

### Application

Freely programmable plants and applications for heating, ventilation and air-conditioning systems  
Developed using the ISaGRAF<sup>®</sup> programming environment



### Features

- Freely programmable according to IEC 61131 using ISaGRAF<sup>®</sup>
- Six programming languages
  - Ladder Diagram (LD)
  - Function Block Diagram (FBD)
  - Structured Text (ST)
  - Instruction List (IL)
  - Flow Chart (FC)
  - Sequential Function Chart (SFC)
- Predefined default functions/function modules (see ISaGRAF<sup>®</sup> documentation)
- Over 50 special functions/function modules for extensive program generation in HVAC applications
  - P, PI, PID controllers
  - 3-step output
  - Read holding register
  - Read coil
  - 12 defined time schedules
  - Read keys
  - Create menu for display
- Universal inputs individually configurable
- Sensor calibration for each resistance input
- Binary inputs can be added to the error status register
- Connection to Modbus also possible over modem
- Fax or SMS alarms configurable
- Inputs/outputs of max. 20 TROVIS 51xx devices can be read into an application over LON for processing
- Control of max. 60 binary outputs per application (5 x TROVIS 5171, connected over LON)
- Approx. 700 LON standard network variable types supported



Fig. 1 · TROVIS 5171 Control and Processing Unit

## Operation

All five operating elements are located in the front panel of the device. The front panel is protected by a Plexiglas door.

Icon	Key	Description
	Changeover key	Change from operating level to configuration and parameter level
	Reset key	Reset all freely accessible function blocks and parameters to their default values (factory defaults)
	Cursor keys	Navigate through all levels, adjust function blocks and parameters
	Enter key	Open levels, confirm and save inputs

The device provides a display level and configuration level.

## Display

The INF levels contain information about the status of the device.

INF level	Sublevel	Description
1	AI	Measured values of the connected resistance sensors [°C]
	BI	Status of the binary inputs (ON/OFF)
	AO	Output value of the two analog outputs [V]
	BO	Status of the binary outputs (ON/OFF)
	END	Return to operating level
7	Parameter	LON
	END	Return to operating level
8	FSR1/2	Error status registers 1 and 2
	BRUCH	Sensor breakage information
	END	Return to operating level
9	Parameter	Modbus information
	END	Return to operating level

## Configuration

Functions and parameters are available in the following sublevels.

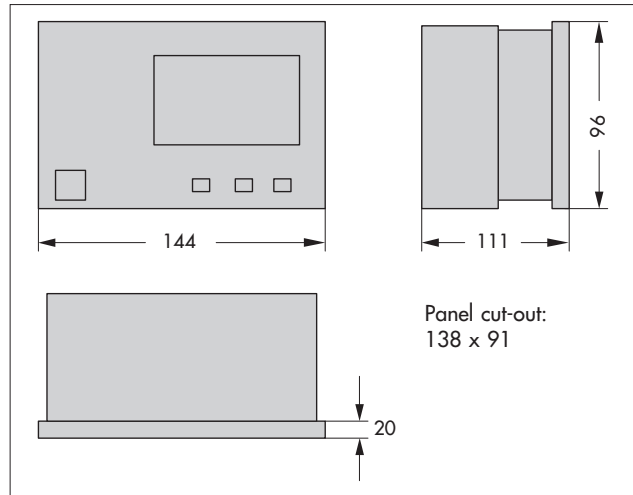
Group	Description
CO5	Higher-level functions
CO6	Configure universal inputs
CO7	Functions for LON communication
CO8	Add status of the binary inputs to the error status register
CO9	Functions for Modbus and meter bus communication (M-Bus)
PA5	System date and time
PA7	Parameters for LON communication
PA9	Parameters for Modbus and meter bus communication (M-Bus)

## Electrical connection and installation

The device consists of the housing and the back panel. The electronics are integrated into the housing. The back panel contains the terminal block. Two cores with 0.75 mm<sup>2</sup> each can be connected to each terminal. For wall mounting, fasten the back panel with the terminal block to the wall. After installing the connecting lines, plug on the housing.

For panel mounting, insert the housing into the prepared panel cut-out and secure it. After installing the connecting lines, plug on the back panel.

## Dimensions in mm



## Ordering text

The device is available with or without LON interface.

TROVIS 5171 Control and Processing Unit with/without LON

## Accessories

ISaGRAF <sup>®</sup> programming environment	1400-7621
Programming cable	1400-7620
Communication cable RS-232	1400-7419
Cable converter RS-232 to RS-485	1400-7308

The communication cable is used to load the operating system over the RS-232 interface.

The programming cable is used to load the application over the RJ-45 interface integrated into the front panel.

