

SERVICE MANUAL

# Secop 101N2020 / 101N2030 / 101N2050

E1 / E6 Error Clearing · Controller Reset · Diagnostics

Application: Iveco refrigeration units – SP911 / SP910



Fig. 1 Secop 101N2050 Controller

|                     |  |
|---------------------|--|
| <b>Document No.</b> | SRV-101N2050-001                           |
| <b>Revision</b>     | Rev. A                                     |
| <b>Status</b>       | unofficial, practical, test-based material |
| <b>Intended Use</b> | external use                               |

# 1 WARNINGS AND LEGAL DISCLAIMERS

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**Caution:** All procedures described in this document must be performed by qualified personnel with relevant technical knowledge and hands-on experience. Unqualified intervention may result in equipment damage, injury, or death.

**Note:** This document does not constitute official manufacturer documentation and does not replace the service manual.

**Caution:** All procedures described in this document are performed at the user's own risk.

**Warning:** Incorrect wiring may cause damage to the controller, installation, or compressor.

**Warning:** Exercise particular caution with working variants involving non-standard voltage application to controller pins.

**Warning:** Reversed polarity variants must not be performed accidentally or with standard supply wiring intact if the procedure explicitly requires disconnecting the 2-pin connector.

**Note:** The Secop name, logo, and all trademarks and graphic marks are the property of their respective legal owners. Used in this document for informational and identification purposes

## 2 PURPOSE AND SCOPE

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### SCOPE

- > identification of the Secop 101N2050 controller
- > description of standard controller wiring
- > description of the E1 and E6 error clearing procedure
- > description of controller reset procedures
- > rapid verification of controller and system operation without module disassembly

### DIAGNOSTIC REFERENCE

- > how to clear E1 / E6 errors
- > how to unlock the Iveco refrigeration controller
- > how to reset the Secop 101N2050
- > how to restart the system after a fault
- > how to verify controller response without full repair

## 3 CONTROLLER IDENTIFICATION

**Model: Secop 101N2050**

### CONCLUSIONS

- > the **101N2050** designation alone is not sufficient to identify the controller version
- > before selecting a procedure, verify the production date, **CODE**, program, wiring configuration, and behavior of the specific unit



Fig. 2 Controller label 101N2050 – model, CODE, program, production date

## 4 APPLICATIONS AND VARIANTS

All described cases apply to the Secop 101N2020 / 101N2030 / 101N2050 controller.

