

EN 54-27

Duct Detector Housing

Box with accessories for addressable smoke duct detectors *SensolRIS Duct* and *Vella Duct*, and conventional smoke duct detector *SensoMAG Duct*

ATTENTION: Read carefully this installation Instructions before installing the device!
This manual is subject to change without notice!

General Description

Duct Detector Housing is a compact box specially designed for operation with smoke fire alarm detectors. The main application of this unit, is for detection of smoke in HVAC (heating, ventilation, and air-conditioning) systems. The housing is equipped with clear transparent cover suitable for monitoring and visual inspection. The box can be mounted horizontally or vertically to the HVAC duct or large diameter pipes. The Duct Detector Housing operates at airflow speed in range from 1m/s to 20m/s.

The housing comes in a set with sampling and exhaust tubes for flowing and passing the air through the sensing chamber of the mounted optical-smoke detector. When high levels of smoke are sensed, the detector sends a fire alarm signal to the addressable or conventional fire alarm control panel, which starts emergency procedures for shutting off the automatic fans and blowers, activates different air handling devices and systems to limit the smoke spreading in the building.

Advantages

- Transparent cover for clear visual inspection
- Convenient for operation in addressable and conventional fire alarm systems
- Large internal space for cable running
- Securing the box against unauthorized opening
- Optional 1200mm sampling tube for applications in larger ducts, suitable for cutting according the needs (sold separately, art. number: 33000490)

Functional Features

Airflow speed	from 1m/s to 20m/s
Box material	ABS plastic
Color	white/transparent
Tubes material	Aluminum
Exhaust/Sampling tube dimensions	Ø20mm x 270mm
Box protection	IP30
Mounting	Indoor

Compatible Products

Duct Detector Housing is designed for operation with fire alarm smoke detectors produced by Teletek Electronics JSC. According the type of the fire alarm control panel - addressable or conventional - is used one of the following combinations for complete operational duct detector device:

- **SensolRIS Duct is an addressable fire alarm duct detector**, which includes:
 - Duct Detector Housing
 - SensolRIS B124* fire base
 - SensolRIS S130IS* optical-smoke detector with built-in isolator module.
- **Vella Duct is an addressable fire alarm duct detector**, which includes:
 - Duct Detector Housing
 - SensolRIS B124* fire base
 - Vella S130IS* optical-smoke detector with built-in isolator module.
- **SensoMAG Duct is a conventional fire alarm duct detector**, which includes:
 - Duct Detector Housing
 - SensoMAG B24* fire base
 - SensoMAG S30* optical-smoke detector.

* Sold separately.



Duct Detector Housing . . . ~470g
SensolRIS Duct ~600g
Vella Duct ~600g
SensoMAG Duct ~580g



-10°C ÷ +60°C
(93±3)%@+40°C



Indoor use



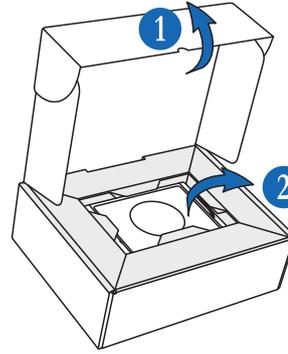
0.5-2.5mm²
(wiring cables for the fire base)



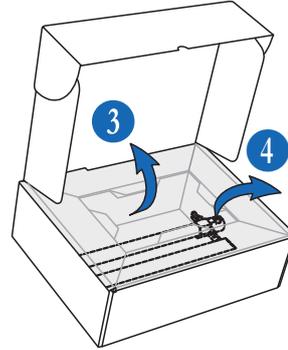
ABS



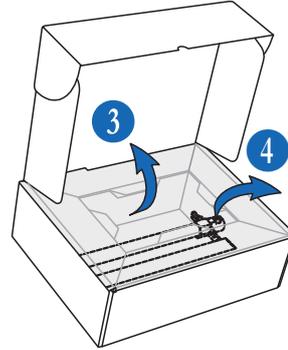
Unpacking



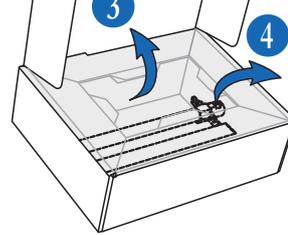
1 Open the packing box



2 Take out the Duct Detector Housing box



3 Pick up and open the internal paper holder, as tear its front side out and unfold it towards the cover of the packing box



