



Enea



Analogue-addressable fire detectors

991d/01
991f/01
991b/01

ED100 - optical smoke detector
ED200 - temperature detector
ED300 - multicriteria detector

0832-CPD-1448
0832-CPD-1450
0832-CPD-1446

For information regarding device placement, coverage and method of installation, refer to the established standard regulations and codes relating to Automatic fire-detection systems. Enea series detectors are compliant with EN54-7: Smoke detectors – Point detectors using the scattered light principle, light transmission or ionization (ED100 and ED300 models only) and EN54-5: Heat detectors – point detectors (for ED200 and ED300 models only), EN54-17 short-circuit isolators.

ATTENTION!



Product description

Enea series detectors are capable of sensing a number of combustion products suspended in the atmosphere and thus the onset of fires.

The operating parameters of these detectors can be changed, via the connected control panel, to suit specific environment conditions. These detectors are connected to the fire control panel via a 2 pole twisted-shielded cable. The cable carries the power supply to the various devices and also the two-way digital transmission data.

Each detector has a short-circuit isolator that, in the event of short-circuit between the two poles and the control panel (loop), is capable of interrupting the negative pole, thus isolating the section involved in the short-circuit event. For the isolator specification, please refer to the "ILP Specification" document.

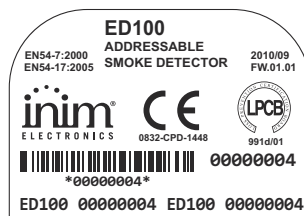
INIM Electronics offers three Enea series analogue fire-detectors, which can be identified by the Technical specifications/ Serial number sticker on the back of the device.

ED100

Optical detector equipped with a reference chamber based on the scattered light principle (Tyndall effect). The detector must be installed in draught and obstacle free place which guarantees appropriate air-flow into the reference chamber.

The detector will trigger an alarm when the level of smoke inside the reference chamber reaches the alarm values set for the detector in the control panel:

- 0.08 dB/m
- 0.10 dB/m
- 0.12 dB/m (pre-set mode)
- 0.15 dB/m

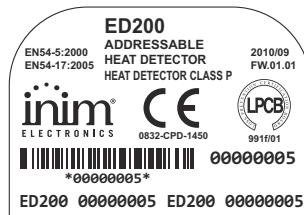


ED200

Heat detector with heat-sensitive element capable of sensing the temperature within the protected environment.

The programmable operating modes are:

- "A1R" (pre-set); the detector signals alarm status when the temperature within the protected environment exceeds 58 °C or when the temperature undergoes anomalous changes.
- "B"; the detector signals alarm status when the temperature within the protected environment exceeds 72°C.
- "A2S"; the detector signals alarm status when the temperature within the protected environment exceeds 58°C.
- "BR"; the detector signals alarm status when the temperature within the protected environment exceeds 72° or when it senses a rapid temperature rise.



The operating modes of the "A2S" and "BR" are not certified.

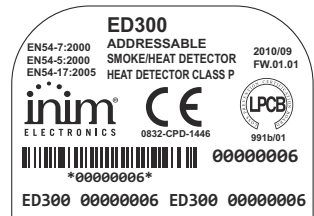
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ED300

Opto-heat detector with and optical reference chamber and heat sensitive element. The combination of values provides (in accordance with the operating mode selected via the control panel) high immunity to nuisance alarms and an exceptionally sensitive detector which is capable of swift response to developing fires characterized by low smoke emission.

The operating modes, programmable via the control panel are:

- "PLUS" (pre-set); the detector signals alarm status when smoke in the protected environment exceeds the programmed threshold (programmed as described for the ED100 model) or when the temperature within the protected environment exceeds the programmed threshold (programmed as described for the model ED200). Furthermore, in the event of a rise in temperature within the protected environment, the sensitivity of the smoke chamber will be increased. This operating mode, characterized by high sensitivity, allows detection of fires which produce a large amount of flames but low smoke emission (e.g. combustion of alcohol or similar highly-inflammable products) .
- "OR"; the detector signals alarm status when smoke in the protected environment exceeds the programmed threshold (programmed as described for the ED100 model) or when the temperature within the protected environment exceeds the programmed threshold (programmed as described for the ED200 model). This operating mode, characterized by medium-high sensitivity, allows detection of fires which generate a substantial amount of smoke but low heat emission (slow burning fires) as well as fires which generate high temperatures and low smoke emission (chemical products).
- "AND"; the detector signals alarm status when the smoke and temperature in the protected environment exceed the programmed thresholds simultaneously (programmed as described for the ED100 model and ED200 respectively). This operating mode, characterized by a low sensitivity, lowers the false alarm rate and is useful in applications where either the smoke or heat values in the protected environment may increase without the risk of fire.



Given the limited response, consider the conditions in the protected environment carefully before selecting this operating mode.

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- "SMOKE"; the detector assumes the characteristics of the ED100 model.
- "HEAT"; the detector assumes the characteristics of the ED200 model.

