



1. Product Introduction

AH910W is a high-performance Hall-effect isolated wire current sensor chip for more effective measurement of AC or DC current, which can be widely used in industrial applications, commercial, and communication systems.

AH910W series internal integration of a high precision, low noise linear Hall circuit and a low impedance main current loop wire, when the sampling current flows through the main current loop, the magnetic field generated in the Hall circuit induction of the corresponding electrical signal, through the signal processing circuit output voltage signal, so that the product output is strictly proportional to the measured current value.

The linear Hall circuit is based on the low offset of BCD technology, and the chopper stable Hall chip can provide accurate proportional voltage, which is accurately calibrated during manufacturing. When the applied current flows through the internal current conduction path (from pins 1,2,3 and 4 to pins 5,6,7 and 8), the output of the chip has a positive slope ($>VOQ$). The typical internal resistance value of this conductive path is $0.75m\Omega$, which can achieve low energy consumption. The terminals (pins [to 8]) of the conductive path are Galvanic isolation from the signal lines (pins 9 to 16). This allows the AH910W

current sensor IC to be used in high-end current detection applications without the need for other expensive isolation technologies. This series provides customers with S0P16W packaging that meets RoHS requirements.

2. Function

- Operating Voltage: 4.5V~5.5V
- Static common mode output: 2.5V or 50% V_{CC}
- Wide measurement range: $\pm 30A$, $\pm 40A$, $\pm 50A$, $\pm 60A$, $\pm 70A$, $\pm 80A$, 60A, 70A, 80A
- High bandwidth: 120kHz;
- Output response time: 4 μs ((typical value));
- Equipped with reference output: 2.5V
- Certification related to safety regulations: UL Ready
- dielectric strength: 4800Vrms 1min
- Isolation Operating Voltage: 1097Vrms, 1550VDC or VPK
- Electrical clearance: 7.5mm
- Creepage distance: 8.2mm
- Passed RoHS certification: (EU) 2015/863

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3. Application

- Inverter current detection
- Motor phase current detection (Motor control)
- Photovoltaic inverter
- Battery load detection system
- Battery load detection system
- Switching power supply
- Overload protector

4. Product packaging

Part No.	Sensitivity range	Range (A)	Temperature range	Packing
AH910W-V-B-30	66.7mV/A	±30	-40°C~125°C	45pcs/tube
AH910W-V-B-40	50mV/A	±40	-40°C~125°C	45pcs/tube
AH910W-V-B-50	40mV/A	±50	-40°C~125°C	45pcs/tube
AH910W-V-B-60	33.33mV/A	±60	-40°C~125°C	45pcs/tube
AH910W-V-B-70	28.5mV/A	±70	-40°C~125°C	45pcs/tube
AH910W-V-B-80	25mV/A	±80	-40°C~125°C	45pcs/tube
AH910W-V-U-60	66.67mV/A	60	-40°C~125°C	45pcs/tube
AH910W-V-U-70	57.1mV/A	70	-40°C~125°C	45pcs/tube
AH910W-V-U-80	50mV/A	80	-40°C~125°C	45pcs/tube
AH910W-F-B-30	44mV/A	±30	-40°C~125°C	45pcs/tube
AH910W-F-B-40	33mV/A	±40	-40°C~125°C	45pcs/tube
AH910W-F-B-50	26.4mV/A	±50	-40°C~125°C	45pcs/tube
AH910W-F-B-60	33.33mV/A	±60	-40°C~125°C	45pcs/tube
AH910W-F-B-70	28.5mV/A	±70	-40°C~125°C	45pcs/tube
AH910W-F-B-80	16.5mV/A	±80	-40°C~125°C	45pcs/tube
AH910W-F-U-60	66.67mV/A	60	-40°C~125°C	45pcs/tube
AH910W-F-U-70	57.1mV/A	70	-40°C~125°C	45pcs/tube
AH910W-F-U-80	50mV/A	80	-40°C~125°C	45pcs/tube

Note: F-fixed 2.5V, V-1/2 VDD, B-Bi, U-Unit

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5. Naming conventions

Part No.

