SPECTRE

E-PREDICT INDUSTRY AIRFLOW (Ref: HDS_SPVENT_FR)

THIS DOCUMENT APPLIES TO E-PREDICT INDUSTRY AIRFLOW V3 ONLY.

TO CHECK YOUR PRODUCT VERSION, PLEASE SCAN THE QR CODE LOCATED ON THE FRONT OF THE E-PREDICT WITH YOUR SMARTPHONE CAMERA.

THE INDICATED URL WILL SHOW YOUR PRODUCT VERSION.

1. E-PREDICT INDUSTRY V2: you are not on the correct document

https://www.hdsn.fr/interventionsv2?E-PREDICT-INDUSTRY;xxxxxxxxx;AAAA
https://www.hdsn.fr/V2?E-PREDICT-INDUSTRY;xxxxxxxxx;AAAA

2. E-PREDICT INDUSTRY V3: you are not on the correct document

https://www.hdsn.fr/V3?E-PREDICT-INDUSTRY;xxxxxxxxx;AAAA

3. E-PREDICT INDUSTRY AIRFLOW V2: you are not on the correct document

https://www.hdsn.fr/interventionsv2?E-PREDICT-INDUSTRY-AIRFLOW;xxxxxxxxx;AAAA
https://www.hdsn.fr/V2?E-PREDICT-INDUSTRY-AIRFLOW;xxxxxxxxx;AAAA

4. **E-PREDICT INDUSTRY AIRFLOW V3**

https://www.hdsn.fr/V3?E-PREDICT-INDUSTRY-AIRFLOW;xxxxxxxxx;AAAA

5. E-PREDICT MARINE V2: you are not on the correct document

https://www.hdsn.fr/interventionsv2?E-PREDICT-MARINE;xxxxxxxxx;AAAA
https://www.hdsn.fr/V2?E-PREDICT-MARINE;xxxxxxxxx;AAAA

6. E-PREDICT MARINE V3: you are not on the correct document

https://www.hdsn.fr/V3?E-PREDICT-MARINE;xxxxxxxxx;AAAA

7. OTHERS: you are not on the correct document

Please contact HDSN: sav@hdsn.fr.

TECHNICAL SPECIFICATIONS AND SAFETY INSTRUCTIONS

05/09/2025

E-PREDICT INDUSTRY AIRFLOW is an intelligent sensor designed to prevent damage to electrical **cabinets with permanently forced ventilation**—such as service interruptions, equipment degradation, or destruction—by detecting early signs of abnormal overheating. It operates by analyzing gases and airborne particles to identify potential issues.

This solution is particularly effective in identifying abnormal temperature rises in electrical equipment, which may result from:

- Bad electrical connections
- Cables operating beyond their rated specifications

The E-PREDICT V3 version makes it possible to distinguish between different types of alarms, whether due to abnormal overheating detected in the electrical cabinet, a non-operational device, or a power loss. All the existing features of the previous version are fully retained.

WARNING

Please ensure that you follow the installation instructions provided in this document. These instructions are also permanently available via the APPREDICT smartphone application.

Any installation that does not comply with the manufacturer's guidelines is undertaken under your responsibility.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH

Installation must be carried out by qualified personnel wearing appropriate personal protective equipment (PPE) and adhering to standard electrical safety procedures.

All power sources connected to the equipment must be completely disconnected before performing any internal or external operations.

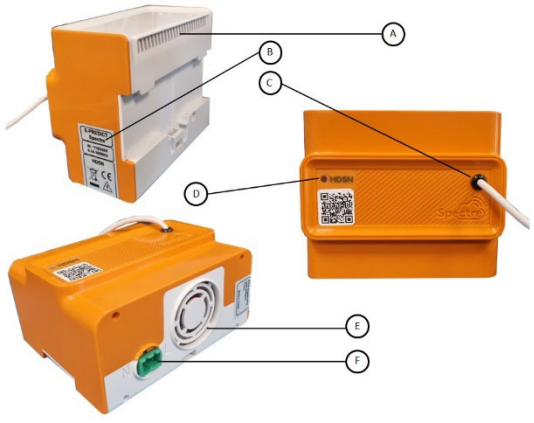
Ensure that all equipment, doors, and covers are properly replaced before powering on the E-PREDICT system. Be mindful of potential hazards and double-check that no tools or objects are left inside the enclosure.

