

## HUSH-PRO WIRING AND CONNECTIONS (see Fig.2 for typical connections)

All wiring must be installed in accordance with all applicable national, regional or local standards. In the UK this is BS 7671 (Wiring Regulations) and BS 5839-6 (Grade C System). Typically, for the ZONE circuit standard 1.5mm T&E PVC cabling can be used. All terminals can accept cables up to 1.5mm.



- DIP1 = Polling LEDs on/off - **Default OFF.**
- DIP2 = FL1 escalates to FL2 after 2 mins (if FL1 condition NOT HUSHED) - **Default OFF.**
- DIP3 = Coincidence of ANY two un-hushed FL1 conditions results in a FL2 condition - **Default OFF.**
- DIP4 = Learn/programming mode disabled - **Default OFF.**

- PL2: 4-way moxex connector (pins top to bottom)
- FL1 open collector
  - FL2 open collector
  - Sounder trigger input (pin pulled low to activate)
  - 0V

**Hint:** Application Note 0014.0 on C-TEC's website details a method of connecting system expansion plug (PL2) to third party systems.

PLK4: Battery connector. To reduce battery drain, it is recommended that the battery is connected after the 24V power is applied.

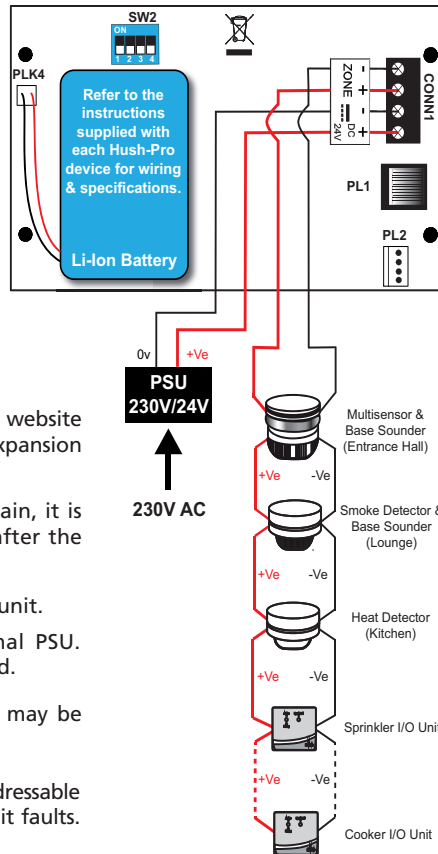
PL1: RJ45 connector to a landlord interface I/O unit.

CON1 (DC 24V): Connects to the 24V external PSU. Typically, 1mm to 1.5mm T&E cable may be used.

**Hint:** C-TEC's HPPSU (230V/24V, 0.25A) may be used to power the Hush-Pro controller.

CON1 (+ZONE-): The detection and alarm zone addressable circuit is line monitored for open and short circuit faults. Connects up to 16 Hush-Pro (HP) type devices.

Fig.2 - Typical Hush-Pro Connections



## INSTALLATION & TESTING

This product must be installed indoors, and NOT subject to excessive dust, conductive or corrosive gases or liquids, nor subject to temperatures, input voltages, and electrical loads outside the stated operating range.

Decide on where the controller is to be sited and fit a 35mm double gang back box. Fit a 35mm double gang back box adjacent to the mains fusebox for the 230V/24V PSU.

After installation, enter Learn/Programming mode to check the number of fitted devices.

The Hush-Pro system should be tested monthly by the user by pressing the TEST button to activate the alarm devices. If any faults occur these should be reported to a competent person.

## INSTALLER'S GUIDE



Read these instructions before installation and operation



**THIS EQUIPMENT MUST BE INSTALLED AND MAINTAINED BY A SUITABLY SKILLED AND TECHNICALLY COMPETENT PERSON. ENSURE ALL POWER IS REMOVED BEFORE INSTALLATION.**

The Hush-Pro fire alarm system has been designed to reduce the incidence of false alarms in HMOs, dwellings, flats, etc., by providing a reliable, fully monitored fire detection and alarm system complete with silence and test functions. Typically, a Hush-Pro system is fitted in each dwelling complete with a controller, fire detectors, I/O units and alarm devices (see Fig.1).

