Automation by innovation.

KeConnect C2

C2-AM 280/A, C2-AM 282/A Analog hybrid module

- Analog hybrid module
- Signal form: voltage
- Sensor failure detection
- Resolution up to 14 Bit (C2-AM 280/A)
- Resolution up to 16 Bit (C2-AM 282/A)

Brief description

The C2-AM 280/A is an analog input/output module of the Keba module system. The module is added directly on to a central control unit. A bus link module is used to operate this module with all product lines of the KeControl system.
This hybrid module allows connecting up to 4 analog inputs/outputs each.

The analog inputs process differential and/or potentiometric input signals in the range +/-10V and/or 0-10V at a resolution of 14 Bit (C2-AM 280/A) and/or 16 Bit (C2-AM 282/A). A sensor failure is notified to the superior central processor module and can be evaluated in the application. Analog outputs create signals in the range between +/-10V with a resolution of 12 Bit (C2-AM 280/A) and/or 14 Bit (C2-AM 282/A).
A micro-controller converts the measurement values of the analog inputs/outputs with the calibration data and forwards the corrected values to the superior automation device.

Technical data

General information

Power supply voltage:	+5 V DC
Addressing at K-Bus:	Via 16-digit address switch, on the side
Connection terminals:	Open terminals, grid dimensions 5.08 mm
Power consumption at K-Bus:	max. 0.3 W

Analog inputs

	AM 280/A	**AM 282/A**
Number of inputs:	4	4
Type:	Voltage input	Voltage input
Signal range:	± 10 V or 0 – U_{ref} (10 V)	± 10 V or 0 – U_{ref} (10 V)
Maximum measurement signal:	± 10,4 V	± 10,4 V
Input type:	Differential or single-ended	Differential or single-ended
Galvanic isolation:	No	No
Referential voltage output:	10 V ± 2,5%, max. 20 mA	10 V ± 2,5%, max. 20 mA
Scan repeat cycle:	1 ms	1 ms
Input impedance at signal range:	10 MΩ	10 MΩ
Input filter characteristic – order:	First order	First order
Input filter characteristic – transfer impedance:	250 Hz	250 Hz
Digital resolution:	14 Bit	16 Bit
Transformation method:	Sucessive approximation	Sucessive approximation
Monotonicity without error codes:	Yes	No
Synchroneity control:	± 13.5 V	± 13.5 V
Synchroneity suppression:	>80 dB	>80 dB
Value of the lowest-value Bit (LSB):	1.3 mV	0,324 mV
Maximum permitted continuous load (without damage)	± 30 V	± 30 V
Typ. temp. coefficient measurement error:	± 5 ppm of scale end value / °C	± 5 ppm of scale end value / °C
Max. temp. coefficient measurement error:	± 20 ppm of scale end value / °C	± 20 ppm of scale end value / °C
Biggest error at 25°C	± 0,01% of scale end value	± 0,01% of scale end value

Analog outputs

	AM 280/A	AM 282/A
Number of outputs:	4	4
Type:	Voltage output	Voltage output
Signal range:	± 10 V	± 10 V
Galvanic isolation:	No	No
Conversion cycle:	1 ms	1 ms
Digital resolution:	12 Bit	14 Bit
Value of the lowest-value Bit (LSB):	5,32 mV	1,33 mV
Monotonicity:	Yes	Yes
Load resistance:	≥ 1000 Ω	≥ 1000 Ω
Biggest capacitive load:	≤ 10 nF	≤ 10 nF
Differential non-linearity:	≤ ± 1 LSB	≤ ± 1 LSB
Settling time at change over the full range: (At ohmic load)	≤ 50 µs	≤ 50 µs
Typ. temp. coefficient analog output error:	± 20 ppm of scale end value / °C	± 20 ppm of scale end value / °C
Max. temp. coefficient analog output error:	± 30 ppm of scale end value / °C	± 30 ppm of scale end value / °C
Biggest error at 25°C	± 0.15% of scale end value	± 0.15% of scale end value

Interfaces

System bus-interface:	Parallel Bus-interfaces, plug-in on side

Dimensions:

Footprint:	
Module height:	120 mm
Mounting depth:	100 mm
Front panel width:	22.5 mm
Module width (incl. K-Bus plug):	32.5 mm
Weight:	135 g

Standards:

The module conforms to the following standards:

General information	
UL 508	In preparation

Product standard for programmable controllers:	
IEC 61131-1:2003	General information
IEC 61131-2:2003	Hardware