceable and, therefore, remains active until the panel is reset. Activating the remote LED using a control matrix rule also means that defining the 'remote LED fitted' case is not necessary, as the panel assumes that this is the selected application.

A typical new control matrix rule for sensor remote LED activation is shown below:

```
NEW Control Matrix Entry
-----
INPUT: ALARM
ZONE 62
OUTPUT:
L2 Sensor    15 Remote LED
-----
Press ✓ to confirm changes, X to cancel
```

**This is a change to the Operating Manual, Section 8.2 Log/Display Device Data**

**Testing the Remote LED**

To ensure that when device testing is carried out the remote LEDs are included, for each device with a remote LED the procedure described here first needs to be carried out.

The Operating Manual, **Section 8.2 Log/Display Device Data**, step 5 describes how to do this with the following addition. After Step 5 of this sub-section add:

'If the ON STEADY option is selected the user is then prompted to select the remote LED colour, as shown below:

```
Ln Snn: Description
HEAT Sensor: LED control:
-----
1: RED
2: GREEN
3: YELLOW
-----
User/ Mon 15-Nov-2010 11:20:07
```

Select RED (default). This ensures that the remote LED is tested together with all internal red LEDs.'



## 7 Sensor LED - Set Individual Colour

**This is a change to the Panel Configuration Manual, Section 5.1.2.8 LED Blink Options**

The global panel LED colour setting may be overridden for individual sensors by scrolling through the Change Device Configuration screens until the LED Blink Mode editing screen is displayed, typically as shown below:

```
Device Configuration - Loop n Sensor nn
Type HEAT Zone nn Cell n
Zone <(no zone text defined) >
Loc. <Device text description >
LED BLINK MODE Follow Panel Setting
◀=select *=edit ◆=next device ✓=finish
```

Press the '\*' key to edit the LED blink mode. If the global LED colour is set to GREEN the following options are displayed (over two screens):

```
Device Configuration - Loop n Sensor nn
LED BLINK MODE
1:Follow Panel Setting
2:Always BLINK GREEN
▼ 3:Always NON-BLINK
```

```
Device Configuration - Loop n Sensor nn
LED BLINK MODE
▲ 2:Always BLINK GREEN
3:Always NON-BLINK
4:Always BLINK RED
```

However, if the global LED colour is set to RED a reduced list of options are presented, as shown below:

```
Device Configuration - Loop n Sensor nn
LED BLINK MODE
1:Follow Panel Setting
2:Always BLINK RED
3:Always NON-BLINK
```

Note that a BLINK GREEN option is not included.

**This is a change to Section 12 User Menu  
at Level 3 Access of the Panel  
Configuration Manual.**

## 8 Log/ Display Additional Information

Add the following new sub-section to Section 12 User Menu at Level 3 Access of the Panel Configuration Manual.

'OPAL/TC800 Advanced devices have additional fields of information that are available to view through the **Log/Display** user menu when at user access level 3.

The serial number of a device, if available, may be displayed - this depends on the CPU card (PN: 124-360) being fitted. The display is different between sensors and modules: for sensors, the serial number is shown *after* the LED control menu; whereas for modules, the serial number is displayed *before* the LED control menu.

An example of each is given below; sensor first then for a module.'

```
▼0010/01:
Panel 3 L1 S11 HEAT value: 59
OPAL Serial Number: 072911F6
Data Log: samples = NONE

[Service] Fri 12-Nov-2010 14:49:55
```

```
0006/01:
MCP : OPAL Serial Number: 1448005D
Press "✓" key

[Service] Fri 12-Nov-2010 14:49:55
```

## 9 Other Changes

### 9.1 Device Data Values

**This is a change to the Operating Manual, Section 8.2 Log/Display Device Data**

The first paragraph of **Section 8.2 Log/Display Device Data** of the Operating Manual now has the following changes to make it clear that when device data is displayed the values given change between CLIP and OPAL/TC800 Advanced protocol. The information currently given in the manual describes CLIP protocol only.

Change the beginning of the second sentence of the first paragraph as follows:

'For CLIP devices, values are shown as a percentage, scaled.....'

Add the following paragraph after the note at the end of the first paragraph:

'When device data for OPAL/TC800 Advanced are displayed the values are not percentages as for CLIP devices but are a numeric code. Many OPAL/TC800 Advanced such as the devices return a clean air value of 50. Thermal sensors, however, use a different value of 59 which for this type sensor indicates that the sensor temperature is 25°C.

For further information about the meaning of displayed for sensors or modules contact your Technical Support department.'

### 9.2 Suppression of Select Sector Option over Single-fault-tolerant Network

This option is only available at user access Level 3A.

Supervisor panel commands such as RESET, SILENCE and EVACUATE prompt the user to determine the scope, by sector, of the action over the network.

## 10 FBF Panels on a Sectorised Single-fault-tolerant Network

The functions described below are for the German VdS market only.

The fire alarm control panel now supports the following configured applications of FBF panels and ÜE output circuits as described below.

In a sectorised single-fault-tolerant network environment supervisor panels may now be configured to support FBF panels where control actions and system indications are managed either by the supervisor panel to which it is attached (default) or limited to the supervisor panel's local sector.

When the scope of the control actions and system indications of an FBF panel is limited to the supervisor panel's local sector the following functions are localised to that sector:

- a. Activation of the FBF ALARM lamp with an alarm in the local sector.
- b. ÜE ACTIVATED (ÜE AUSGELOST) lamp activation if the local ÜE is activated.
- c. Operation of the FBF panel's RESET (BMZ RUCKSTELLEN) and ÜE TEST (ÜE PRÜFEN) pushbuttons.
- d. Operation of the FBF panel's ÜE DISABLE (ÜE AB), SOUNDER SILENCE/DISABLE (AKUSTIK AB), FIRE CONTROL DISABLE (BRANDFALLST. AB) pushbuttons and LEDs.

### ÜE Test Function Changes

It is now possible to test each ÜE on the system, including each of up to two ÜEs on the same panel, through the ÜE TEST (ÜE PRUFEN) either on any FBF panel or a dedicated FBF panel. The ÜE TEST default is ANY FBF panel.

**Note:** This function is not directly linked to either of the 'All Supervised Sectors' or 'Local Sector Only' configured scope of the panel to which the FBF is attached. However, any ÜE circuits that need to be tested must be on a panel within the scope of the supervisor panel to which it is attached.