AH910W

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F

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B

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① ② ③ ④

① Series name

② Output mode

Model	Output model
F	Fixed 2.5V
V	Proportional output

③ 电流极性

Model	Current polarity
B	Bidirectional current
U	Unidirectional current

④ Input current range

Model	Input current range
30	Full scale detection range : 30A
40	Full scale detection range : 40A
50	Full scale detection range : 50A
60	Full scale detection range : 60A
70	Full scale detection range : 70A
80	Full scale detection range : 80A

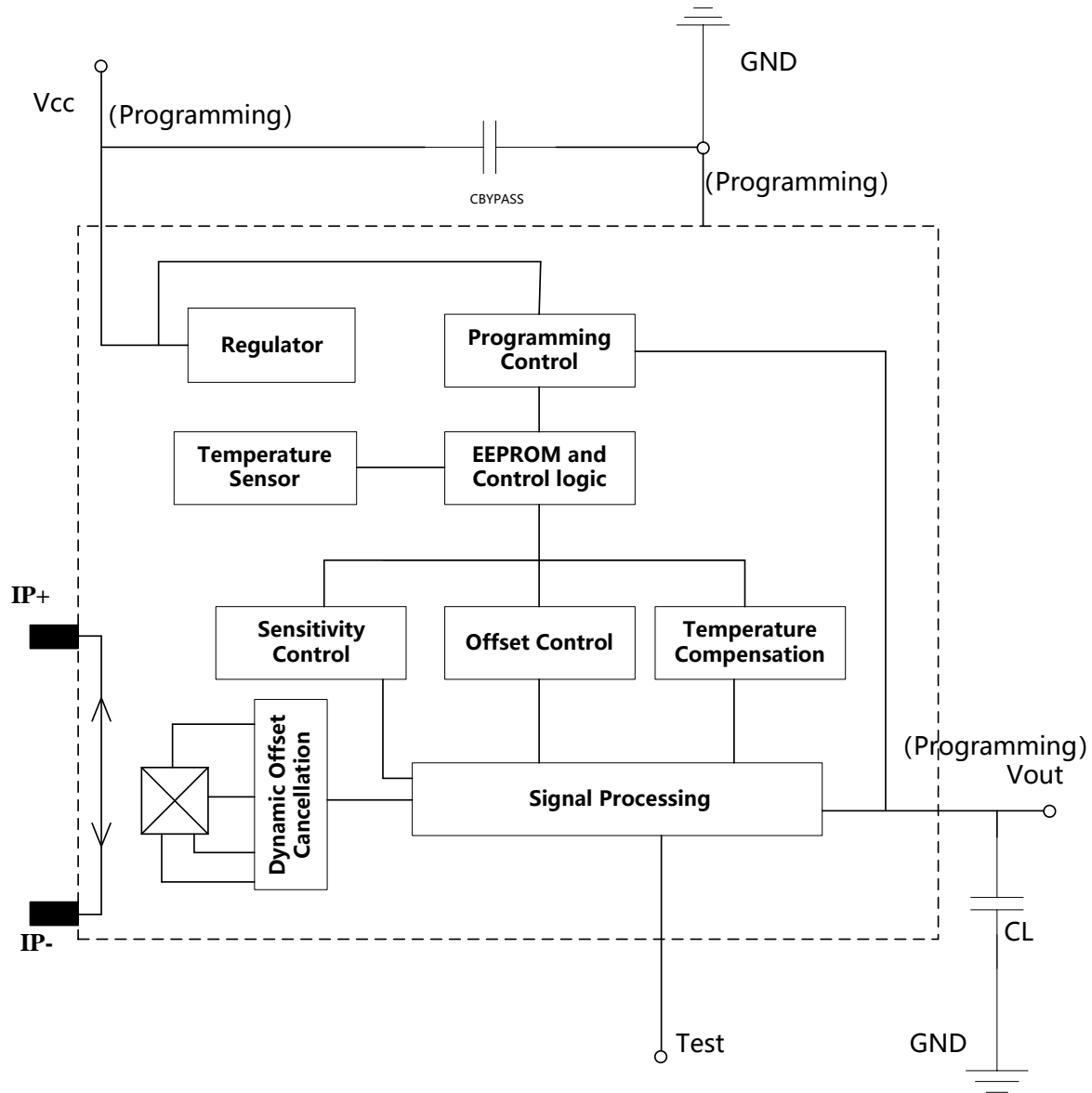
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6. Functional Block Diagram



