# M560 Universal analogue input module



## Summary

**The M560 is a microprocessor controlled, communicative module with 8 analogue inputs with variable measuring range: voltage, resistance, temperature, 4x current loop). The module uses a RS485 bus for communication, and can be easily integrated in a variety of supervision and control systems.**


## Application

- **Building and industrial control systems – measuring of temperature, pressure, and other values**

## Function

The module incorporates 8 analogue inputs. The input signals are processed and multiplexed into a 16 bit A/D converter. Each input is range able separately (see Technical data) and inputs AI1 to AI4 can also be used as a 0 to 20mA current input if the corresponding DIP switch is activated.

The module communicates by means of optically separated RS485 data bus. The Modbus RTU communication protocol ensures smooth and easy integration in a variety of control and data acquisition systems.

Removable connectors are used for all signals as well as for data line so that mounting is fast and easy. The module has a DIN rail clip.

The communication circuits are protected against overvoltage. If the module is terminating the communication bus, i.e. it is the last in line, a terminating 120 Ω resistor may be switched on by short-circuiting of the BUS END jumpers. Two LEDs located inside of the housing enable fast diagnostics – power up and communication.

See *domat - Technical application notes* for connection examples. M560 is a more universal replacement of M550 (8 resistance inputs) and it can be used also as a replacement of M500 (8 voltage inputs) for most of the applications. Please note that M560, unlike M500, has asymmetrical inputs.

All the settings are backed up in an EEPROM chip. The module is equipped with a watchdog circuit.

## Technical data

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| Power | 10 V ÷ 35 V DC, 14 V ÷ 24 V AC |
| Consumption | 2000 mW |
| Ambient temperature of the module | 0 ÷ 70°C |

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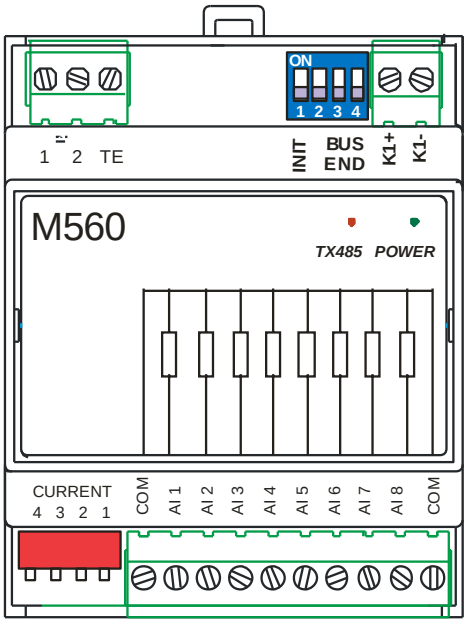
| Communication | Modbus RTU at RS485, 1200 ... 19200 bit/s |
| Max. bus length | 1200 m |
| Max. amount of modules on the bus | 256 |
| Number of analogue inputs | 8 |
| Input ranges | Pt1000* (-50...150 °C), 20...1600 Ohm, 20...5000 Ohm, 0...10V, (only inputs 1 to 4) 0...20 mA |
| Sampling | 10 samples/s |
| Effective resolution | 16 bit |
| Measuring error | Absolute error max. 1 Ohm, which is appr. 0.25 K for a Pt1000 sensor in the most common measuring range (-20...100 °C) |
| Input impedance | >10MΩ |
| Dimensions | 71 (d) x 90 (š) x 58 (v) mm |

* Resistance ranges could be used for measuring with passive sensors Pt100, Pt1000, Ni1000/5000 a Ni100/6180. Linearization must be processed in process station (for example Domat IPLC…). In the module M560 is included conversion only for sensors Pt1000.

## Terminals



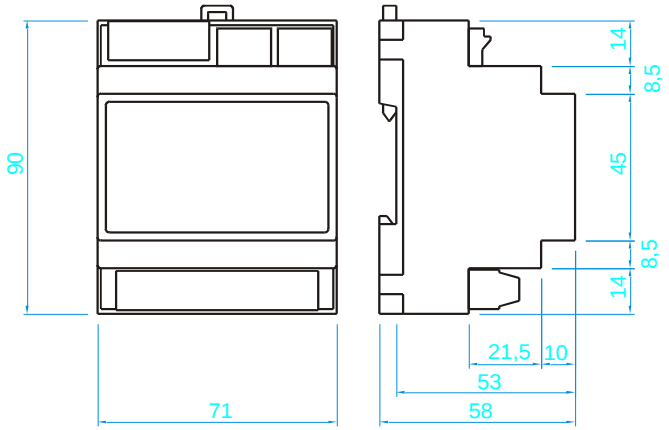

| | |
|---|---|
| 1 | power, any polarity |
| 2 | power, any polarity |
| TE | technical ground, shielding |
| K1+ | RS485, positive |
| K1- | RS485, negative |
| AI1 | input 1 |
| AI2 | input 2 |
| AI3 | input 3 |
| AI4 | input 4 |
| AI5 | input 5 |
| AI6 | input 6 |
| AI7 | input 7 |
| AI8 | input 8 |
| COM | common terminal for A1...A8 |

CURRENT 4...1
if ON, AI4..AI1 as 0..20 mA

BUS END
if 1 and 2 ON, the RS485 bus is terminated

INIT
if ON at power up, bus address is 1, comm speed 9600,8,N,1

## Dimensions




11/2013 Subject to technical changes.