**Technical data**

Inputs	17 universal inputs, individually configurable as <ul style="list-style-type: none"><li>– Resistance input (Pt 100, Pt 500, Pt 1000, Pt 2000, Ni 200, Ni 1000, Ni 2000, PTC, NTC, 1-2 k<math>\Omega</math>)</li><li>– Current input (0/4 to 20 mA) with 50 <math>\Omega</math> parallel resistor</li><li>– Binary input, floating</li><li>– Model no. 5171-0003 and higher: voltage input 0 to 10 V</li></ul> 2 binary inputs (BE1, BE2) functioning as counters for 0 to 5000 Hz pulses 2 analog inputs (0 to 10 V), non-floating in pairs
Outputs	10 binary relay outputs, non-floating in pairs, 2 A / 250 V AC 2 low-voltage binary outputs, 100 mA / 50 V DC 2 analog outputs (0 to 10 V), non-floating in pairs (max. load > 4.7 k $\Omega$ )
Interfaces	1 RS-232 1 meter bus 1 LON
Supply	230 V AC, 48 to 62 Hz
Power consumption	8 VA
Temperature	Ambient: 0 to 40 °C      Storage: -20 to 60 °C
Degree of protection	IP 40
Class of protection	II
Degree of contamination	2
Overvoltage category	II
Humidity rating	F
Noise emission	According to EN 61000-6-3
Noise immunity	According to EN 61000-6-1
Noise suppression	According to DIN VDE 0875
Weight	Approx. 0.6 kg

## Terminal assignment

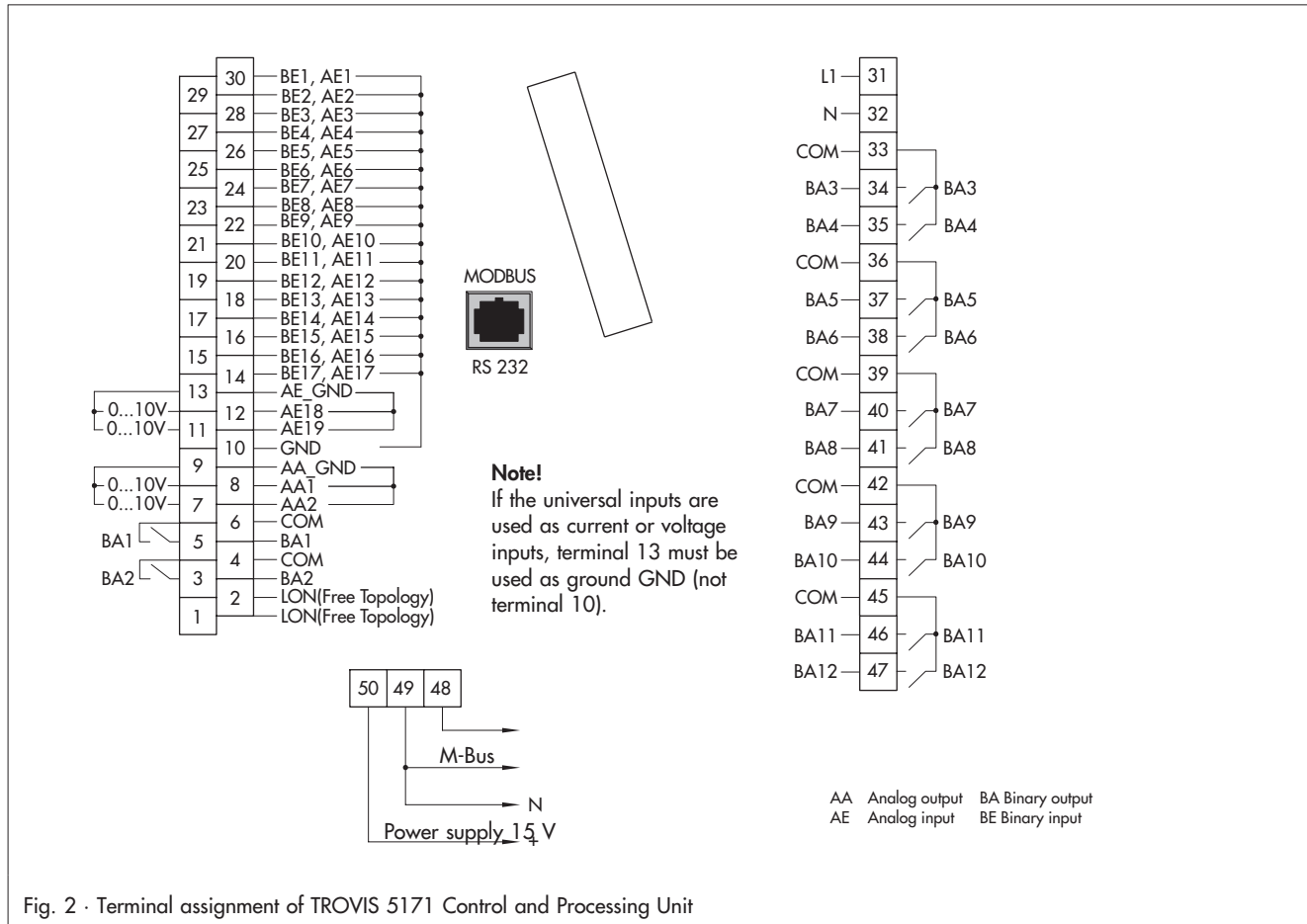


Fig. 2 · Terminal assignment of TROVIS 5171 Control and Processing Unit