# Installation Instructions
# **MARSIC300**

## Ship Emission Measuring Device

### Cooling Device


Endress+Hauser
People for Process Automation

**Described product**
Product name: MARSIC300

**Manufacturer**
Endress+Hauser SICK GmbH+Co. KG
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01458 Ottendorf-Okrilla
Germany

**Legal information**


**Original document**
This document is an original document of Endress+Hauser SICK GmbH+Co. KG.

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# Contents

# 1 Important Information

## 1.1 About this document

**NOTICE:**
The retrofitting may only be carried out by trained personnel!
For this purpose, it is important to be familiar with the MARSIC300.

These instructions are Retrofit Instructions and describe the service work required for installation of a new cooling device.

The Retrofit Instructions are only to be used in combination with the valid Operating Instructions and additional documents listed below.

| Part Number | Document |
|---|---|
| 8029898 | Operating Instructions MARSIC300 |
| 9321479 | Drawing: Basic Housing MARSIC300 Cooling Unit |
| | Assembly and Operating Instructions Rittal Enclosure Cooling Unit 3654 |

**NOTICE:**
Always read the Operating Instructions before starting any work!
Be sure to observe all safety and warning information!

# 2 Tools

The following tools are required for installation:

- Nut M5
- Nut M6
- Allen Key 2.5
- Allen Key 5

# 3 Installation

**NOTE: For new orders of analyzers including the cooling device**
The following steps have already been completed in the factory:
- Preparation of the cabinet
- Mounting of the reinforcement sheet
- Preparation of the cabinet door

**CAUTION:**
Please use caution when applying these instructions as they may require advanced product knowledge.

## 3.1 Preparatory work

1 Switch the analyzer to "Stand-by".
2 Flush system for 10 minutes.
3 Switch system off at the external power disconnection unit.

## 3.2 Preparing the cabinet

Please see drawing provided: „Basic Housing MARSIC300 Cooling Unit“

## 3.3 Mounting the reinforcement sheet inside cabinet

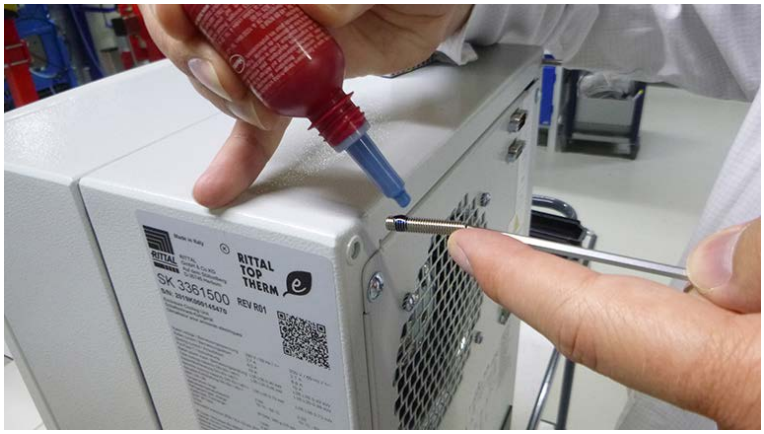
1 Remove grounding wire from side wall.

2 Install and fasten reinforcement sheet inside the cabinet with the screws and washers provided.
▶ Screw **head outside** cabinet and flange **nut inside** cabinet.

3 Fasten the grounding conductor.

## 3.4 Mounting the cooling device

1 Replace threaded bolt of cooling device with stainless steel threaded bolt provided.
▶ Fasten threaded bolts using screw lock, e.g. Loctite 243.

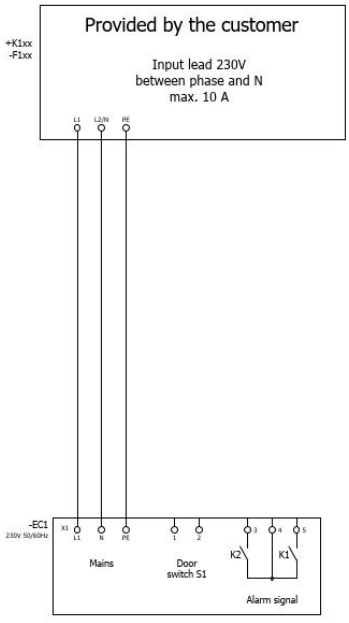



2 Fasten attached sealing on rear side of the cooling device.

3 Attach cooling device to the cabinet and fasten 4 flange nuts.
**Attention:** Should be performed by at least 2 persons due to the weight of the cooling device.