### RELATED MODEL NUMBERS

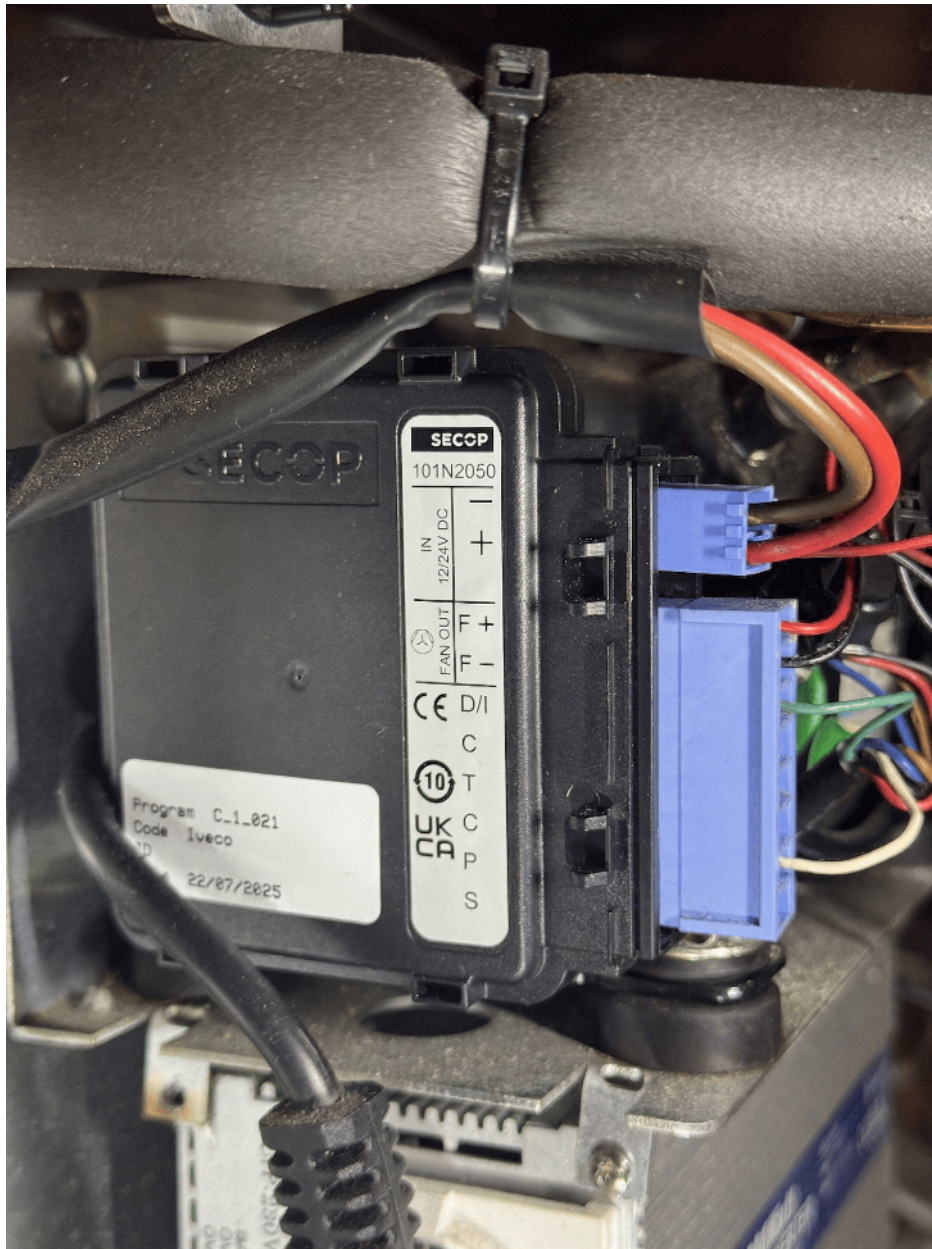
- > SP911
- > SP910
- > 5802797223
- > 5802484029
- > **CODE Iveco: C\_1\_021, C\_1\_024**

## 5 PIN TABLE

| No. | PIN | CONNECTOR             | WIRE COLOR                   | FUNCTION                              | NOTES   |
|-----|-----|-----------------------|------------------------------|---------------------------------------|---|
| 1   | -   | 2-pin power connector | heavy brown / heavy negative | main negative supply                  | primary controller supply   |
| 2   | +   | 2-pin power connector | heavy red / heavy positive   | main positive supply                  | primary controller supply   |
| 3   | F+  | 8-pin connector       | thin red                     | FAN OUT / functional output           | fan output  |
| 4   | F-  | 8-pin connector       | thin black                   | FAN OUT / functional output           | fan output  |
| 5   | D/I | 8-pin connector       | green                        | input / diagnostic-communication line | used for reset  |
| 6   | C   | 8-pin connector       | no wire / NC                 | not connected                         | upper pin C   |
| 7   | T   | 8-pin connector       | no wire / NC                 | not connected                         | no wire in this variant;<br>designation T: thermostat / temperature input |
| 8   | C   | 8-pin connector       | no wire / NC                 | not connected                         | lower pin C   |
| 9   | P   | 8-pin connector       | white                        | programming                           | also used in reset procedures   |
| 10  | S   | 8-pin connector       | no wire / NC                 | not connected                         | no wire in this variant   |

FUNCTIONAL DESIGNATIONS

- > **P** — programming
- > **F+ / F-** — FAN OUT / functional outputs
- > **D/I** — diagnostic / communication line, also used in reset procedures



*Fig. 3 101N2050 controller installed in housing – connectors and wiring harness*

## 6 HARDWARE DATA

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### 6.1 Processor Change – STM8 → STM32

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Secop has changed the processor used in the 101N2050 controller. Earlier units are equipped with an STM8 processor (8-bit, STMicroelectronics). Later units are equipped with an STM32 processor (32-bit, STMicroelectronics).