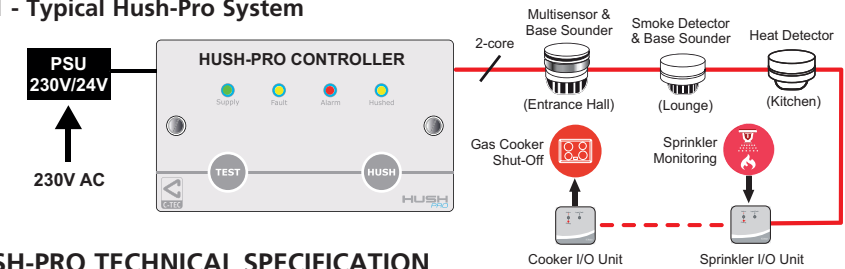
### Fire Levels 1 and 2 - An Explanation

Hush-Pro uses the concept of Fire Level 1 (FL1) and Fire Level 2 (FL2) in order to virtually eliminate the incidence of false alarms from centrally connected domestic systems.

FL1 - A domestic fire alarm signal from a device that is intended to be actioned **INSIDE** the dwelling of origin (e.g. activation of a smoke detector).

FL2 - A domestic fire alarm signal from a device that is intended to be actioned **INSIDE** and **OUTSIDE** the dwelling of origin (e.g. the heat element **only** of a multisensor, signalling the central system which initiates a site wide evacuation, or messages a central location).









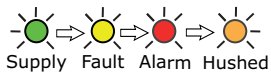

Fig.1 - Typical Hush-Pro System



## HUSH-PRO TECHNICAL SPECIFICATION

Part No. HP508:	Hush-Pro BS5839-6 Grade C Fire Alarm Controller		
Max. number & type of Hush-Pro (HP) devices per system:	16 HP type devices including fire detectors (optical smoke, heat, multisensor), I/O units and alarm devices - NOT SUPPLIED.		
Max. length of device circuit:	100m	Max. circuit load:	100mA
Operating voltage:	24Vdc	Quiescent current:	5mA
Replaceable battery:	Li-Ion rechargeable battery (C-TEC supplied only, up to 10 year life). 11 devices (2Ah); >11 devices (4Ah) Provides >72 hour standby plus 5 minute alarm (under normal use).		
LED indicators:	Supply (Green) LED. Lit steady when powered from the external PSU. Lit flashing when external PSU fails and the unit is only powered from the onboard battery. Fault (Yellow) LED. Lit flashing when there is device fault, device missing, wiring fault, battery fault. Local Alarm (Red) LED. Lit steady when there is a FL1 alarm. Global Alarm (Red) LED. Lit flashing when there is a FL2 alarm, or a signal is received from the external input (CON6). Hushed (Amber) LED. Lit steady when the unit is in a hushed State.		
Onboard beeper:	Provides audible feedback when a button is pressed and in a fire / fault condition.		
Control buttons:	1 x TEST button & 1 x HUSH button - see 'Hush-Pro Operation' overleaf.		
Dimensions (mm):	144 (W) x 84 (H) x 25 (D)	Body Material:	ABS polycarbonate
Weight:	160g	IP Rating (EN 60529):	IP40 (when correctly installed)
Operating Temp.:	-10°C to +55°C	Humidity:	Max. 95% RH (non-condensing)

