9.4.9 Technical Specifications

6ES5 463-4UA12/6ES5 463-4UB12 and 6ES5 463-4UA13 Analog Input Modules

Rated input ranges (selectable at front connector)	- 0.05 to + 1 V - 0.5 to + 10 V -1 to + 20 mA + 4 to 20 mA for 2-wire transducer + 4 to 20 mA for 4-wire transducer
Number of inputs	4 voltage/current inputs
Measured value representation	11 bits (two's complement) 1024 units in rated range
Overrange	50 % (with full accuracy)
Error signal for overflow	Yes (upward of 50 % overrange)
Measuring principle	Integrating
Conversion principle	Voltage-frequency conversion
Isolation	Yes, 4 inputs with respect to 0 V and each other
Permissible potential difference between ref. potentials of sensors and module (U_{CM}) and between sensors (channels)	25 V AC/60 V DC max.
Power Supply - digital section from system bus - analog section from load voltage - enabling of module F+/F-	 5 V ± 5 %; 150 mA typ. For 463-4UA13 200 mA typ. 24 V; approx. 150 mA. Irrelevant for 463-4UA13 24 V; approx. 7 mA
Integration time - 463-4UA12 - 463-4UB12 - 463-4UA13	 20 ms at 50 Hz 16 $^2/_3$ ms at 60 Hz 50/60 Hz operation can be set by a switch
Encoding time per measured value - 463-4UA12 - 463-4UB12 - 463-4UA13	 20 ms at 50 Hz 16 $^2/_3$ ms at 60 Hz 50/60 Hz operation can be set by a switch
Cycle time for 4 measured values (max. delay time of measured value acquisition) - 463-4UA12 - 463-4UB12 - 463-4UA13	 20 ms at 50 Hz 16 $^2/_3$ ms at 60 Hz 50/60 Hz operation can be set by a switch
Input resistance for input ranges 1 V 10 V 20 mA 4 to 20 mA	 > 10 MΩ 90 KΩ 50 Ω 62.5 Ω
Max. permissible input voltage without destruction	± 30 V; 75V for 1 ms max. and duty ratio 1:10
Interference suppression - with common-mode interference - with differential-mode interference	 > 80 dB (f = 0 to 50 kHz) > 40 dB ($V_{noise} \leq 0.1\ U_N$)
Error, referred to - rated value - linearity - tolerance - temperature error	 ± 5 x 10^{-4} ± 1 unit ± 3 units 0.6 x 10^{-4}/K
Voltage test to VDE 0160	Between inputs and ground point, and between 2 inputs; tested at 500 V AC

Setting the Data Format for the 4 to 20 mA Range

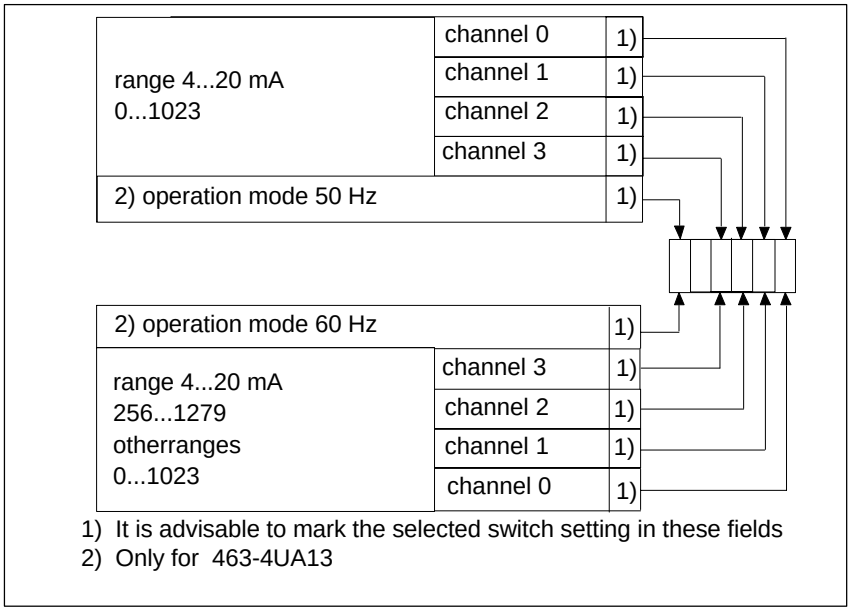
When using the 4 to 20 mA inputs, you can select data representation of 0 to 1023 bits or 256 to 1279 bits by pressing the appropriate switch. You can choose different data formats for all four input channels.

When the voltage or 0 to 20 mA inputs are used, the relevant switches remain at the opposite settings.

Note

Ensure that all the switches are operated properly (meaning pressed past the latching point).