SPECTRE

E-PREDICT INDUSTRY AIRFLOW (Ref: HDS_SPVENT_FR)

1. OPENING THE BOXS FOR INSTALLATION

2. DESCRIPTION



A. Output ventilation
B. Device label
C. Dry contact cable of 3 meters
D. Led status
E. Input ventilation
F. 230 V ~ power supply connector

3. LED STATUS

- Blinking green (1s/1s): normal operation during the first 30 minutes after power-up
- Fixed green: normal operation after the first 30 minutes
- Fixed orange: E-PREDICT not operational (alert)
- Blinking orange (1s/1s): E-PREDICT fan does not rotate properly (alert)
- Fixed red: alarm in progress (overheating in the electrical cabinet)

4. SECURITY INSTRUCTIONS

FIRE HAZARD

E-PREDICT does not replace existing fire protection systems in the building.

Do not disable other monitoring and safety devices on the equipment.

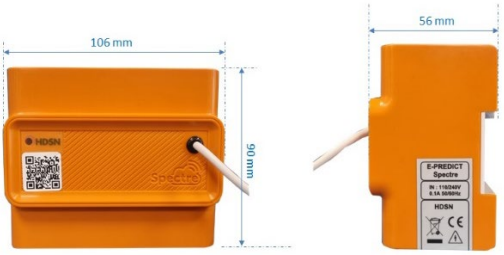
Failure to follow these instructions may result in death, serious injury, or equipment damage.

WARNING

	Equipment protected throughout by DOUBLE INSULATION or REIN-FORCED INSULATION.
	Caution, possibility of electric shock.
	WEEE directive 2012/19/EU (Waste electrical and electronic equipment)
	Equipment capable of being exposed to 70°C. Use cables provided for this purpose.

5. DIMENSIONS

Space required in the cabinet: 6U.



6. INSTALLATION

The maximal volume of the electrical cabinet for correct working is 1.035m^3.

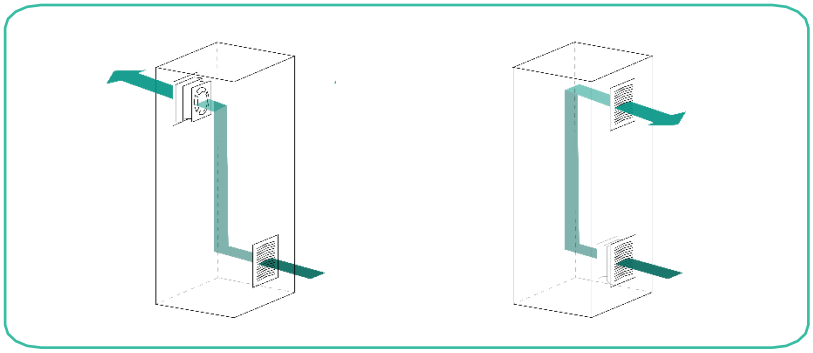
The detection capability of E-PREDICT may be degraded depending on its installation and usage within the equipment.

RECOMMENDATIONS

The recommended installation location for E-PREDICT is **inside the cabinet** and **in front of the ventilation grid (output)**.

Install E-PREDICT inside only (room).

The device must be installed **only** in a closed electrical cabinet with **permanently forced ventilation (air flow under 300 m^3/h)**.