## 7 TEST CONDITIONS

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**Caution: Minimum supply voltage: 25 V. In practice, 24 V alone may be insufficient for correct operation of the complete system.**

#### PRE-TEST INSPECTION

- > **condition of supply wires**
- > **condition of connectors**
- > **no burned contacts**
- > **connectors properly seated**
- > **no loose or open connections**

#### PROCEDURE SEQUENCE

1. **disconnect supply**
2. **make test connections**
3. **reconnect supply**
4. **wait approximately 10 seconds**
5. **observe controller and panel response**

*Where possible, perform the test with the panel connected.*

In most cases, 2-3 wires and a functional supply are sufficient for the basic test. The purpose is rapid verification of controller and compressor response without module disassembly.

## 8 SYMPTOMS AND PROCEDURE OBJECTIVES

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#### TYPICAL SYMPTOMS

- > **persistent E1 fault**
- > **persistent E6 fault**
- > **compressor fails to start**
- > **no response despite supply voltage present**
- > **controller enters lockout**
- > **need for rapid assessment of whether the system can be unlocked**

#### PROCEDURE OBJECTIVES

- > **determine whether E1 / E6 fault can be cleared**
- > **rapid assessment of controller response**
- > **attempt to restore system operation**
- > **fault area isolation prior to further diagnostics**

## 9 RESET PROCEDURES

### Reset E1 — Positive to D/I and P

101N2020 · 101N2030 · 101N2050

#### CONNECTIONS

- heavy positive (red) → D/I (green)
- heavy positive (red) → P (white)

#### STEPS

1. Disconnect supply
2. Heavy positive (red) → D/I (green)
3. Heavy positive (red) → P (white)
4. Connect supply (min. 25 V)
5. Wait 10 s
6. Check display — E1 errors should be cleared

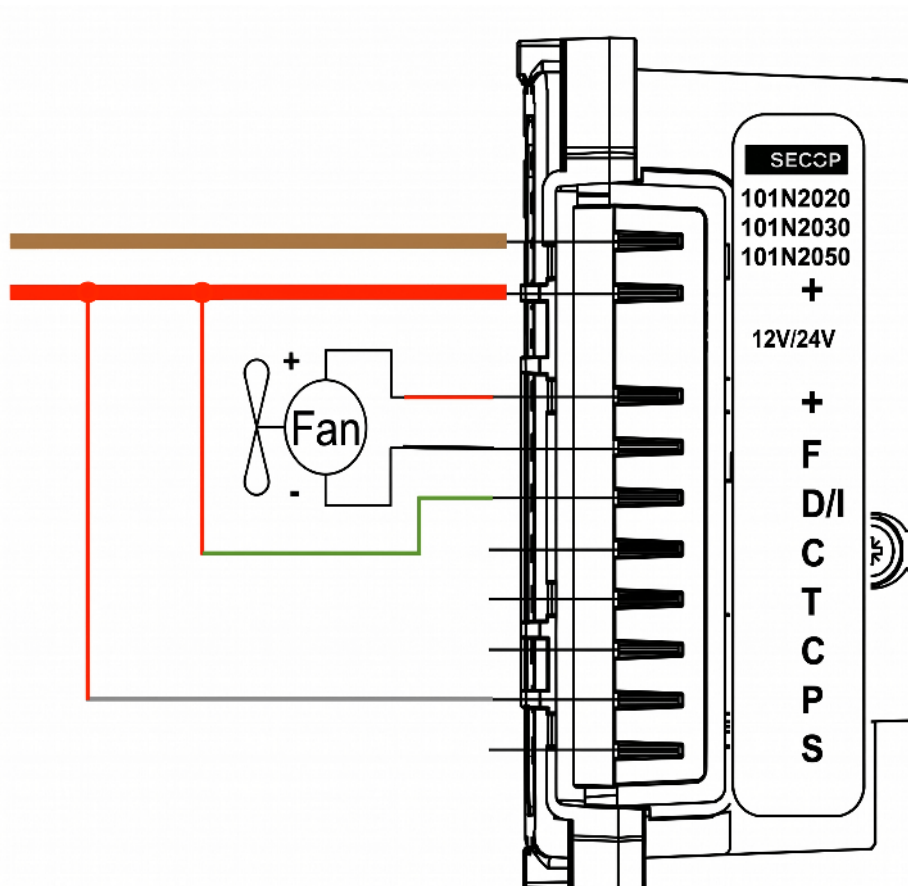


Fig. 4 Test wiring diagram – Reset E1 (Positive to D/I and P)

## Reset E6 — Negative to P, positive to D/I

101N2020 · 101N2030 · 101N2050

### CONNECTIONS

- heavy negative (brown) → P (white)
- heavy positive (red) → D/I (green)