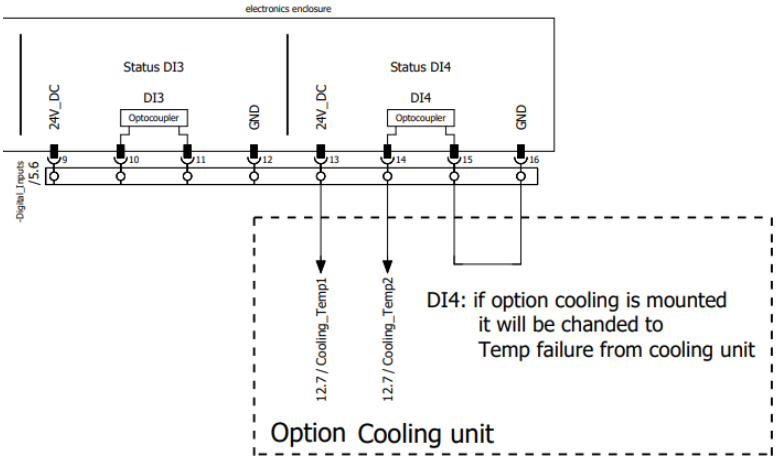
4 Assemble connector for power supply according to the wiring diagram of the cooling device.




Cooling unit

- L1 – L2/N – PE
- Route the cable for external power supply via floor of cabinet. For better accessibility, place the cable from the front side near the door hinge towards the bottom.
- Use one free appropriate cable gland.
- To fasten the cable, use the 5 cable ties and adhesive sockets in the accessory pack.

5 Assemble connector for alarm signal of cooling device according to the wiring diagram:




| Cooling unit | MARSIC300 |
|---|---|
| Digital output:<br>• Terminal 3/5 - signal to MARSIC300 | Digital input:<br>• Terminal 13/14 - Signal from cooling unit<br>• Terminal 15/16 - bridged |

▶ Route the signal cable via floor of cabinet. For better accessibility, place the cable from the front side near the door hinge towards the bottom.
▶ Use one free appropriate cable gland.
▶ To fasten the cable, use the 5 cable ties and adhesive sockets in the accessory pack.

## 3.5 Preparing the cabinet door

1 Disconnect and remove fan in cabinet door.
2 Insert Rittal frame and cover sheet to close air inlet in cabinet door.
Air outlet on top of cabinet door does not need to be modified.

## 3.6 Restarting the system

1 Switch the system back on at the external power disconnection unit.
2 Establish a connection to the service computer.
3 Set the device to "Measuring", if it does not go to "Measuring" automatically.
Select: Maintenance - Operating status


## 3.7 Setting the cooling device

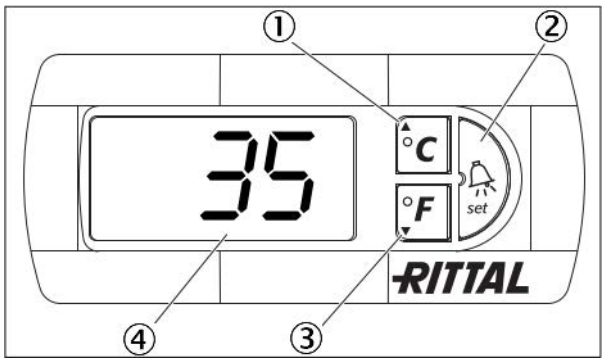
1 Switch on the external power supply of the cooling device.
2 Deselect the ECO mode (OFF=0; ON=1) on the cooling device. For details, see “Control using the e-Comfort controller”, page 11.
3 Set the target temperature inside the cabinet to 40 °C. For details, see “Control using the e-Comfort controller”, page 11.

### 3.7.1 Parameter of the e-Comfort controller

| Description | Prog. level | Display screen | Parameter | Min. value | Max. value | Factory setting |
|---|---|---|---|---|---|---|
| The internal enclosure temperature setting is preset at the factory to 35 °C (95 °F) and may be altered within a range of 20 – 55 °C (68 – 131 °F). | 1 | St | Internal enclosure temperature set-point Ti | 20 °C / 68 °F | 55 °C / 131 °F | 35 °C / 95 °F |
| Eco mode OFF: 0 / Eco mode ON: 1 | 26 | ECO | Eco-mode operation | 0 | 1 | 1 |