4 Take out the exhaust and sample tubes from the bottom of the internal paper holder



Included parts and accessories



x 2 Rubber caps Ø20mm



x 8 Screws Ø2.9x13 DIN 7981:
4 pcs for security of the box,
4 pcs for fixing the tubes to the bottom



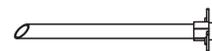
x 2 Screws Ø3.5x9.5 DIN 7981, for fixing the fire base to the bottom



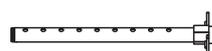
x 1 Rubber mounting pad, plain, dimensions 160x77x2mm



x 1 Rubber sealant, round cross section Ø2.5mm, length ~580mm, factory mounted on the back side of the front cover



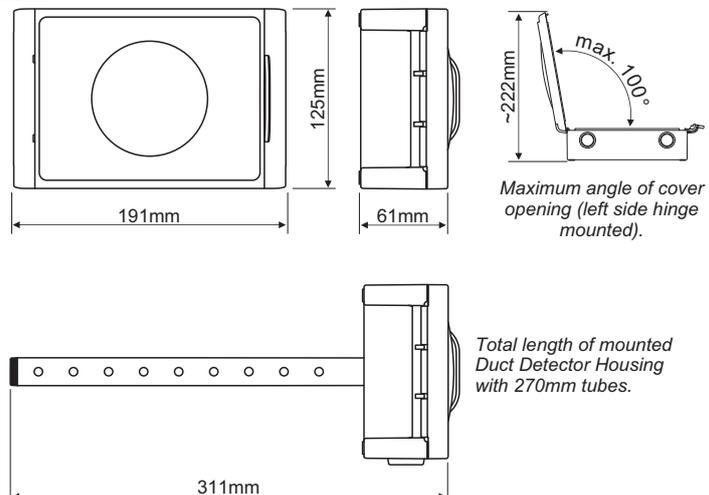
x 1 Outlet exhaust tube, Ø20mm, total length 270mm, used length 250mm, with mounted holder



x 1 Inlet sampling tube, Ø20mm, total length 270mm, used length 250mm, with mounted holder and plastic cap

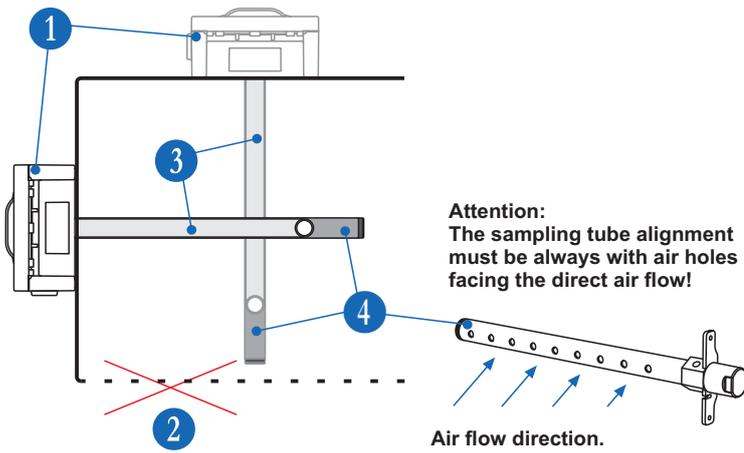


Dimensions

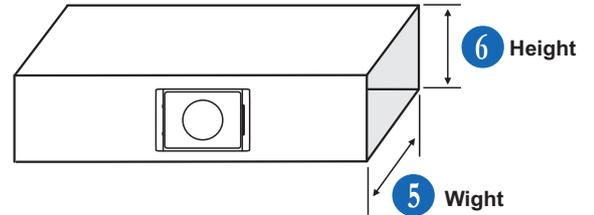




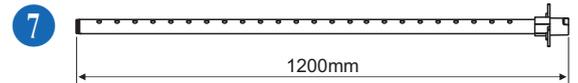
Mounting



1. Correct position of the Housing.
2. Do not mount Housing on the duct bottom.
3. Exhaust tube, 270mm (supplied with the Housing).
4. Sampling tube. The length of the sampling tube depends on the duct wight. Use the 270mm sampling tube (supplied with the Housing) for rectangular ducts with wight up to 500mm.