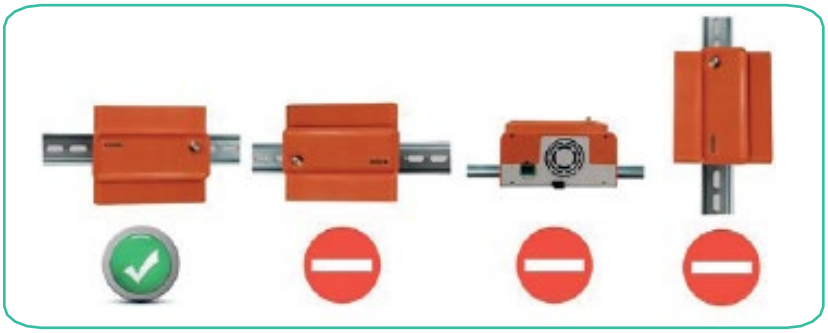
Do not install E-PREDICT INDUSTRY AIRFLOW in:

- Equipment **without forced ventilation**.
- Equipment with **forced ventilation above 300 m^3/h**.
- Equipment with **cyclical forced ventilation**.

We recommend performing THERMOGRAPHY and ensuring all cabinet equipment is securely tightened before commissioning E-PREDICT.

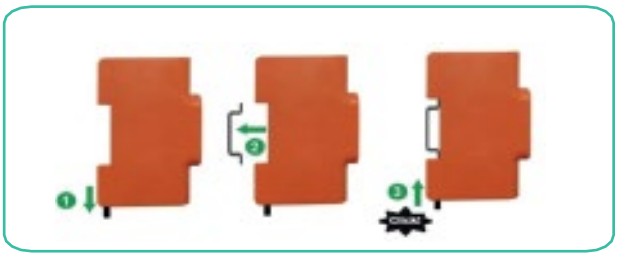
Note: An electrical fault above the E-PREDICT may go undetected.

E-PREDICT must be installed following the orientation described below. The integrated fan of E-PREDICT must be positioned at the bottom.



For DIN rail installation:

1. Declip the clip
2. Place the DIN rail
3. Clip the clip



2A Breaker

Please use a 2A breaker that must be:

- Properly placed
- Easily accessible
- Identified as E-PREDICT cutoff device

The characteristics of the overcurrent protection system shall withstand 2A.

7. DRY CONTACT

Below the schematic of the dry contact when E-PREDICT is powered and operational.

Limitations: 48V – 2A

Wire connexion:

- Red = Closed
- Black = Com
- Yellow = Open

The new management of dry contact now makes it possible to clearly distinguish between alarms, alerts, and power losses of the E-PREDICT device. The operation of this contact is based on specific coding, as detailed below:

Normal status (no alarm or alert – E-PREDICT with green LED):

- Red / Black closed
- Yellow / Black open

Power loss (E-PREDICT with LED off):

- Red / Black open
- Yellow / Black closed

Alarm (overheating detected in the electrical cabinet – E-PREDICT with red LED) – switching sequence:

- Yellow / Black closed for 2 seconds
- Red / Black closed for 2 seconds
- Yellow / Black remains closed (until E-PREDICT restart)

The contacts switch alternately.

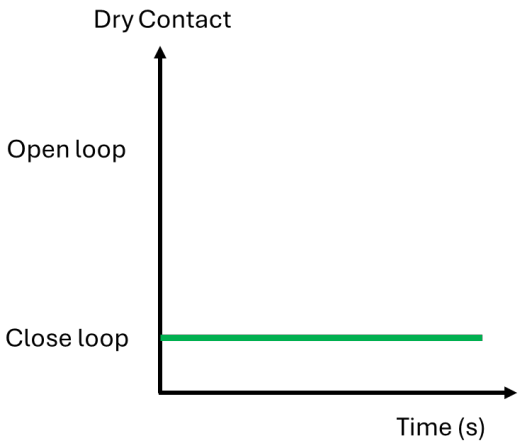
Alert (device is not operational – E-PREDICT with orange LED) – switching sequence:

- Yellow / Black closed for 2 seconds
- Red / Black closed for 2 seconds
- Yellow / Black closed for 2 seconds
- Red / Black closed for 2 seconds
- Yellow / Black remains closed (until E-PREDICT restart)