### 3.7.2 Control using the e-Comfort controller

1 Press button ② ("Set") for approx. 5 seconds.
   ››› The controller is now in programming mode.
   ››› While in programming mode, if you do not press any buttons for approx. 30 seconds, the display will first flash, then the controller will switch back to normal display mode.
   ››› "Esc" in the display indicates that any changes made have not been saved.
2 Press the programming buttons ① (°C) or ③ (°F) to switch between the editable parameters.
   ▶ Choose program level "1" (Display screen: "St") or "26" (Display screen: "ECO").
3 Press button ② ("Set") to select the displayed parameter for editing.
   ››› The current value of this parameter is displayed.
4 Press one of the programming buttons ① (°C) or ③ (°F).
   ››› "Cod" will appear in the display.
   ▶ In order to be able to change a value, you must enter the authorization code "22".
5 Keep the programming button ① (°C) held down until "22" appears.
6 Press button ② ("Set") to confirm the code.
   ▶ You can now alter the parameter (① and ③) within the preset limits.




① Programming button, also display of the set temperature unit (degrees Celsius)

② Set button

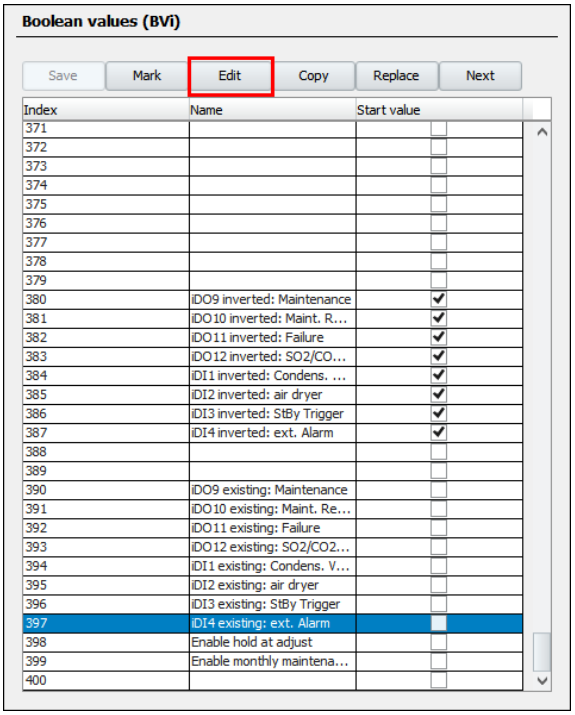
③ Programming button, also display of the set temperature unit (degrees Fahrenheit)

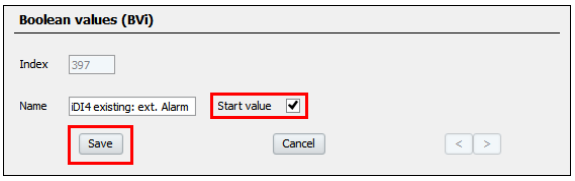
④ 7-segment display

## 3.8 Parameter setting in SOPAS ET

### 3.8.1 Device version YXD6 or newer

1 Activate variable BV397.
Select: Parameterization - Variables and functions - Boolean values (BVi)
- ▶ Mark the "Index 397" and click <Edit>.
- ▶ Activate "**Start value**" and apply the change with <Save>.

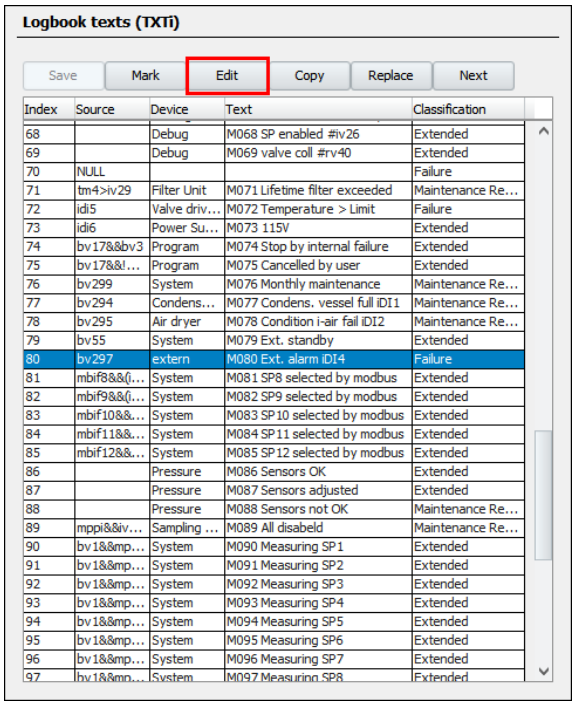


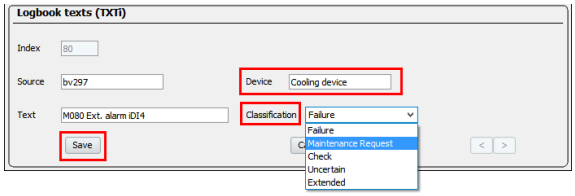




2 Check if BV387 is activated, if not, activate it.
- ▶ Select: Parameterization - Variables and functions - Boolean values (BVi)