TECHNICAL SPECIFICATIONS	ED100	ED200	ED300
Power supply		19-30 Vdc	
Average current draw in standby		200µA	
Average current draw in alarm		10 mA @27.6V	
Current draw by the "R" output (internally limited)		Max 14mA	
Reference Standards for smoke detectors	EN54-7:2000+A1:2002 +A2:2006		EN54-7:2000+A1:2002 +A2:2006 and CEA4021
Reference Standards for temperature detectors		EN 54-5:2000+A1:2002	EN 54-5:2000+A1:2002 and CEA4021
Reference Standards for short-circuit isolator		EN 54-17:2005	
Operating temperature		-5°C / +40°C	
Humidity (without condensation)		95% RH	
Height (standard base included)	46mm		54mm
Diameter (standard base included)		110mm	
Weight (standard base included)		160gr	
Weight (without base)		91gr	

Installation

The detectors are supplied with protective covers which help to protect them against minor damage and dust contamination which may occur during the installation phase. The covers should not be removed until the system is ready to start up.

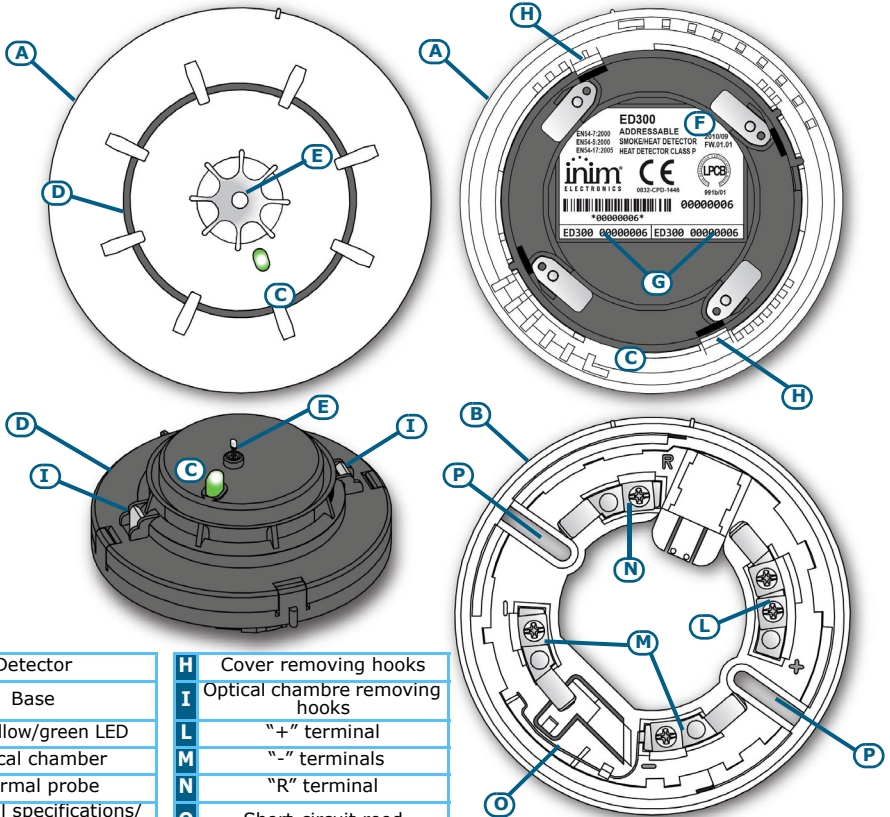
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Enea series detectors can be used with one of the following compatible mounting bases:

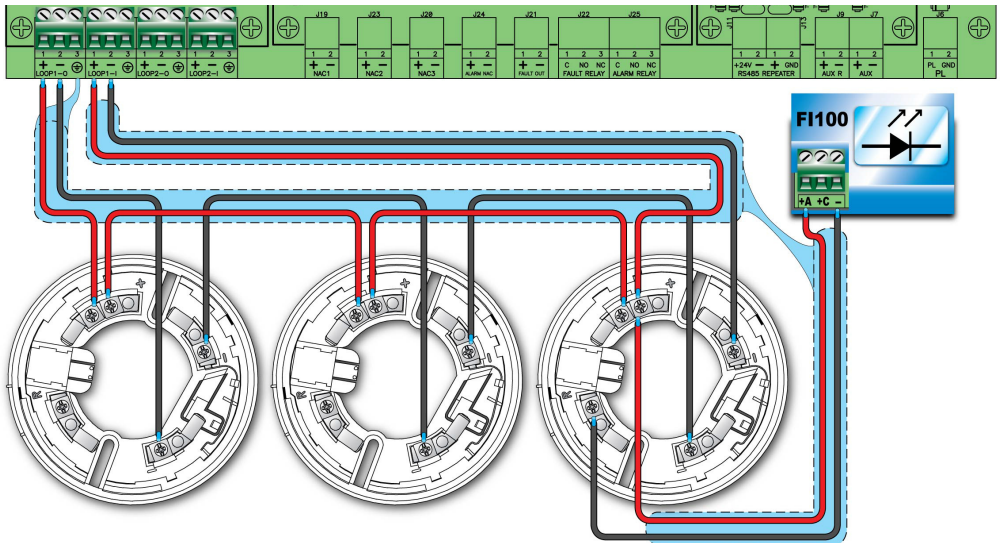
- **EB0010**; standard base
An example of installation using standard bases is shown opposite.
- **EB0020**; relay base
Appropriate when the detector is to be connected to an intrusion control panel or to a control panel using 4 wires. For the respective wiring instructions, refer to the leaflet supplied with the EB0020.

