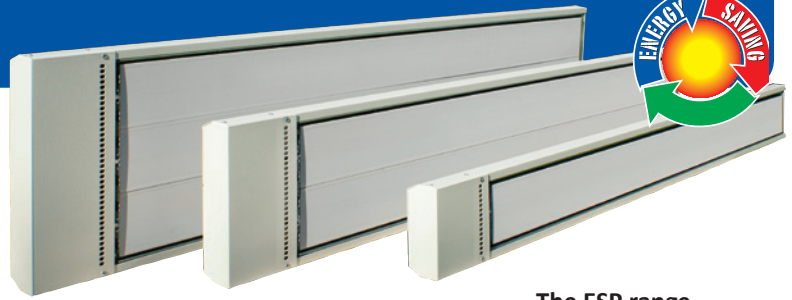


# ESP Radiant Cassettes



- Providing an extremely economic means of heating large commercial spaces
- Attractive unobtrusive design well suited to modern facilities
- High mounting positions allows flexible use of floor and wall space and does not interfere with activities



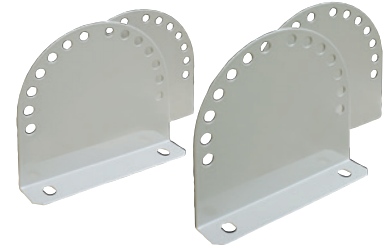
The ESP range providing an economic means of heating large areas

## Typical Applications

- Sports Halls
- Squash Courts
- Showrooms
- Community Halls
- Food Halls



New compact model



ESP-B Optional Adjustable Brackets

Can be used for both wall and ceiling mounting.

The installed load must exceed the heat loss from the entire area. ESP black heat radiant cassettes are not ideally suited to 'spot heating' applications.

## Features Common to all Models

- No draughts, noise or light output
- Robust steel case with attractive white epoxy finish
- Specially treated aluminium heat emitter
- Brackets for ceiling mounting with four fixing points to facilitate suspension

## Optional Adjustable Brackets

ESP-B adjustable brackets can be used for both wall and ceiling mounting. The brackets are designed to allow the angle of the heater to be easily adjusted.

## Selection and Installation

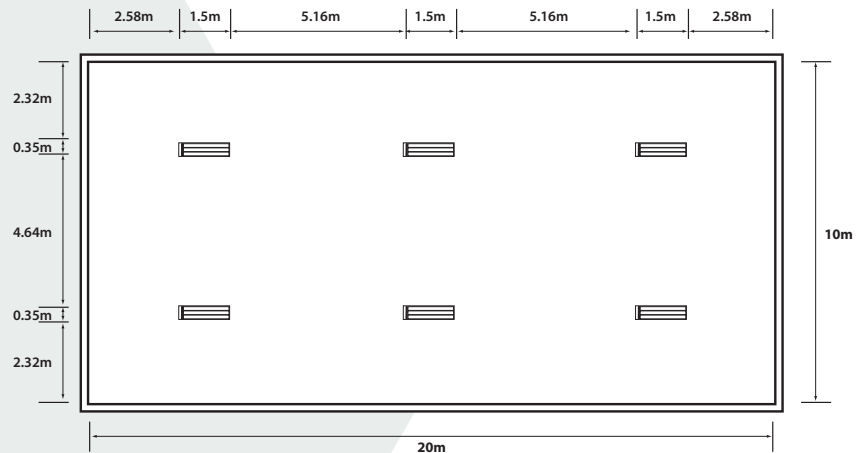
The total load of the selected ESP cassettes should exceed the heat loss from the building in cold conditions. The heaters should be ceiling mounted or suspended at high level ensuring that the space between the heaters is no greater than the distance between the heaters and the floor.

Black Heat Radiant Cassettes should be seen as an energy saving alternative to conventional space heating systems, they are not ideally suited to 'spot heating' applications.

## Energy Saving

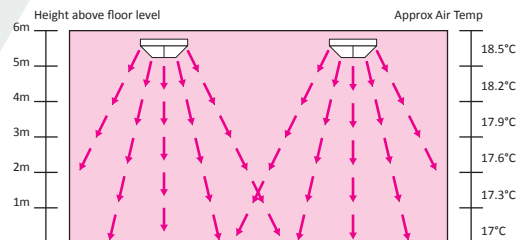
ESP Radiant Cassettes are our most economic heaters for buildings with high roofs for the following reasons:

- The gentle radiant effect means that the 'experienced temperature' can be up to 4°C warmer than the actual air temperature. This means that the thermostat can be set up to 4°C lower.
- The temperature gradient is negligible. Typically air temperature will increase by 0.3°C per metre above floor level. This figure compares to a typical 2.5°C per metre when using fan heaters.