3 Change logbook text 80.
Select: Parameterization - Logbook texts (TXTi)

- ▶ Mark the "Index 80" and click <Edit>.
- ▶ Change the name of the "Device" from "extern" to "**Cooling device**".
- ▶ Change the "Classification" from "Failure" to "**Maintenance Request**".
- ▶ Apply the changes with <Save>.

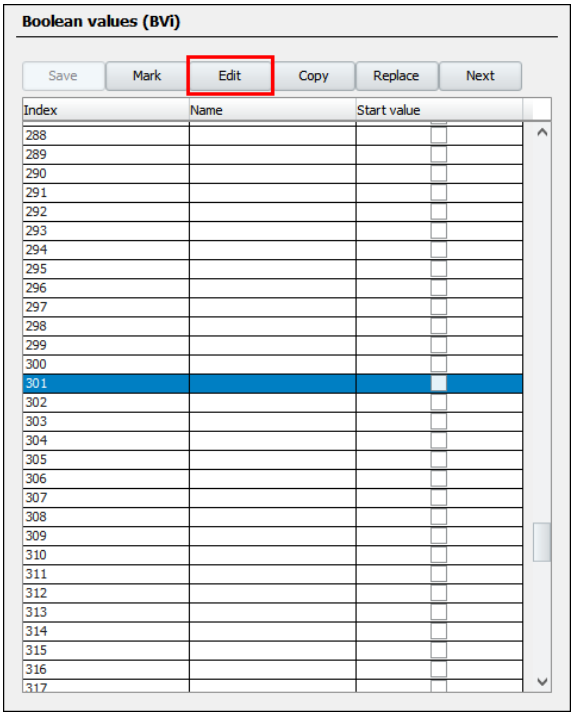


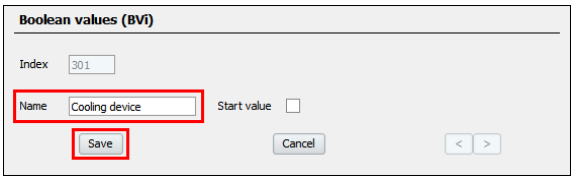




4 Restart the MARSIC300.
Select: Maintenance - Restart system

### 3.8.2 Device versions 0000, YN56, Y008, ZL50

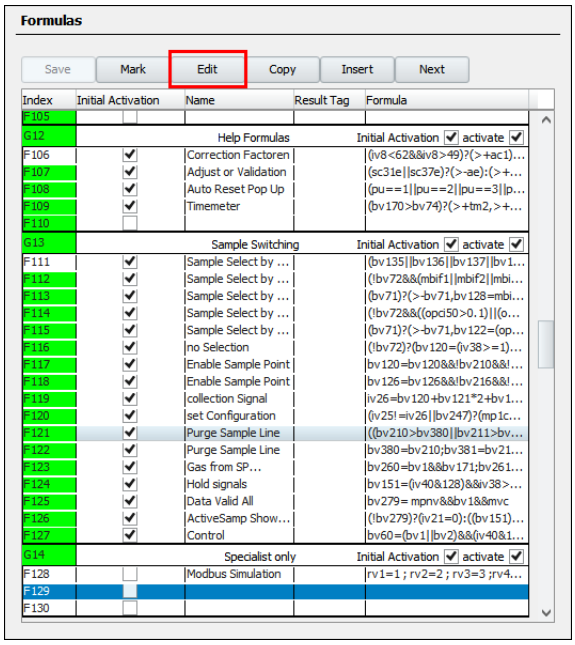
1 Change the name of variable BV301.
Select: Parameterization - Variables and functions - Boolean values (BVi)
- ▶ Mark the "Index 301" and click <Edit>.
- ▶ Enter "**Cooling device**" and apply the change with <Save>.