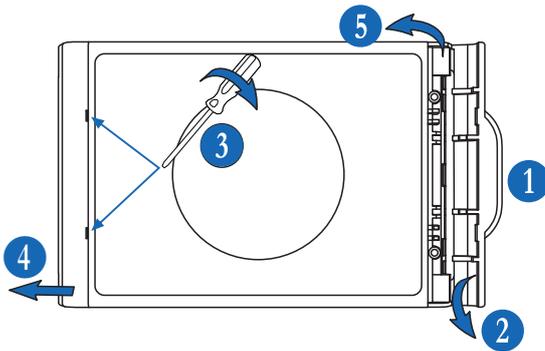


5. Wight of the ventilation duct.
 - For duct wight up to 500mm, use the 270mm sampling tube.
 - For duct wight over 500mm, use optional (sold separately) 1200mm sampling tube - see item 7. The length of the cut sampling tube must penetrate at least of 90% of the duct width.
6. Height of the ventilation duct. For mounting of the Duct Housing on the upper side of the rectangular duct, apply the same directions given in item 5.



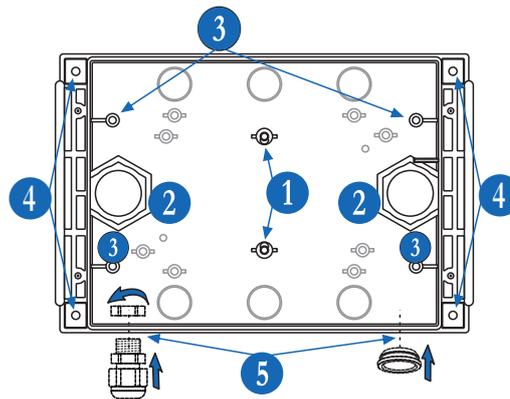
7. Sampling tube 1200mm, sold separately, art. number: 33000490. The tube is suitable for cutting according to the needs of the installation. In case of cutting the 1200mm sampling tube, cut only between the holes and move the closing cap at the end.

1 Opening of the housing box



1. Press the handle of the right side hinge and open it.
2. Press lightly downwards to dismantle the hinge from the box bottom.
3. Use a flat screwdriver to open the left side hinge - put it in the openings and rotate.
4. Pull aside the left hinge to dismantle it from the box bottom.
5. Open the front cover and dismantle it from the box bottom.

2 Elements of the housing box bottom

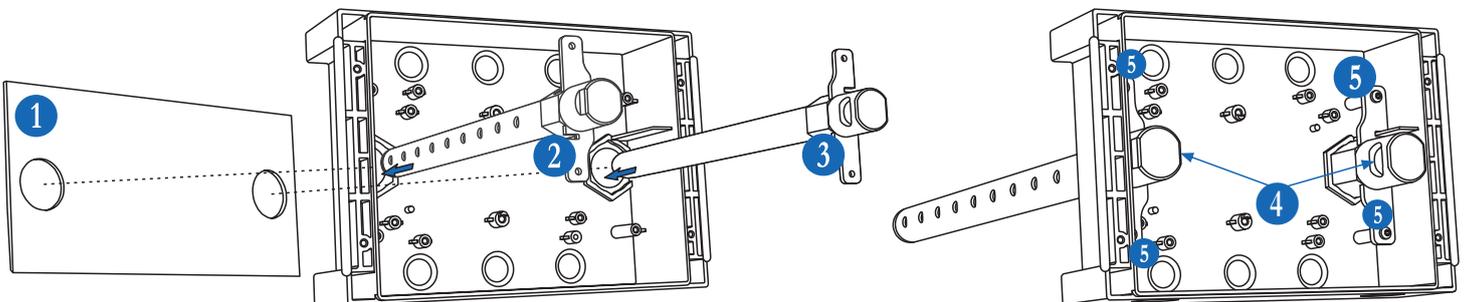


1. Supports for fixing the fire base with screws Ø3.5x9.5 DIN 7981.
2. 2 x M20 holes for placing the exhaust and sampling tubes.
3. Supports for fixing the exhaust and sampling tubes to the housing box bottom with screws Ø2.9x13 DIN 7981.
4. 4 x Ø3.5mm holes for surface mounting of the housing box bottom. Use suitable fixing elements according the mounting surface.
5. 2 x M20 openings for running cables. The unused openings must be closed with the provided rubber caps. For mounting in aggressive environments use IP65 or higher rated cable glands for cable running.

The picture is illustrative. The number and position of the mounted elements may differ according the type, size and organization of the installation system.