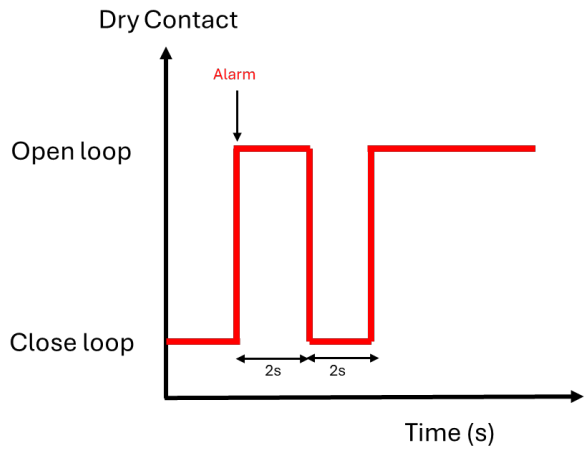
The contacts switch alternately.

The following schematics present the dry contact states with red and black wires:

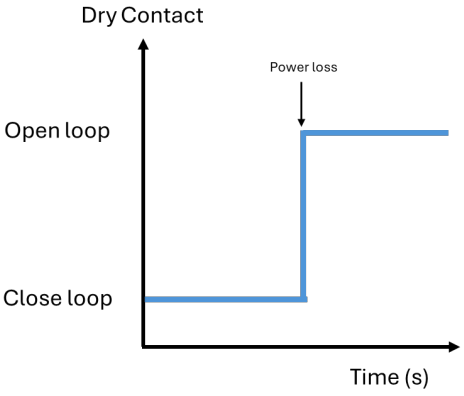
NORMAL OPERATION
NO ALARM, NO ALERT



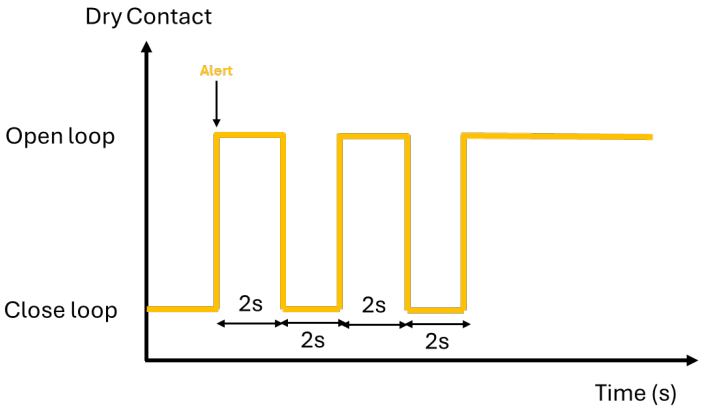
ALARM
(detection of abnormal overheating inside the electrical cabinet)



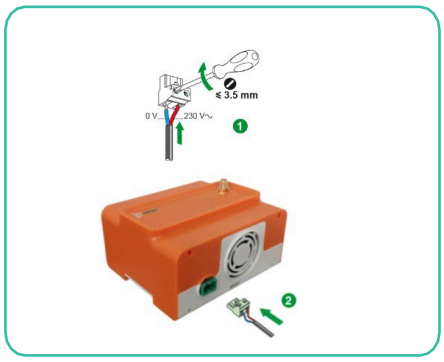
POWER LOSS



ALERT (device not operational)



8. POWER SUPPLY CONNECTION



Cable cross section: 1,5mm².

HDSN recommends the use of a secured power supply for E-PREDICT in order to ensure continuous monitoring of the cabinet, even in the event of a power outage. Please note that each time the system restarts, E-PREDICT will initiate a new learning phase lasting 8 hours and 30 minutes.

9. TECHNICAL CHARACTERISTICS

Power supply: 110/240 V~ (+/- 10%)

Frequency: 50/60 Hz

Maximum consumption: 0,1 A

Operating temperature: -15°C to +68°C

Relative humidity: 20% to 85 %

Altitude of use: 0 to 2000 m

Overvoltage category: III

CEM per: EN301489-17 V3.1.0, EN301489-1 V2.2.0, EN61326-1: 2013

Pollution degree: 2

Dimensions: 106x62x90 (WxDxH)

Weight: 240 g

Protection index: IP31 and IK06

E-PREDICT has a built-in algorithm with an alarm check and trigger loop every 30 seconds.