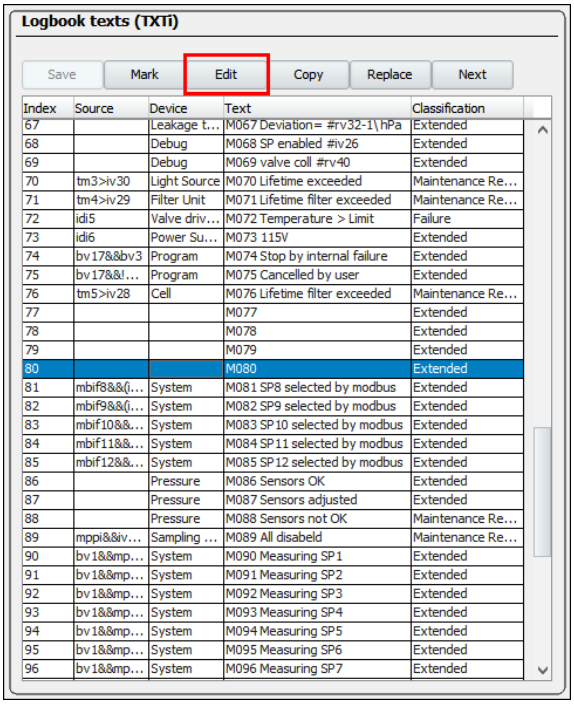
2 Create a formula to read the iDI4 signal on the BV301.
Select: Parameterization - Formulas

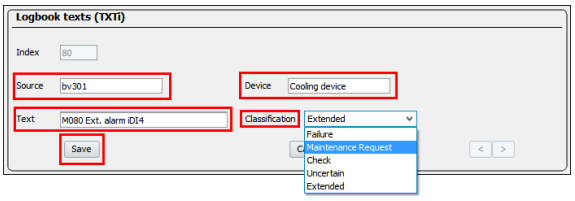
- ▶ Mark the "Index F129" and click <Edit>.
- ▶ Enter "**Cooling device**" as the "Formula name".
- ▶ Enter "**BV301=!iDI04**" as the "Formula"
- ▶ Activate the "**Initial activation**" check box and apply the change with <Save>.




3 Change logbook text 80.
Select: Parameterization - Logbook texts (TXTi)

- ▶ Mark the "Index 80" and click <Edit>.
- ▶ Enter the "Source": **bv301**
- ▶ Enter the name of the "Device": **Cooling device**.
- ▶ Enter the "Text": **M080 Ext. alarm iDI4**
- ▶ Change the "Classification" from "Extended" to "**Maintenance Request**".
- ▶ Apply the changes with <Save>.



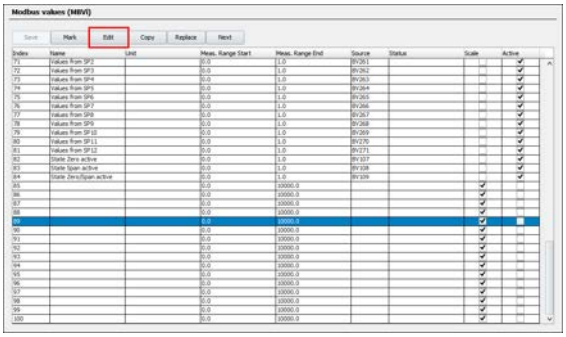



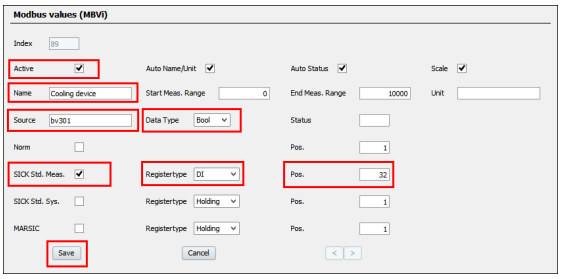
4 Put signal on Modbus.
Select: Parameterization - I/O - Data - Modbus value (MBVi)

- ▶ Mark the "Index 89" and click <Edit>.
- ▶ Activate the checkbox "**Active**".
- ▶ Enter the "Name": **Cooling device**.
- ▶ Enter the "Source": **bv301**
- ▶ Change the "Data Type": **Bool**.
- ▶ Activate the checkbox "**SICK Std. Meas.**".
- ▶ Change the related "Registertype": **DI**.
- ▶ Change the related "Pos.": **32**.
- ▶ Apply the changes with <Save>.

Parameters for the customer signal test:

- Signal: Cooling device
- Tag: BV301
- State Signal: Discrete Inputs, FC 02
- Address: 1031
- Data Type: Bool



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