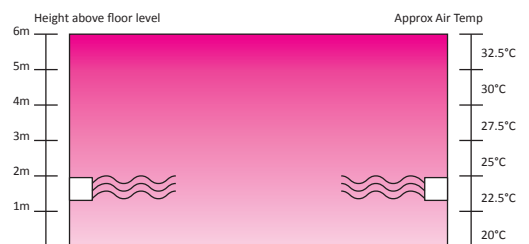


Typical ESP System Layout

## Energy Saving with ESP Radiant Cassettes



Heating a building using ESP Radiant Cassettes



Heating a large building using fan heaters

## Controlling ESP Radiant Cassettes

The recommended means of controlling ESP Black Heat Radiant Cassettes is to select one of four control packages

### Comfort control package

### Programmable package

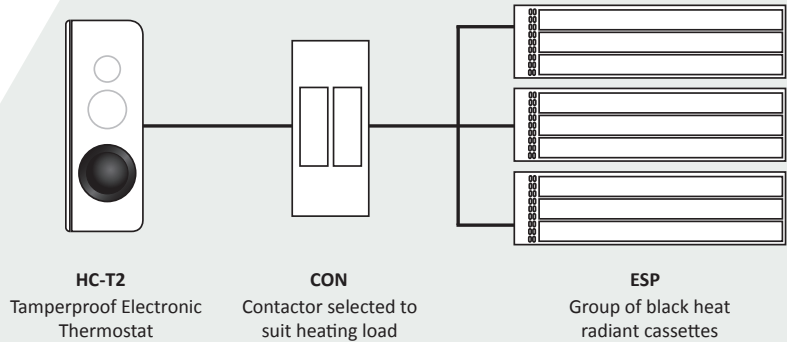
### Programmable package with set-back

### Flexible Package

All control packages are based on BN Thermic's range of Hard Case tamperproof and vandal resistant Thermostats. Hard Case's tamperproof design ensures that only authorised personnel can adjust the temperature setting.

## Comfort Control Package

The comfort package utilises the Hard Case HC-T2 Tamperproof Thermostat which should be wall mounted at approximately 1.5m above floor level. The thermostat will switch the heaters via a suitably rated contactor.



### Control Components

HC-T2 Tamperproof Thermostat  
 Suitably Rated Contactor

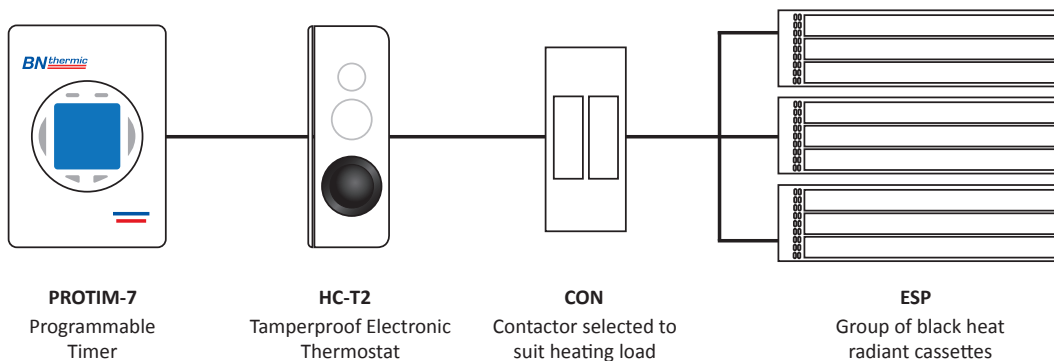
## Programmable Package

The programmable package utilises the Hard Case HC-T2 tamperproof thermostat which should be wall mounted at approximately 1.5m above floor level. The thermostat will switch the heaters via a suitably rated contactor.

A PROTIM-7 programmable timer will ensure that the heating system is not energised while the building is unoccupied (typically at night and at weekends). The PROTIM-7 incorporates a boost button which allows a temporary temperature boost while the system is in 'off' mode. The timer also provides permanent 'on' and permanent 'off' overrides.

### Control Components

HC-T2 Tamperproof Thermostat  
 PROTIM-7 Programmable Timer  
 Suitably Rated Contactor



# ESP Continued

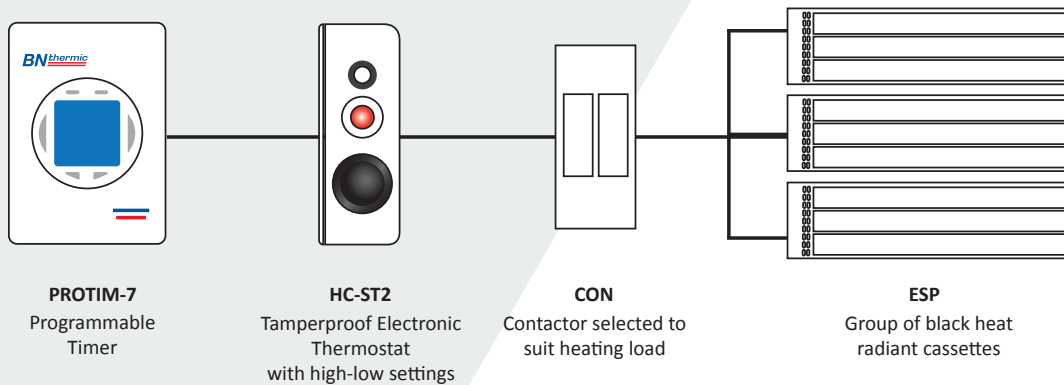
## Programmable Package with Set-Back

The programmable package with set-back utilises the Hard Case HC-ST2 tamperproof thermostat which should be wall mounted at approximately 1.5m above floor level. The thermostat will switch the heaters via a suitably rated contactor (see page 73).