The two removable serial-number stickers should be taken off and one should be attached to the mounting base and the other to the installation layout.

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A	Detector	H	Cover removing hooks
B	Base	I	Optical chamber removing hooks
C	Red/yellow/green LED	L	"+" terminal
D	Optical chamber	M	"-" terminals
E	Thermal probe	N	"R" terminal
F	Technical specifications/serial-number sticker	O	Short-circuit reed
G	Removable serial-number stickers	P	Screw locations



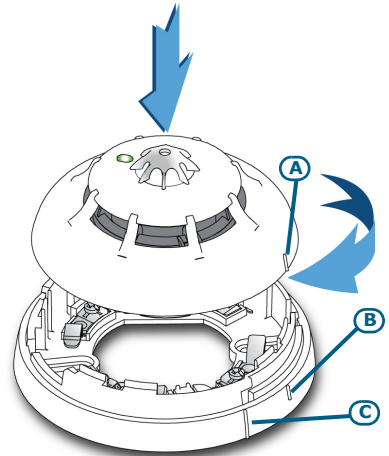
Once the base is located properly in its placement, place the detector unit onto the base and, with minimum force, turn it clockwise until notch "A" aligns with notch "B" (in order to attach the detector to the base); turn it still further until notch "A" aligns with notch "C" (in order to allow the base to engage with the detector contacts).

When installation of all the loop devices is complete, proceed with the addressing phase. Refer to the respective section in the control panel installation and programming manual.

Testing and maintenance

After installation and during periodic maintenance inspections, you must carry out the following operations on each detector:

- **Check the LED;** if the yellow LED is On solid, the detector is in fault status. The detector may simply require cleaning, however, if after cleaning, this condition persists, you should remove the faulty detector and replace it with a new one. The control panel will allow you to trace and identify the cause of the fault.
- **Optical smoke detector test;** smoke detectors should be tested immediately after installation and periodically during maintenance inspections in accordance with the established standard regulations and codes in force. To test smoke detectors, use an approved test aerosol strictly in accordance with the accompanying instructions. Ensure that the smoke inlet ports to the smoke detection chamber are not blocked. Check the contamination level of the smoke detection chamber via the control panel. If the contamination level is high (above 50%), detach the detector from its mounting base, open the device and, using a small, soft-bristle brush or hand-held vacuum cleaner remove all dust particles from inside and around the smoke detection chamber and free the protection net from all contaminants.
- **Heat detector test;** using a suitable device (e.g. hairdryer), create heat in the vicinity of the detector, then work through the steps described in the device instruction sheet. During each periodic maintenance inspection, ensure that the heat element is intact and that is not obstructed by dust or paint. If it is, using a small, soft-bristle brush or hand-held vacuum cleaner remove all contaminants.



Operating mode

The three-colour LED (360° viewing) indicates the detector status, as follows:

- Green blinking at 15-second intervals; the detector is in standby status (i.e. operating properly).
- Green On solid; the LED has been activated manually from the control panel. This operation allows easy identification of the detector.
- Yellow On solid; the detector is in fault status or has detected a short-circuit in the succeeding wiring section (short-circuit isolator open). Further details regarding the fault can be obtained through the control panel.
- Red On solid; the detector is in alarm status. Further details regarding the alarm can be obtained through the control panel.

Each detector has an output (terminal "R"), for the connection of an alarm repeater LED. This LED will activate in accordance with programming carried out via control panel. The detector is also capable of discerning whether its repeater LED has been connected. This function provides indications (on the control panel) regarding the detectors with connected LEDs, and also fault signals in the event of disconnection.

Using the EITK-DRV driver

The EITK-DRV driver allows you to change the operating parameters of the detectors, check the contamination level of the smoke chambers and also obtain accurate diagnostic data. It can operate through the USB port of a computer furnished with the relative software programme, or can function autonomously by way of the battery housed inside.

Each detector is capable of retaining memory (smoke and/or temperature depending on the model) of the 5 minutes prior to an alarm. Therefore, if an alarm occurs, it will be possible to obtain information regarding the onset of the fire by simply connecting the EITK-DRV driver to the detection line.

For further information and details regarding use of the EITK-DRV driver, refer to the respective handbook.

Warnings and limitations

Enea series detectors must be used exclusively with fully compliant, compatible control panels. Detectors may not provide timely warning of fire if coverage is limited by large obstructions (pillars, large machinery, etc.). When installing or working on a fire detection system, always refer to and comply with the established standard regulations and codes. Appropriate fire-risk assessment should be undertaken to determine the type of detectors required and their placements.

INIM Electronics reserves the right to change the technical specifications of this product without prior notice.

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