

Essentia optical smoke detector EDE-222-I

The addressable Essentia optical smoke detector EDE-222-I with isolator uses new optical sensing technology to detect smoke particles entering the chamber and aims to reduce the possibility false alarms whilst increasing the reliability of detection of a real fire.



Figure 1. Essentia optical smoke detector EDE-222-I

Feature highlights

- Detector utilizes digital communications
- Compatible with Intellia systems.
- Mechanically compatible with existing bases.
- Detector has tri-colored LED status indication and remote indicator output.
- Comprehensively tested to exceed EN 54-7 standard.
- Detector can be locked to the base.
- Has a built-in drift compensation.

Application

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

Optical smoke detectors are recommended for general use, particularly where there is a risk of slow burning fires or where the development of smoke could become the major hazard.

Table 1. Technical Specifications

	TECHNICAL SPECIFICATIONS
Esmi product number	FFS06720301
Model number	EDE222-I
Detection principle	Photo-electric light scattering
Sampling frequency	Once per second
Dimensions incl. base (Ø x H)	100mm x 36mm (48mm 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	IP44
Standards & approvals	EN 54-7, EN 54-17, CPR & LPCB
Clean-air analogue value	23 +4/-0
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)
Isolator data	
Maximum loop current (Icmax; L1 in/out)	1A

	TECHNICAL SPECIFICATIONS
Maximum series resistance (Zcmax; L1 in/out)	80mΩ
Maximum switch current (Ismax; L1 in/out)	3A
Maximum leakage current (Ilmax; during isolation)	33mA (100ms pulse every 2s)
Isolation voltage (Vsomin – Vsomax)	12,5-15V DC
Reconnect voltage (Vscmin – Vscmax)	12,8-19,1V DC

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

Figure 2. Essentia optical smoke detector response modes

Mode	Response Value		Minimum Time to Alarm
	%/m*	dB/m**	Seconds
1	1.4	0.10	5
2	1.4	0.10	30
3	2.1	0.14	5
4	2.1	0.14	30
5	2.4	0.16	5

* Tested in grey smoke

** Tested in oil mist to EN 54-7 standard

Figure 3. Dimensions