The HC-ST2 has two settings: high (comfort) and low (set-back). A PROTIM-7 programmable timer will ensure that the heating system operates at its low (set-back) setting while the building is unoccupied (typically at night and at weekends). The PROTIM-7 incorporates a boost button which allows a temporary temperature boost while the system is in 'Set-back' mode. The timer also provides permanent 'comfort' and permanent 'set-back' overrides.

### Control Components

- HC-ST2 Tamperproof Thermostat
- PROTIM-7 Programmable Timer
- Suitably Rated Contactor



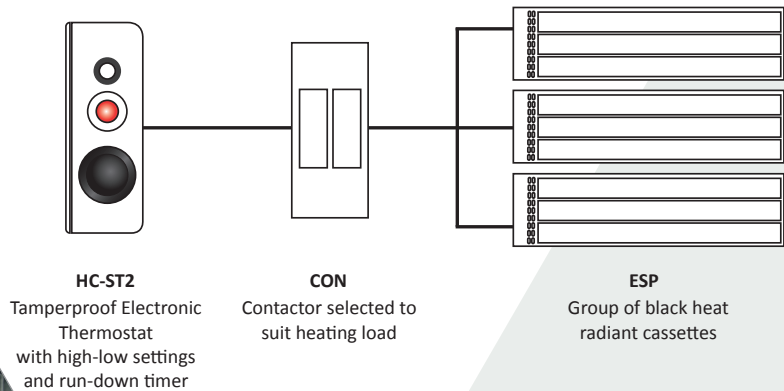
## Flexible Package

The flexible control package utilises a Hard Case HC-ST2 Thermostat switching a group of Black Heat Radiant Cassettes via a suitably rated contactor (see page 73).

The HC-ST2 has two settings: high (comfort) and low (set-back). The default setting is low (set-back). The HC-ST2 incorporates a simple push button which changes the set-point from low (set-back) to high (comfort) for a pre-programmed period of time (1/2, 1, 2 or 4 hours). Once this period of time has elapsed the thermostat will automatically revert to its low (set-back) setting.

### Control Components

- HC-ST2 Tamperproof Thermostat
- Suitably Rated Contactor



**ESP heaters  
providing cost  
effective heating  
in a showroom in  
Maidstone**

## ESP2 Radiant cassettes - Specifications

Model	Volts	kW	Dimensions (mm)			Mounting Height (m)	Weight (kg)
			H	W	D		
ESP2-09	230	0.9	60	1550	150	2.8 to 10	5.8
ESP2-12	230	1.2	60	1550	150	2.8 to 10	5.8
ESP2-18	230	1.8	60	1550	250	3.0 to 10	9.9
ESP2-24	230	2.4	60	1550	250	3.0 to 10	9.9
ESP2-30	230 or 400/3N	3.0	60	1550	350	3.0 to 10	13.9
ESP2-36	230 or 400/3N	3.6	60	1550	350	3.0 to 10	13.9
ESP2C-06 Compact	230	0.6	60	650	250	2.8 to 10	5.5
ESP2C-08 Compact	230	0.85	60	650	250	2.8 to 10	7.5
ESP2-B	Optional wall brackets (pair) suitable for all ESP2 models						

## Control Options

Model	Description	Full Details on Page
HC-T2	Tamperproof Thermostat	74
HC-ST2	Tamperproof Thermostat with Set-Back	74
HC-D	Tamperproof Tool for Hard Case (HC) range	74
PROTIM-7	Programmable Timer	73

Hard Case models have the option of a remote sensor (see pages 74-75)



**HC-T2 Energy Saving Tamperproof Electronic Thermostat**



**HC-ST2 Tamperproof Thermostat with two adjustable set-points**



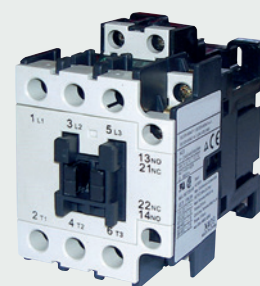
**HC-D Tamperproof Tool for HC-T2**  
Ensuring that only authorised personnel can adjust temperature settings



**PROTIM-7 Programmable Timer**

## Contactors

Model	Poles	Amps per Pole	Max kW per Pole @230V
CON-32	3	32	7
CON-50	3	50	11.5
CON-80	3	80	18
ENCL-D	Enclosure for CON-32 and CON-50		



**Contactor allowing a single thermostat to switch a group of ESP Radiant Cassettes**