ABB Service Manual

RTU560

1. Description

Analog input 560AIR02

3. Product Information

Analog input 560AIR02

RTU560 product line

Analog input, 8 channels

• AD converter resolution: 16 bit

• Measuring ranges: +/-2 mA; +/-5 mA; +/-10 mA; +/-20 mA; +/-40 mA

Application

The 560AIR02 is a module of the RTU560 product line and records up to 8 analog measured values.

The module 560AIR02 is able to process the following types of signals:

• Analog measured values (AMI)

• Measured floating point information (MFI)

Following measurement ranges can be configured:

• ± 2 mA

• ± 5 mA

• ± 10 mA

• ± 20 mA

• ± 40 mA

Other input ranges and live zero values are generated from these values by conversion on the communication unit (CMU).

Characteristics

Analog inputs

Basic signal checks and cyclic processing functions are already be done locally in order to unburden the communication unit. The module transmits relevant changes as event via the RTU I/O bus.

The 8 differential inputs are galvanically connected to the power supply.

Single-ended or differential input values are resolved by up to 4096 steps (12 bit plus sign) for 100 % measurement amplitude.

The differential inputs are protected against static and dynamic over-voltages by a protection circuit. A low-pass filter suppresses unwanted frequency components.

The internal high resolution of the AD converter (16 bit) allows to scan all measuring ranges with the same resolution. An additional measurement channel is used for automatic zero calibration. This compensates the longterm drift of the components.

For elimination of tolerances a calibration is done during production.

Measuring range and line frequency are easily to configure by the RTUtil500 configuration tool. The synchronization of the scan cycle with the line frequency is used to increase the line frequency interference suppression of the DC input signal.

Frequency 60 Hz

Conversion time per channel 54 ms

Scan cycle time (same for all channels) 486 ms

Frequency 50 Hz

Conversion time per channel 54 ms

Scan cycle time (same for all channels) 486 ms

Frequency 16.7 Hz

Conversion time per channel 155 ms