Each time the E-PREDICT is powered on, it realizes a new learning of the environment. The time before optimal operating conditions is**: 8 hours and 30 minutes**.

10. APPREDICT

APPredict is used to:

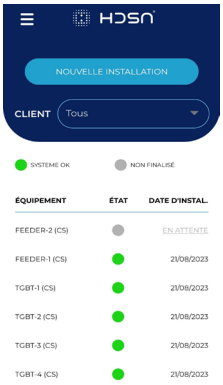
- Assist with the installation in accordance with the manufacturer's recommendations.
- Activate the product warranty and support services (**mandatory**).

To ensure optimal operation of the system, it is recommended to perform check by thermography of the protected equipment when E-PREDICT is powered-up.

Download APPredict in scanning the QR code below :

Télécharger dans l'App Store

DISPONIBLE SUR Google Play



After downloading the application, the login page appears.

- If you have an installer account, please enter your login details.
- Otherwise, click on the "Create an account" button. A real e-mail address is required.

If you have forgotten your password, you can generate a new one by clicking on the "Forgot password button".

To install a new E-PREDICT in the protected equipment, press the "New installation" button.

You need to scan the QR code located on the front of your E-PREDICT, enabling the smartphone application to retrieve the information linked to this equipment.

The scan is performed directly via the camera in the application.

11. ANNUAL PERIODIC CONTROL

The functioning of E-PREDICT can be controlled using the tester provided by HDSN **only within the first 30 minutes of operation after each start-up → test alarm.**

It is important to use only the tester supplied by HDSN to perform this check.

HDSN disclaims responsibility for tests conducted with non-validated products.

PROCEDURE

The periodic control procedure is as follows:

1. Cut the ventilation of the electrical cabinet.
2. Restart E-PREDICT by powering it off and then on again. Verify that the LED is blinking green.
3. Hold the tester **vertically (output facing upward)** at a distance of **10 cm below the air inlet** of E-PREDICT.
4. Spray the mist for **one second**, ensuring the flow is directed towards the air inlet of E-PREDICT.
5. Visually confirm that the mist properly reaches the fan opening of E-PREDICT.
6. **Repeat the spray 6 times**, spacing each injection by **10 seconds** (maximum 12 seconds).
7. Check whether the LED changes its state within **30 seconds** after the end of the test.
8. Confirm that the alarm is received within a **maximum of 5 minutes** in the supervision system or visual/audible alarm after the end of the test.
9. Restart the ventilation of the electrical cabinet.

RESULTS

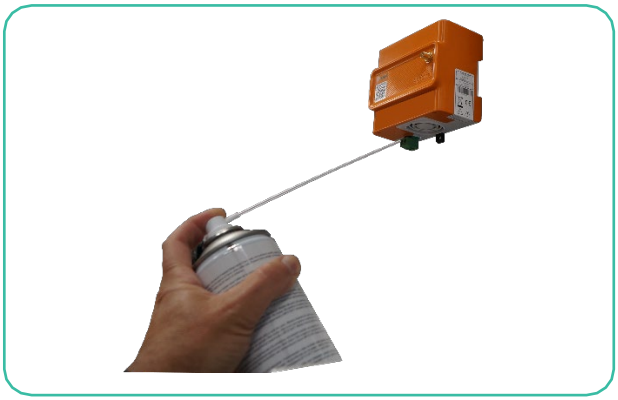
If the E-PREDICT LED matches the states described in the procedure, the annual periodic check is considered validated.

The LED and the dry contact of the E-PREDICT must change state at the end of the test. This type of test should be performed during installation and periodically thereafter. The main objective is to ensure that E-PREDICT alarms are correctly displayed on the supervision system.

12. MAINTENANCE

Use dry-air spray to clean the fan. Sprays containing flammable gases must not be used.

Example: reference RS8801482



- ✓ **E-PREDICT not powered.**
- ✓ The dry air spray should be positioned vertically, 5cm from the fan.
- ✓ Blow for 10 seconds through the fan's ventilation grid.