### STEPS

1. Disconnect supply
2. Heavy negative (brown) → P (white)
3. Heavy positive (red) → D/I (green)
4. Connect supply (min. 25 V)
5. Wait 10 s
6. Check controller and panel response

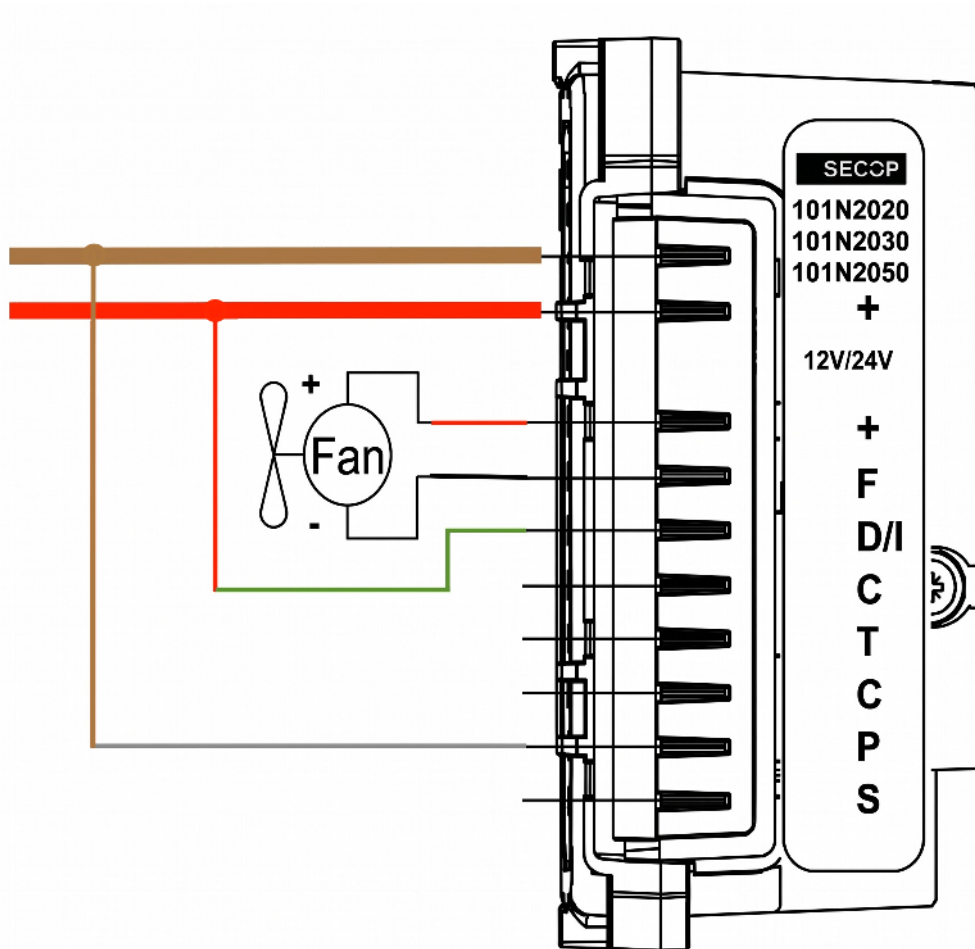


Fig. 5 Test wiring diagram – Reset E6 (Negative to P, Positive to D/I)

## Hard Reset — Reversed Line Polarity

101N2020 · 101N2030 · 101N2050

**WARNING: Before proceeding, disconnect the 2-pin power connector from the controller.**  
**Applying positive voltage to the – pin with the connector attached will damage the controller.**

### CONNECTIONS

heavy positive (red) → controller – pin  
heavy negative (brown) → F+ (thin red)  
heavy negative (brown) → D/I (green)  
heavy negative (brown) → P (white)

### STEPS

1. Disconnect supply
2. Disconnect 2-pin connector from controller
3. Heavy positive (red) → controller – pin
4. Heavy negative (brown) → F+ (thin red)
5. Heavy negative (brown) → D/I (green)
6. Heavy negative (brown) → P (white)
7. Connect supply (min. 25 V)
8. Wait 10 s
9. Observe controller response
10. Restore standard connections after test

