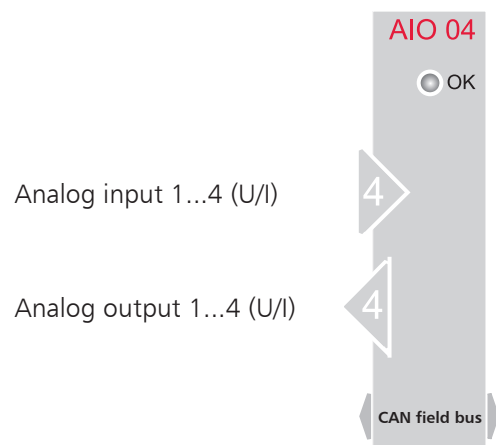


Analog In-/Output Interface

flexotemp®

AIO 04



Features

- Module with 4 analog inputs (U/I) and 4 analog outputs (U/I)
- Output type and/or measurement range configurable
 - 0...10 VDC or 2...10 VDC
 - 0...20 mA or 4...20 mA
- Resolution
 - DA converter 12 Bit
 - AD converter 15 Bit
- CANopen norm slave based on DS401
- Applicable with flexotemp® MCU and flexotemp® PCU, in I/O nodes by flexotemp® CANBC
- Model ME-Bus (connectable)
- Status-LED
- Compact design

Function

- Registration/output of 4 analog signals each
- Complete functional integration in flexotemp® PCU and flexotemp® MCU

Benefits

- Easy, peripheral configuration of flexotemp® control system with remote I/O's
- Peripheral signal processing
- Easy expandability and integration in own applications
- Compact housing
- Little for installation

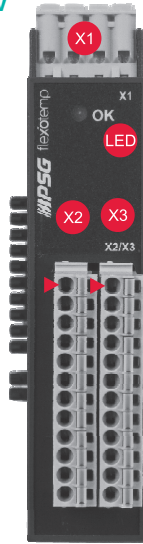
Ordering designations

	Order number
flexotemp® AIO 04	RR 2300/AIO04

Technical Data

Analog inputs/outputs		Number: 4 analog inputs / 4 analog outputs; Output type and/or measurement range configurable Resolution measurement input: 15 Bits; Resolution analog output: 12 Bits Sampling cycle ...by I/O-Buffer controller: ~500 ms / input; ...by Direct IOs controller: first 20 objects < 100 ms; (module itself 80 ms)	
Norm signal input U	Measurement range configurable	0...10 VDC and/or 2...10 VDC configurable	
	Internal presentation	0...10000, scalable	
	Accuracy of measuring	0.5% of final value	
	Temperature drift	< 100 ppm/°K	
	Input resistance	> 10 KOhm	
	Control of	Line-break (only for 2...10 VDC)	
Norm signal input I	Measurement range configurable	0...20 mA and/or 4...20 mA configurable	
	Internal presentation	0...10000, scalable	
	Accuracy of measuring	0.5% of final value	
	Temperature drift	< 100 ppm/°K	
	Input resistance	120 Ohm	
	Control of	Line-break (only for 4...20 mA)	
Norm signal output U	Output	0...10 VDC and/or 2...10 VDC configurable	
	Output current	Max. 10 mA, short-circuit-proof	
	Output range	0...100.0, scalable	
	Accuracy	0.5% of final value	
	Temperature drift	< 100 ppm/°K	
Norm signal output I	Output	0...20 mA and/or 4...20 mA configurable	
	Maximal load	Up to 500 Ohm	
	Output range	0...100.0, scalable	
	Accuracy	0.5% of final value	
	Temperature drift	< 100 ppm/°K	
	Open circuit voltage	14 V	
Connection data In-/outputs		Conductor cross section solid, stranded min/max 0.2 mm ² /1.5 mm ² ; Conductor cross section stranded with ferrule without plastic sleeve min/max 0.25 mm ² /1.5 mm ² ; Conductor cross section stranded with ferrule with plastic sleeve min/max 0.25 mm ² /0.75 mm ² ;	
Protection equipment		Reversed polarity of power supply: diode, over voltage of power supply: varistor	
Data interfaces			
CAN	Field bus for I/O - and bus coupler modules		
	Address range	CANopen norm slave based on DS401, address range 1...127 automatically	
	Transfer rate	250 KByte fixed	
	Max. tolerable bus length (m)	250	
	Device internal terminating resistor	Automatic	
	Protocol	CANopen	
Power supply			
Rated voltage / max. power consumption	20...30 VDC / < 4 W		
External mains supply	24 V Class 2		
Fuse protection	1 A F (based on UL508)		
Connection data	Conductor cross section solid, stranded min/max 0.2 mm ² /1.5 mm ² ;		
Ambient temperature limit		Operation: 0...55 °C, transport, storage: -20...60 °C, operation limit: 0...60 °C	
Atmospheric humidity limit		Operation: 0..90 % relative atmospheric humidity, no condensation Transport, storage: 0...95 % relative atmospheric humidity, no condensation	
Mounting		Installation on DIN rail (DIN 50022); horizontal installation position; see installation	
Dimensions (H x W x D in mm)		99 x 22.5 x 114.5	
Housing		Phoenix ME 22.5 Bus 10/2	
Weight		0.3 kg	
Electrical security		Class 3, safety extra-low voltage; complies with EN 61010	
Protection type		Housing and terminal IP 20	
Standards		Complies with EN 61326-1	
CE marking		The device complies with the European Directives for electromagnetic compatibility (complies with EN 61326-1).	
General			
LED displays	Refer to status display of LED's		
Data backup	Data backup of all parameters in EEPROM (power failure save)		
Software update	By CAN interface		

Connection overview



X1	Power supply
X2	Analog input 1...4
X3	Analog output 1...4
LED OK	Operation display

Pin assignment

X1 Power supply

4-pole spring-force terminal

Pin	X1	
1	U1	Power supply *)
2	U2	Power supply *)
3	0V1	Ground Power supply
4	0V2	Ground Power supply

*) External fuse protection necessary

Notice: U1/U2 internally bridged

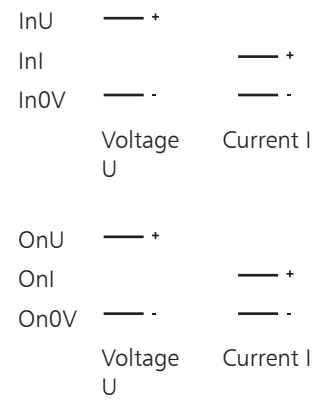
X2 Analog input 1...4

X3 Analog output 1...4

12-pole spring-force terminal

Pin	X2	X3	Function and/or signal
1	I1U	O1U	Voltage
2	I1I	O1I	Current
3	I10V	O10V	Ground
4	I2U	O2U	Voltage
5	I2I	O2I	Current
6	I20V	O20V	Ground
7	I3U	O3U	Voltage
8	I3I	O3I	Current
9	I30V	O30V	Ground
10	I4U	O4U	Voltage
11	I4I	O4I	Current
12	I40V	O40V	Ground

Each analog input on X2 and/or analog output on X3 can be configured for voltage U and/or current I.



Status display of LED's

LED-OK (green)	
flashing (1 Hz)	Boot mode
flashing (2 Hz)	Pre operational mode
Continuous light	Operational mode

Installation