## HUSH-PRO OPERATION

State	State Condition		Hush-Pro Indicators	What Happens at Hush-Pro
1	Normal Operation		 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Power is applied to the detection and alarm zone circuit which is monitored for open and short circuit faults.</li> </ul>
2	HUSH button pressed when no Fire or Fault	A 15 minutes hushed period starts to allow 'hot works' or cooking by the resident.	 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Beeper pulse rate gradually increases during the hushed period (10 minutes to 15 minutes elapsed).</li> <li>HUSH button press returns to State 1 after a hushed period of 0 to 12 minutes have elapsed. After a hushed period of 13 to 15 minutes have elapsed HUSH button press resets the hushed timer for an additional 15 minutes.</li> <li>After 15 minutes have elapsed automatically returns to State 1.</li> </ul>
3	HUSH button pressed when in FL1	A FL1 alarm has been activated but hushed. A 120 second hushed period starts.	 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Beeper pulse rate gradually increases during the hushed period (10 seconds to 50 seconds to 90 seconds elapsed).</li> <li>HUSH button press resets the hushed timer for another 120 seconds.</li> <li>If fire alarm is cleared within 120 seconds automatically returns to State 1.</li> <li>After 120 seconds have elapsed (and HUSH button NOT pressed) moves to State 7.</li> </ul>
4	HUSH button pressed when in Fault	A fault condition has been activated but hushed. A 24 hour hushed period starts.	 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Beeper muted.</li> <li>HUSH button press resets the hushed timer for another 24 hours.</li> <li>Zone is reset every 60 seconds and requires a confirmation fault condition to stay in this State. If fault clears, system resets and automatically returns to State 1.</li> <li>After 24 hours have elapsed automatically returns to State 5 or State 6.</li> </ul>
5	General Fault	A fault condition has been activated (e.g. device fault, wiring fault, battery fault).	 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Beeper sounds.</li> <li>HUSH button press moves to State 4.</li> <li>Zone is reset every 60 seconds and requires a confirmation fault condition to stay in this State. If fault clears, system resets and automatically returns to State 1.</li> </ul>
6	Mains Fault	External PSU fails and the unit is powered on battery only.	 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Beeper sounds.</li> <li>HUSH button press mutes the beeper.</li> </ul>
7	Fire Level 1 (FL1)	A fire condition has been activated from a FL1 zone device.	 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Beeper sounds.</li> <li>HUSH button press moves to State 3.</li> <li>Zone outputs are in Alarm Tone 1 (Domestic).</li> <li>Zone resets every 10 seconds and needs a confirmation fire to stay in this State. If no confirmation is received automatically returns to State 1, or escalates to FL2 if DIP switch 2 is ON (Up) and confirmation signal is received for 120 seconds.</li> </ul>
8	Fire Level 2 (FL2)	A fire condition has been activated from a FL2 zone device.	 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>Beeper sounds.</li> <li>HUSH button press resets the zone and moves to State 1 (if the source of the alarm has cleared).</li> <li>Zone outputs are in Alarm Tone 2 (Evacuation).</li> </ul>
9	<p><u>To Enter Learn/Programming Mode</u> Press and hold TEST button then press HUSH button within 3 seconds and then release both buttons. When programming complete, press HUSH button once to exit.</p>		 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>The four LEDs poll during learn/programming mode and after approx. 10-15 seconds will stop in a digital/binary pattern showing the total number of system devices found and programmed, as follows: Supply LED flashing = 8 devices, Fault LED flashing = 4 devices, Alarm LED flashing = 2 devices, Hushed LED flashing = 1 device. Add up the flashing LEDs to get the total number of devices. <b>Note:</b> Beeper sounds = 16 devices.</li> <li>After learn/programming mode is completed, the polling LEDs on all the system devices found will be lit steady.</li> <li>Press HUSH button once to exit.</li> </ul> <p><b>⚠ IMPORTANT:</b> After programming wait for 2 minutes before pressing any buttons or testing connected devices. Failure to observe this waiting period may result in devices being incorrectly configured.</p>
10	<p><u>To Enter Test Mode</u> Press and hold TEST button for &gt;3 seconds.</p>		 Supply    Fault    Alarm    Hushed	<ul style="list-style-type: none"> <li>All sounders and VADs enter Alarm Tone 1 (Domestic) for 5 seconds then all sounders and VADs off for 2 seconds, all sounders and VADs enter Alarm Tone 2 (Evacuation) for 5 seconds then all sounders and VADs off.</li> <li>Automatically returns to State 1.</li> </ul>