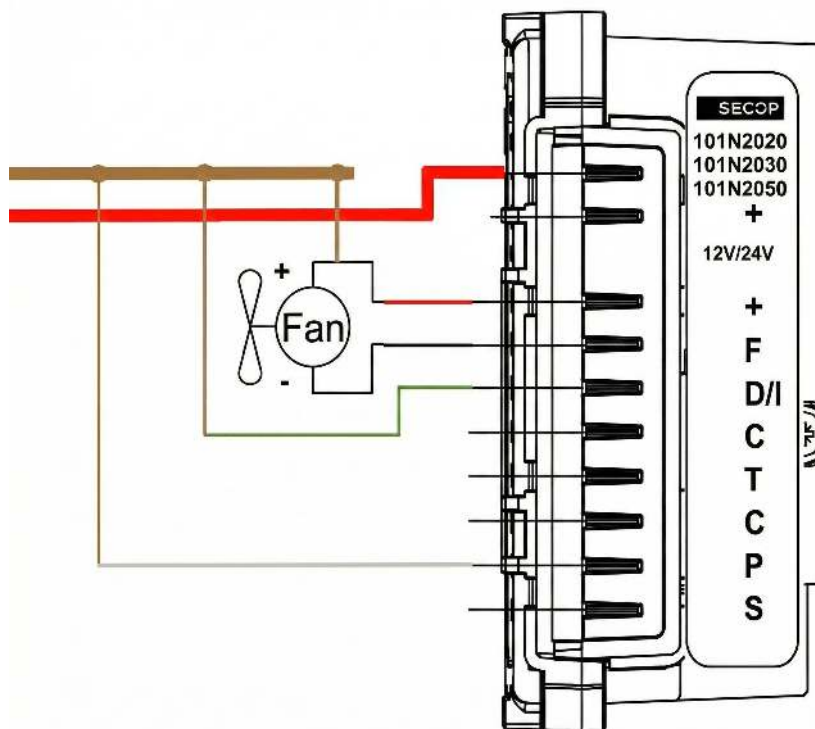


Fig. 6 Test wiring diagram – Hard Reset (Reversed Line Polarity)

## 10 DIFFERENCES BETWEEN CONTROLLER VERSIONS

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### DIFFERENTIATING FACTORS

- > **production year / date**
- > **CODE designation**
- > **program version**
- > **installation variant**
- > **controller hardware revision**

**Note:** Before selecting a reset procedure, verify: production date, CODE, program version, and unit behavior during test.

## 11 CONCLUSIONS

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### RESULTS

- > **E1 / E6 errors can be successfully cleared in the majority of cases**
- > **the 101N2050 controller can be reset without component replacement**
- > **system response can be verified without module disassembly**
- > **the fault area can be isolated within minutes**

### REQUIREMENTS

- > **the basic test can be performed using a few wires**
- > **correct supply voltage is critical to procedure effectiveness**
- > **supply voltage must be at least 25 V**
- > **procedure effectiveness depends on production year, CODE, and program version**
- > **no single reset procedure is currently effective for all 101N2050 variants**

**Caution:** The hard reset variant must be performed only with full awareness of associated risks. Disconnection of the 2-pin power connector is required.

## 12 FREQUENTLY ASKED QUESTIONS

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### HOW TO CLEAR E1 AND E6 ERRORS IN THE SECOP 101N2020 / 101N2030 / 101N2050 CONTROLLER?

First, verify correct supply voltage and installation condition, then perform one of the two confirmed reset variants: positive to D/I and P, or negative to P and positive to D/I.

### HOW TO RESET THE 101N2020 / 101N2030 / 101N2050 CONTROLLER?

The reset is performed by making the required connections with supply disconnected, then reconnecting supply and observing the controller response for approximately 10 seconds.

### HOW TO CLEAR AN E1 OR E6 FAULT IN AN IVECO REFRIGERATION UNIT?

In practice, test connections are made on the D/I and P pins, with correct supply voltage maintained and the proper procedure sequence followed.

### HOW TO UNLOCK THE CONTROLLER AFTER A FAULT?

In some cases, the controller can be quickly unlocked by connecting the D/I and P wires to the positive and negative supply terminals.

### HOW TO PERFORM A HARD RESET OF THE 101N2020 / 101N2030 / 101N2050?

The hard reset variant requires disconnecting the 2-pin power connector before making connections. This procedure is not universal for all 101N2050 units.

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*Unofficial material based on practical testing. All procedures are performed at the user's own risk.*