

**1. Product Description**

1.1 Order designation

Description	Material number
EtherCAT AI 4/8 (0-10V / ±10V / ±5V / +2,5V / 13Bit)	00C6CC1-0300
EtherCAT AI 8/16 (0-10V / ±10V / ±5V / +2,5V / 13Bit)	00C6CC1-0400
Plug 18-pole for in-/outputs (accessories)	0090501-7121
Plug 36-pole for in-/outputs (accessories)	0090501-7119
Grounding assembly 2x8 mm (accessories)	00C6CD1-0400
Grounding assembly 14 mm (accessories)	00C6CD1-0500

1.2 Application



Inputs and processing of analog voltage signals. The module AI4/8-U has 8, the module AI8/16-U has 16 analog inputs. If the signals are measured in relation to mass (L) (single ended), 8/16 channels are available. If differential signals shall be measured, two channels are to be used for each, i.e. altogether 4/8 differential signals can be measured.

1.3 Description of the modules

*Picture 1.3 Front view of the analog input modules*

1.	Release lever			
2.	Status-LED's module			
	EtherCAT-LED	Flash code	Description	
		red - constant	Initialisation (Init), no data exchange	
		red/green 1:1	Ready for operation (Pre-Op), no data exchange	
		red/green 3:1	Safe operation (Safe-Op), inputs are readable	
		green - constant	Normal operation (Op), full data exchange	
	I/O-LED	green - constant	OK, no error available	
		off	Module defective, if EtherCAT-LED is activated	
			no function, if EtherCAT-LED = off	
		Red, 3 x	Watchdog internal	
		Red, 4 x	Response monitoring Ether-CAT	
		Red, 6 x	Module specific error	
		Red, 7 x	Configuration error (EtherCAT-LED in Pre-Op state), number of process data different to the module	
		red - constant	Module defective	
3.	Channel-LED's	green constant	Channel is active	
		off	Channel is deactivated	
4.	Connection IO (see plug chapter 1.1)			
5.	Earth-/shield connection for bolt M3x5			
6.	E-Bus / module locking			

further on next side

	Use shielded cables for the analog line and fit the shield on to the purposed place.
	Connect the DIN mounting rail or the earthing connection with functional earth.

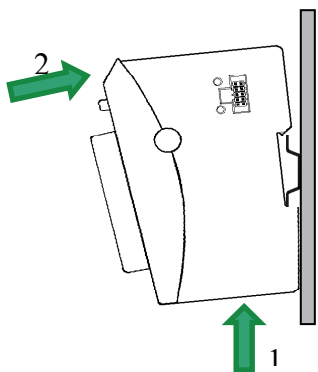
1.4 Technical data

Fieldbus	EtherCAT 100 Mbit/s
WxHxD	25x120x90 mm
Assembling	35 mm DIN mounting rail
Controller	ASIC ET1200
Connection E-bus	10-pole system connector in side panel
End module	not necessary
Voltage supply	from the EtherCAT coupler by the E-Bus connector
Potential separation	Modules each other and against the bus
Storage temperature	-25 °C...+70 °C
Operation temperature	0 °C...+55 °C
Relative humidity	5%...95% without condensation
Degree of protection	IP20
Noise immunity	Zone B

<b>AI4/8-U</b>	
Analog inputs	8 single ended respectively 4 differential
Resolution	13 Bit
Measuring range	0...10V, ±10V
Transformation frequency	1.12 kHz (if all channels are active)
E-Bus load	190 mA

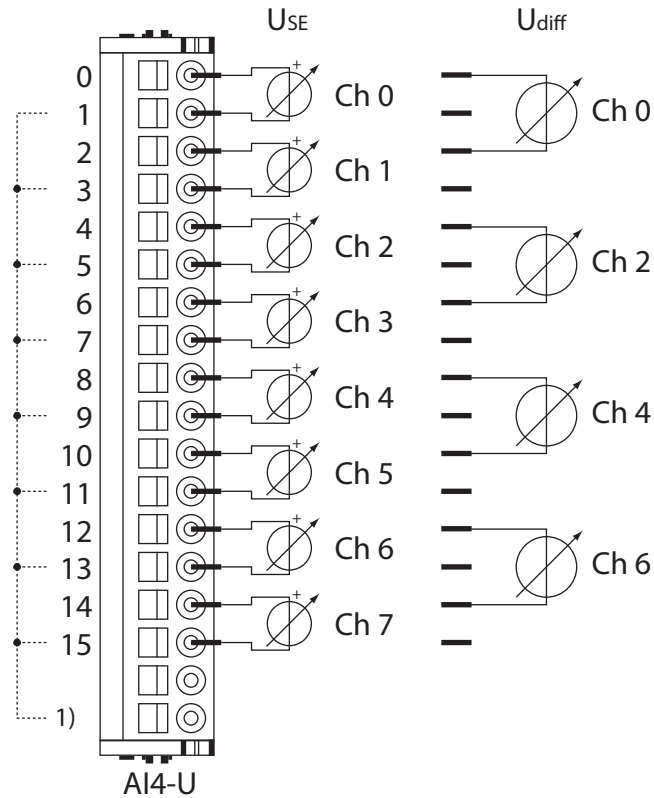
<b>AI8/16-U</b>	
Analog inputs	16 single ended respectively 8 differential
Resolution	13 Bit
Measuring range	0...10V, ±10V
Transformation frequency	0.52 kHz (if all channels are active)
E-Bus load	220 mA