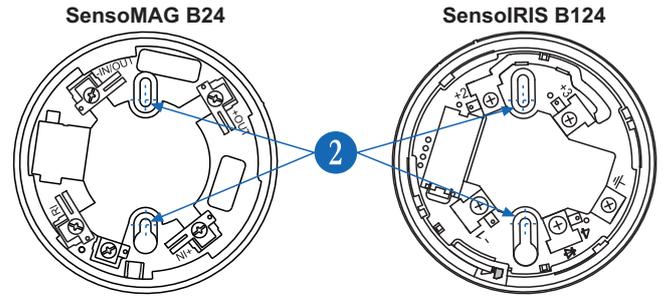
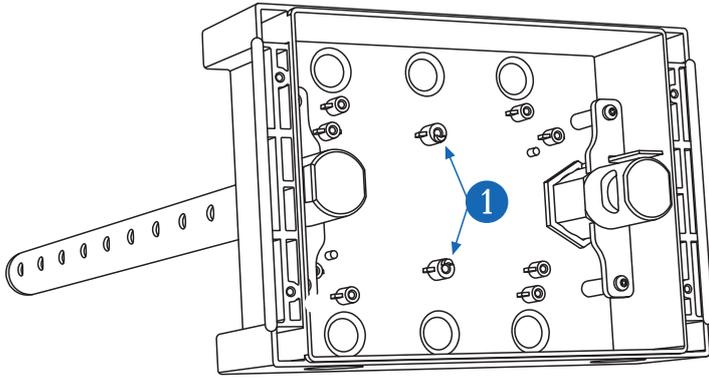
3 Mounting diagram

The places of the tubes can be changed in revers according the diagram, as the air holes of the sampling tube must be facing the direct air flow.



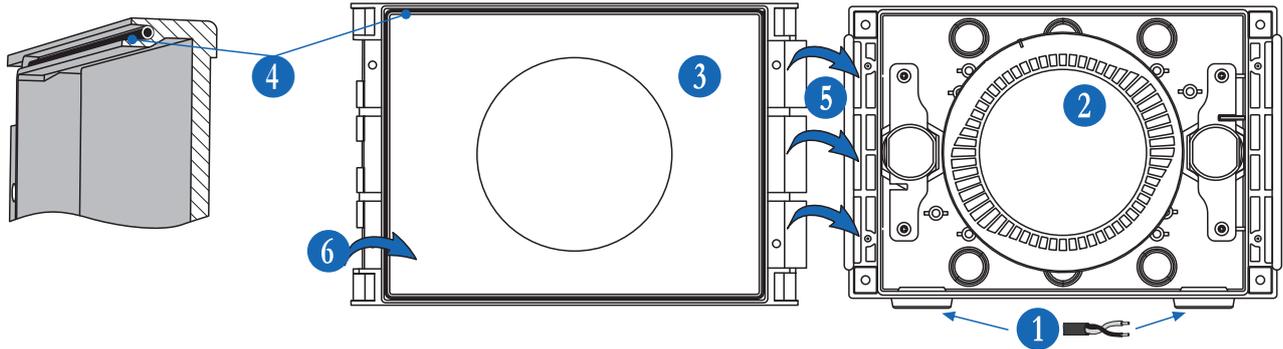
1. Rubber mounting pad with two openings M20. The openings must match with the holes of the box bottom for mounting the tubes. The pad is used as anti-vibration insulation between the duct detector housing and the HVAC duct.
2. Sampling tube. The air holes must be towards the air flow passing through the duct.
3. Exhaust tube.
4. Ventilation holes on the inner side of the tube holder. The holes are designed to point directly to the optical-smoke chamber of the fire detector. Via the ventilation holes, the gathered air from the HVAC duct is passing freely through the duct detector housing.
5. Screws Ø2.9x13 DIN 7981 for fixing the holders of the tubes to the box bottom.

4 Compatible fire bases



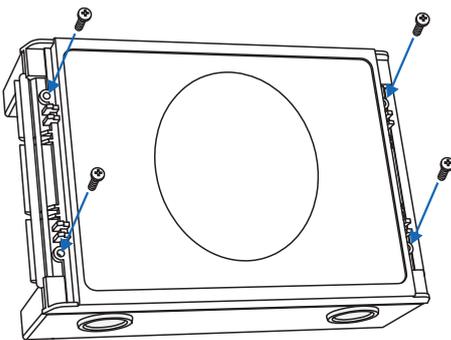
1. Supports for fixing the fire base with screws Ø3.5x9.5 DIN 7981
2. Mounting holes for installation of the fire bases into the Duct Detector Housing