14. INTERVENTION PROCEDURE

Before any intervention:

- ✓ Contact the maintenance team responsible for the protected equipment.
- ✓ Use a thermal camera, as the phenomena detected by E-PREDICT may not be visible to the human eye.
- ✓ Ensure you have the appropriate equipment for working on energized systems.

HDSN disclaims all responsibility if the intervention is not carried out in accordance with applicable legal and safety regulations.

E-PREDICT - LED STATUS INDICATOR

IF THE LED IS RED

WARNING: An electrical fault has been detected

An alarm is active. The detected fault may worsen if not addressed.

➔ Get a thermal camera and immediately correct the identified fault.

Once the corrective action is completed, restart E-PREDICT. The LED should return to its normal blinking green state (during first 30 minutes after power-up).

If the LED remains red, the issue persists and requires further investigation.

IF THE LED IS OFF

The status LED is off, indicating that **E-PREDICT is not powered**.

➔ **Check the electrical connections and restore power.**

Upon restarting, the LED should return to **blinking green** (during first 30 minutes after power-up).

If not, the issue persists and further intervention is needed.

IF THE LED IS ORANGE

Blinking orange: apply the procedure part 12 of this document (fan blocked).

Fixed orange: E-PREDICT is not operational.

- Verify that the **ambient temperature** of the protected equipment does not exceed **70°C**.
- If the issue persists, contact HDSN support at **sav@hdsn.fr**, providing the **installation number**.

IF THE LED IS GREEN (BLINKING or FIXED)

E-PREDICT is operating normally.

➔ **No action required.**

15. EU DECLARATION CONFORMITY CE

CE marking : By the EU declaration of conformity, HDSN declares that this device is following the essentials requirements and other relevant provisions of the Radio Equipment Directive (RED) 2014/53/EU.

Produced under Schneider Electric license.

16. RESTRICTIONS

HDSN undertakes to provide the client with the necessary information for the proper installation of the device, without this constituting a performance obligation or advisory service in electrical risk prevention.

HDSN shall not be held liable for any direct or indirect, material or immaterial consequences resulting from improper, non-compliant, or diverted use of the E-PREDICT device, or from the user's failure to respond to the alerts issued.

The interpretation of alerts generated by the E-PREDICT device, as well as any decisions taken in response, remain the sole responsibility of the client. HDSN does not take part in risk analysis or operational decision-making.

In particular, any anomalies mentioned in Q18 and Q19 certificates, as well as in the verification report, must be addressed by the client to ensure the proper functioning of the E-PREDICT technology.

The prevention plan established by the client’s insurance company must be taken into account, especially with regard to electrical risk management.

The installation of the E-PREDICT device must comply with the NF C15-100 standard. For the 2A circuit breaker, the protection must be adapted to the earthing system of the installation and must be carried out by qualified and competent personnel.

HDSN's role is limited to providing an early detection device and technical information regarding its operation. This device is not a substitute for human expertise and cannot guarantee the absence of electrical faults. The client is solely responsible for determining the appropriate actions to take in response to detected alerts.

Installation / Maintenance / Servicing:

The proper functioning of the E-PREDICT device depends on compliance with the installation, usage, and maintenance instructions detailed in the technical studies and documentation provided. Any failure to follow these guidelines will void all warranties and liability on the part of HDSN.

In particular, HDSN disclaims any responsibility in the event of changes to the installation layout of the E-PREDICT device. The client must inform HDSN of any shutdown, suspension, or dismantling of the E-PREDICT system. Reinstalling the product in an environment different from the one initially intended requires the device to be returned to HDSN for inspection and, if necessary, reconditioning.

In the event of use by an unauthorized third party, or in case of resale or transfer without HDSN's prior written consent, HDSN shall bear no responsibility for any direct or indirect damages that may result.

The E-PREDICT device is an additional predictive analysis tool. It does not in any way replace mandatory regulatory inspections, electrical audits, or fire safety systems required under applicable legislation.

Acquiring and using the E-PREDICT device constitutes full and unconditional acceptance of all terms of use, liability, and warranty as described in the documentation provided by HDSN.

HIGH DEFINITION SENSORS & NANOTECH

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