1.5 Assembling

<i>Picture 1.5 Mounting of the bus coupler</i>		
1.	Put the module in accordance with the picture from downside against the mounting rail that the metal spring is impressed between mounting rail and mounting surface.	
2.	Press the module against the mounting panel above until it is snapped-in.	

1.6 Connection of the analog inputs

Connection of 8 single ended or 4 differential inputs



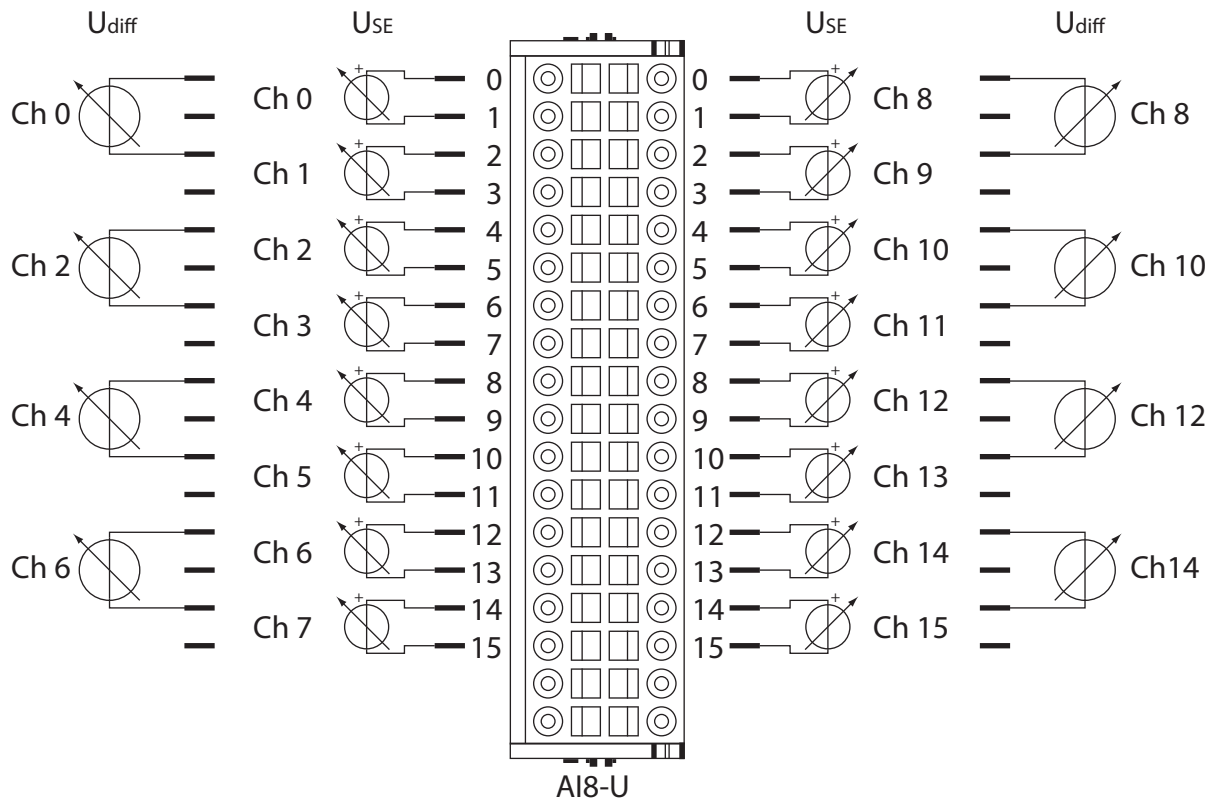
Lay the shielding of the signal cable on the function earth!

Connect unused single ended - lines with ground!

Short-circuit unused differential inputs!

The following channel combinations are possible when connecting differential signals:  
0/1, 2/3, 4/5 and 6/7

Connection of 16 single ended or 8 differential inputs



Lay the shielding of the signal cable on the function earth!

Connect unused single ended - lines with ground!

Short-circuit unused differential inputs!

The following channel combinations are possible when connecting differential signals:  
0/1, 2/3, 4/5 and 6/7

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Mat.No.	00C6NEM-CC20
Rev.	1B
Date	01/2010