5 Closing the Duct Detector Housing



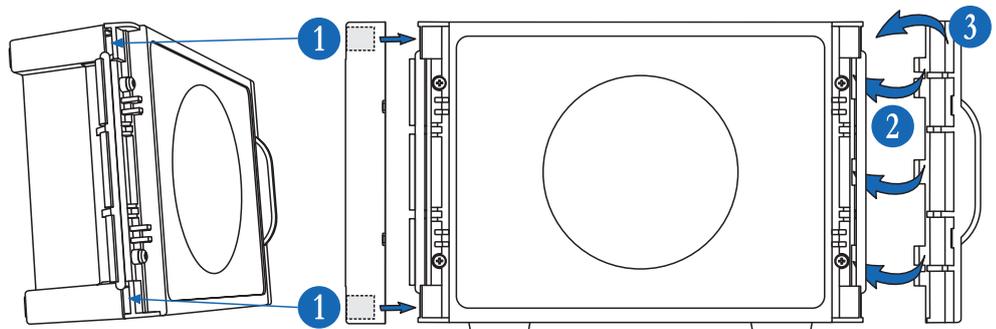
1. **Power off the loop or line circuit!** Run the cables to the base terminals according to the type of the detector - conventional or addressable. See the connection diagrams in sections 9 and 10.
2. Mount the optical-smoke detector to the base - SensoIRIS S130IS, Vella S130IS or SensoMAG S30, according to the fire alarm system.
3. Take the front cover and turn it to the back side as shown.
4. Check the rubber sealant for protection - it must be placed along the whole channel on the back side without any damages or cutting.
5. Attach the front cover to the left side of the box bottom (left side hinge junction).
6. Close the front cover and press until a click is heard (right side hinge junction).

6 Security screws



Use the supplied with the housing screws for fixing the front cover to the box bottom.

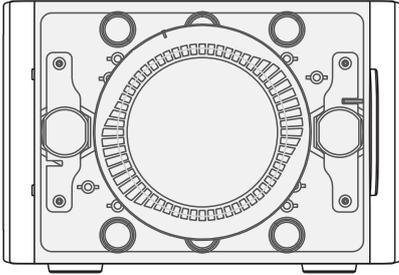
7 Mounting the hinges



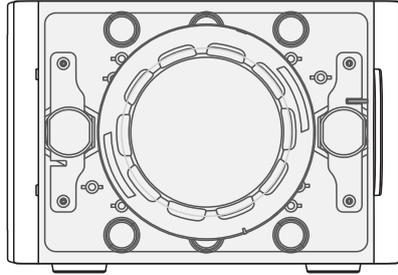
1. Match the ribs on the back side of the left hinge with the cavities formed between the front cover and the bottom. Press the left hinge towards until a click is heard.
2. Attach the spherical ribs of the right hinge to the box bottom as shown.
3. Rotate the right side hinge to close and press until a click is heard.

8 Duct Detector Housing Compatibility - Certified Duct Detectors models according EN 54-27

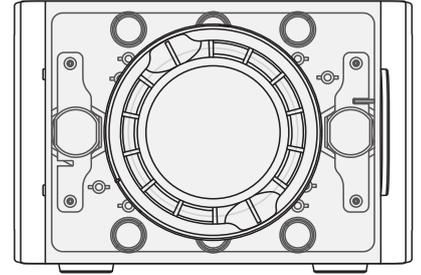
SensoIRIS Duct
Addressable duct detector



