Essentia heat detector EDE221-I

The addressable Essentia heat detector features two heat sensors located laterally to ensure accurate heat detection in all orientations.

Figure 1. Essentia heat detector EDE221-I

Feature highlights

- Uses digital communications.
- Compatible with existing bases.
- Has tri-colored LED status indicator and remote indicator output.
- The detector can be locked to the base.
- Eight operating modes (as stated in figure 2).

Application

Fire detectors should be installed in accordance with all local and national laws and codes of practise.

A “R” suffix detector is suitable for areas such as unheated warehouses in which the ambient temperature may be very low for long periods.

A “S” suffix detector is suitable for areas such as kitchens and boiler rooms, where large rapid temperature changes are considered normal.

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Table 1. Essentia heat detector

	TECHNICAL SPECIFICATIONS
Esmi product number	FFS06720302
Model number	EDE221-I
Detection principle	Heat sensitive resistance
Sampling frequency	Once per second
Dimensions incl. base (Ø x H)	100mm x 38,5mm (50,5mm with Intelligent mounting base)
Weight	83g
Color	White
Operating temperature	-40°C to 70°C
Humidity	0% to 95% RH (no condensation or icing)
Supply voltage (Vmin – Vmax)	17-35V DC
Protocol	5-13V
Quiescent current	Isolated detector: 350µA
Power-up surge current	560µA
Maximum power-up time	10s
Alarm current, LED illuminated	3.5mA
IP rating	IP54
Standards & approvals	EN 54-5, EN 54-17, CPR & LPCB
Alarm level analogue value	55
Status indicator	Alarm - Red Fault - Flashing yellow Isolate - Yellow Poll – Green
Terminal functions	+L2 Loop in & out positive -L1 in Loop (isolated) negative -L1 out Loop (isolated) negative +R Remote indicator positive connection (internal connection possible) -R Remote indicator negative connection (4,7mA maximum)

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	TECHNICAL SPECIFICATIONS
isolator data	
Maximum loop current ($I_c$max; L1 in/out)	1A
Maximum series resistance ($Z_c$max; L1 in/out)	80mΩ
Maximum switch current ($I_s$max; L1 in/out)	3A
Maximum leakage current ($I_l$max; during isolation)	33mA (100ms pulse every 2s)
Isolation voltage (V_{so}min –V_{so}max)	12,5-15V DC
Reconnect voltage (V_{sc}min – V_{sc}max)	12,8-19,1V DC

Specifications are typical at 24V, 25°C and 50% RH unless otherwise stated.

Figure 2. Essentia heat detector response modes

Mode	Class EN 54-5	Application Temperature		Static Response Temperature		
		Typical	Maximum	Minimum	Typical	Maximum
1	A1R	25°C	50°C	54°C	57°C	65°C
2	A2R	25°C	50°C	54°C	60°C	70°C
3	A2S	25°C	50°C	54°C	60°C	70°C
4	CR	55°C	80°C	84°C	90°C	100°C
5	CS	55°C	80°C	84°C	90°C	100°C
6*	BR	40°C	65°C	69°C	74°C	85°C
7*	BS	40°C	65°C	69°C	74°C	85°C
8*	A1S	25°C	50°C	54°C	57°C	65°C

**Note: Modes 6, 7 & 8 are exclusively available to fire control panels running Alcore Protocol (if supported)*

Figure 3. Dimensions