2D Debus & Diebold Meßsysteme GmbH, Alte Karlsruher Str. 8, D-76227 Karlsruhe
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IN-AUIxxx-000 — Current amplifier interface

Function:

- For the electronic measurment of currents: DC, AC, pulsed, mixed with a galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit)

IN-AUI050-000 | IN-AUI080-000

Features:

- Closed loop (compensed) current transducer using the Hall effect
- Unipolar voltage supply
- Compact desisgn
- Incorporated measuring range

Advantages:

- Excellent accuracy
- Very good linearity
- Very low temperature drift
- Optimised response time
- Wide frequency bandwith
- No insertion losses
- High immunity to external interferences
- Current overload capability

IN-AUI200-000

Technical specifications	IN-AUI050-000	IN-AUI080-000	IN-AUI200-000	
Electrical characteristics				
Primary current (measuring range).....	± 45	± 80	± 300	A
Supply voltage (± 5%).....	5	5	5	V
Analog output voltage (@I_P =0 | T_A=25 ℃)	0.5 to 4.5	0.5 to 4.5	0.625 to 4.375	V
Current consumption (@I_P =0,V_C=5V).....	typ. 20	typ. 20	typ. 22	mA
Load resistance.....	≥2	≥2	≥2	kΩ
Internal measuring resistance (R_{IM}) ± 5%...	83.33	50	-	Ω
Thermal drift of R_{IM}.....	<50	<50	-	ppm/K
Dynamic performance data				
Accuracy (@I_{PN},T_A=25 ℃).....	±0.2	±0.2	±1 (of I_{PN})	%
Linearity.....	<0.1	<0.1	≤0.5 (of I_{PN})	%
Thermal drift of V_{out} @ I_P=0 | -10to+85 ℃.	typ. 75	typ. 50	≤0.3 mV//K	ppm/K
Thermal drift of V_{out} @ I_P=0 | -10to+85 ℃.	max. 150	max. 100		
Reaction time @10% of I_{Pmax}.....	< 50	< 50	<3000	ns
Response time @90% of I_{Pmax}.....	< 200	< 200	< 7000	ns
di/dt accurately followed.....	> 100	> 100	> 100	A/µs
Frequency bandwith @0 to -0.5 dB.....	DC..100	DC..100	-	kHz
Frequency bandwith @ -0.5 to 1 dB.....	DC..200	DC..200	-	
Frequency bandwith (@ -3dB).....	-	-	DC..20	kHz
Calibration				
Use the formulas on 2nd page to calculate the physical values.				
Mechanical characteristics				
Dimensions (amplifier).....	35 x 15 x 10	35 x 15 x 10	35 x 15 x 10	mm
Dimensions (sensor).....	22 x 13 x 10	22 x 13 x 10	40 x 40 x 16.5	mm
Weight (w/ cable).....	typ. 28	typ. 28	typ. 40	g
Housing material (amplifier | sensor).....	aluminium | PVC	aluminium | PVC	aluminium | PVC	
Cable (type | wire-cross section | length)...	Raychem EPD, 4 x AWG26, 800mm			
Environmental data				
Ambient operating temperature.....	-10 to +85	-10 to +85	-40 to +105	℃
Ambient storage temperature.....	-25 to +100	-25 to +100	-40 to +105	℃
Ordering information				
Art.No:	IN-AUI050-000	IN-AUI080-000	IN-AUI200-000	

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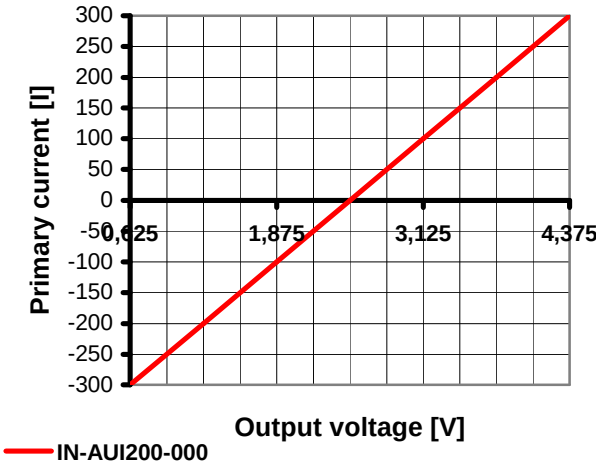
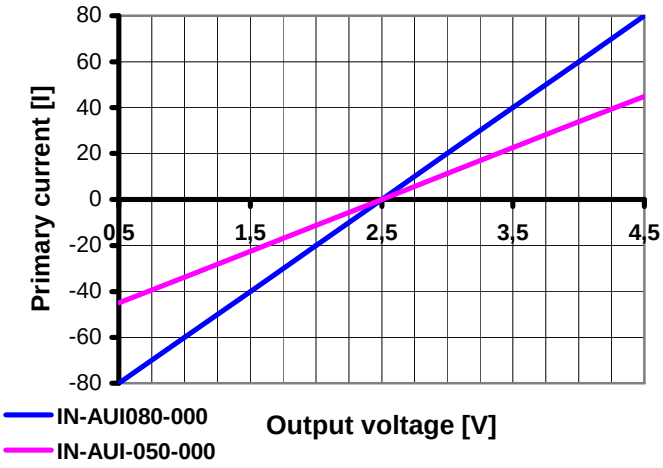
IN-AUIxxx-000 — Current amplifier interface

Characteristic curves





Formulas

	IN-AUI050-000		Multiplicator				Offset
12 Bit A/D	Primary current [I]	=	225 / 8192	*	Digits	-	56,25
16 Bit A/D	Primary current [I]	=	15 / 8738	*	Digits	-	56,25
Voltage	Primary current [I]	=	45 / 2	*	Volt	-	56,25
	IN-AUI080-000						
12 Bit A/D	Primary current [I]	=	25 / 512	*	Digits	-	100
16 Bit A/D	Primary current [I]	=	40 / 13107	*	Digits	-	100
Voltage	Primary current [I]	=	40	*	Volt	-	100
	IN-AUI0200-000						
12 Bit A/D	Primary current [I]	=	25 / 128	*	Digits	-	400
16 Bit A/D	Primary current [I]	=	600 / 49151	*	Digits	-	400
Voltage	Primary current [I]	=	160	*	Volt	-	400

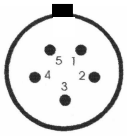
Connector layout

Analog-line Binder 719, 5pin

Pin	Name	Description	Color (standard)
1	AGND	Analog Ground	black
2	+5V	Supply voltage	red
3			
4			
5	Signal	Analog signal	white

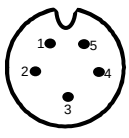
Connector type

Mating plug



Binder 719, 5 PF
(front side)

Connector at sensor



Binder 719, 5 PM
(front side)

Possible options (=concerning the plug & cable) on customer request !

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