Vella Duct
Addressable duct detector

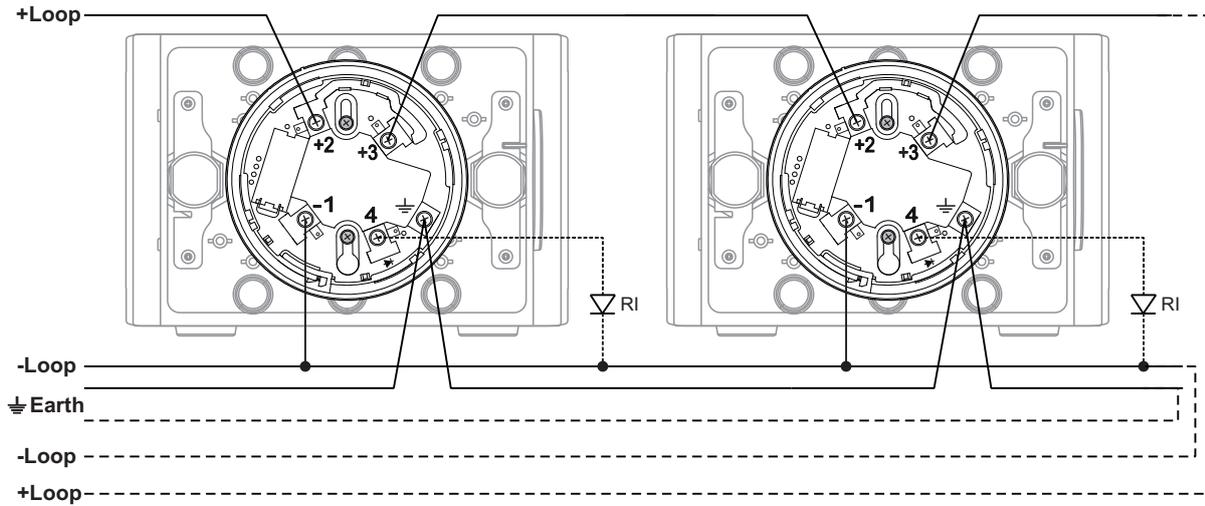


SensoMAG Duct
Conventional duct detector



9 SensoIRIS Duct and Vella Duct Connection Diagrams

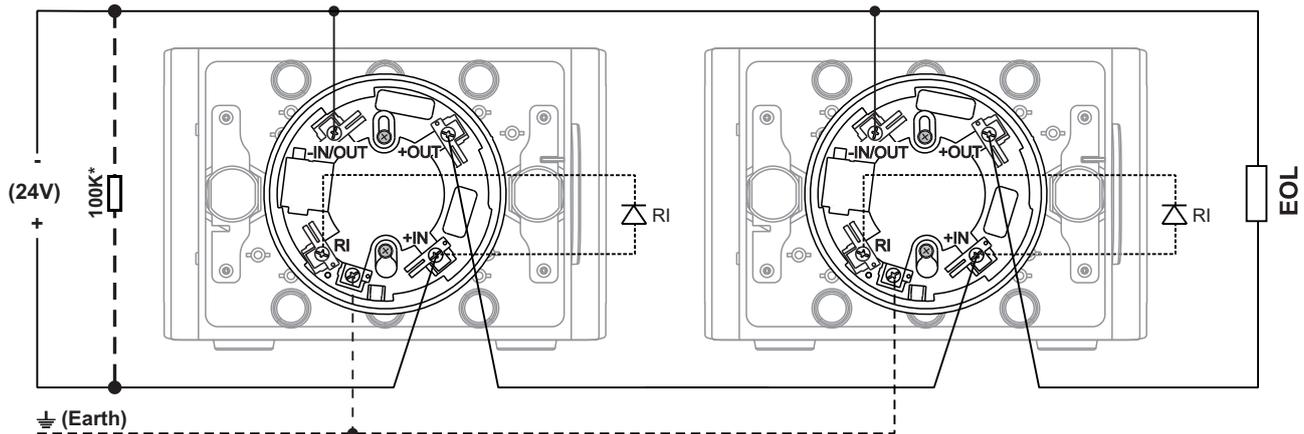
SensoIRIS Duct and Vella Duct are designed for installing in addressable fire alarm systems supporting TTE communication protocol. The duct detector is powered on from the panel and can be controlled via the communication protocol. The addressable detectors SensoIRIS Duct and Vella Duct are compatible with SensoIRIS B124 fire base when mounted into Duct Detector Housing enclosure box.



Legend: RI - Remote Indicator (optional); **+Loop** - Positive loop wire; **-Loop** - Negative loop wire; **Earth** - Earth point

10 SensoMAG Duct Connection Diagrams

SensoMAG Duct is designed for installing in conventional fire alarm systems, including MAG series fire alarm panels. The duct detector is powered on from the conventional zone line. The conventional detector SensoMAG Duct is compatible with SensoMAG B24 fire base when mounted into Duct Detector Housing enclosure box.



Legend: RI - Remote Indicator (optional); $\pm(24\text{ V})$ - Power supply of the zone line ; **Earth** - Earth point; **EOL** - End of line module

***ATTENTION:** When the EOL-module is only a capacitor, IT IS OBLIGATORY TO CONNECT a 100K resistor in parallel at the beginning of the line!