Labeling of the switch on the module cover:



Connecting Transducers

Transducers are connected to the analog input module via shielded cables of up to 200 m in length. When they are laid separately from power system cables, distances of up to 500 m are possible.

An arbitrary mixture of voltage sensor, current sensor, two-wire and four-wire transducers can be connected. For two-wire transducers, there are four short-circuit protected supply terminals at the front connector.



Caution

To use two-wire transducers, the reference potential (common input) of these channels must be connected to L-. This defeats the isolation between the channels and the supply voltage L+/L-.

Note that the bus interface of the module is activated with 24 V via enable lines F+ and F- at the front connector.

Front Connector Assignments

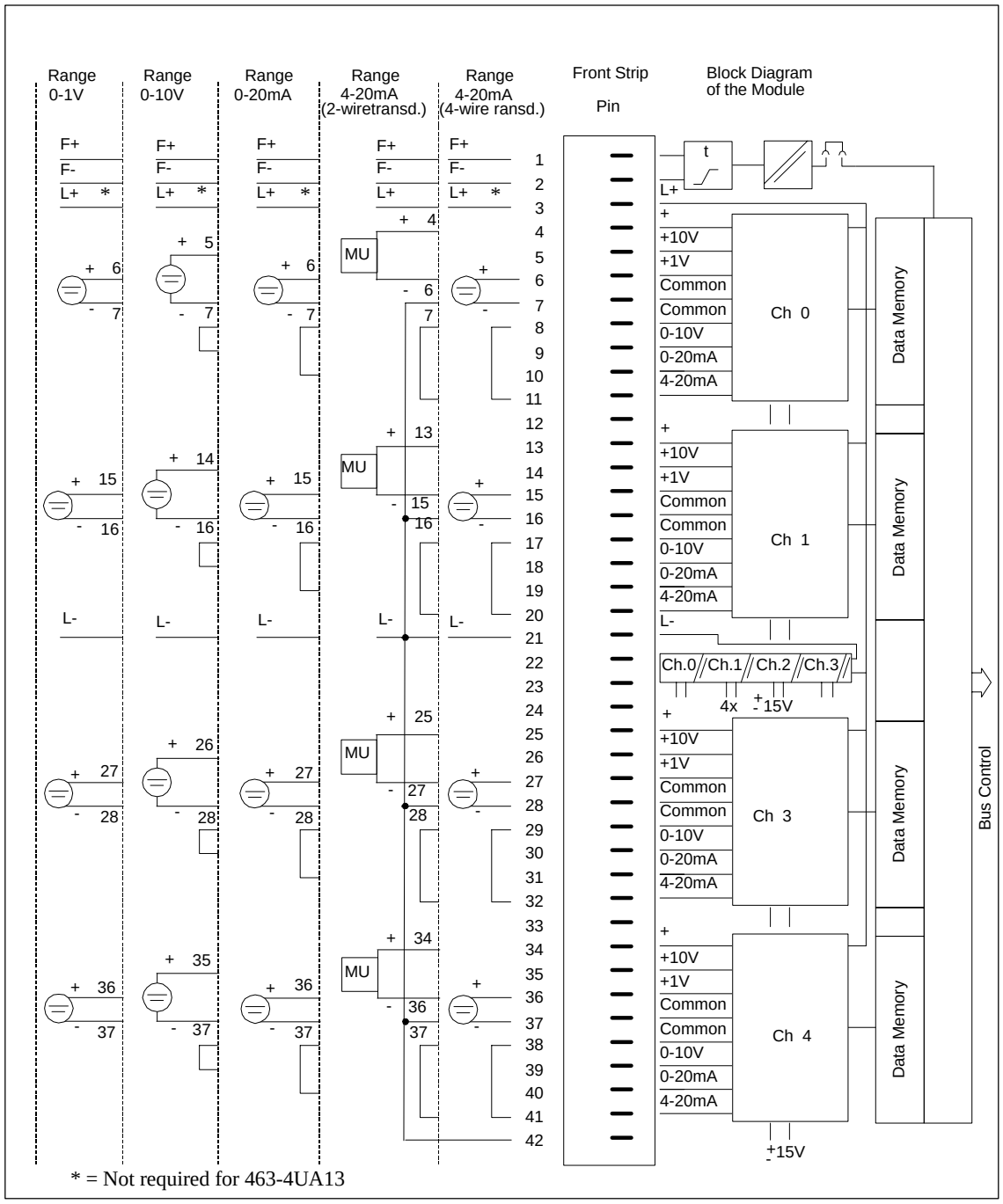


Figure 9-17 Front Connector Assignments, Sensor Connection, Range Selection