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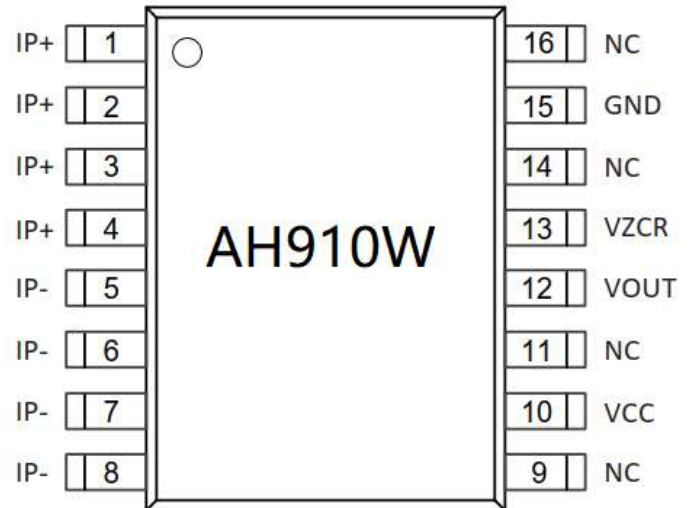
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7. Pin information

Name	Number	Functions
IP+	1, 2, 3, 4	Current input positive end
IP-	5, 6, 7, 8	Current input negative end
NC	9	No internal connection
V _{CC}	10	power supply
NC	11	No internal connection
V _{OUT}	12	output signal
VZCR	13	Reference signal output
NC	14	No internal connection
GND	15	signal ground
NC	16	No internal connection



8. Electromagnetic characteristics

8.1 limit parameter

Exceeding the limit parameters during use can lead to unstable chip functionality, and prolonged exposure to this environment can damage the chip.

Symbols	Parameters	Min	Max	Units
V _{CC}	Power supply voltage	-	6	V
V _{RCC}	Power supply reverse voltage	-0.1		V
V _{OUT}	Output voltage		V _{CC} +0.5	V
V _{ROUT}	Output reverse voltage	-0.1		
I _{OUT} (source)	Output current source	-	40	mA
I _{OUT} (sink)	Output current sink	-	40	mA
T _A	Working environment temperature	-40	125	°C
T _S	Storage temperature	-55	150	°C
T _J	Maximum junction temperature	-	165	°C

8.2ESD Parameters

Symbols	Enforcement standards	Max	Units
V _{ESD}	HBM JEDECJS-001-2017	5	kV



8.3 Electrical parameters

Symbols	Parameters	Test conditions	Min	Typ	Max	Units
V_{CC}	Operating voltage	- XXBR5, XXBF5	4.5	5	5.5	V
I_{CC}	Operating current	$V_{CC}=5V$, $T_A=25^\circ C$	-	11	14	mA
RIP		$T_A=25^\circ C$		0.75		m Ω
BW	Built-in bandwidth	- 3dB, $C_L=1nF$	-	120	-	kHz
TPO	Power-on time	$T_A=25^\circ C$, $C_L=1nF$, IP=IPR (max) applied	-	100	-	us
TTC	Temperature compensation for power-on time	$T_A=150^\circ C$, $C_L=1nF$, sensitivity 2mV/G, constant magnetic field: 400Gs	-	300	-	us
VUVLOH	Undervoltage-lockout threshold	$T_A=25^\circ C$, the voltage rises and the device starts working		4.1		V
VUVLOL		$T_A=25^\circ C$, the voltage drops and the device stops working		3.8		V
VPORH	Reset voltage	$T_A=25^\circ C$, V_{CC} rising	-	4.1	-	V
VPORL		$T_A=25^\circ C$, V_{CC} goes down	-	3.8	-	V
tPORR	Power-on reset release time	$T_A=25^\circ C$, V_{CC} rising	-	10	-	us
I_{SCLP}	Maximum current source	-	-	80	-	mA
I_{SCLN}	Maximum current sink	-	-	40	-	mA
V_{OL}	Analog output saturated low level	$R_L \geq 4.7k\Omega$	-	-	0.3	V
V_{OH}	Analog output saturated high level	$R_L \geq 4.7k\Omega$	$V_{CC}-0.3$	-		V
C_L	Output load capacitor	V_{OUT} to GND	-	0.47	1	nF
R_L	Output load resistance	V_{OUT} to GND	4.7	-	-	k Ω
		V_{OUT} to V_{CC}	4.7	-	-	k Ω
ROUT_ZCR	DC output resistance	$T_A=25^\circ C$	-	5	-	Ω
RL_ZCR	Reference	Dropdown to GND	4.7	-	-	k Ω

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	terminal resistance load	Pull up to Vcc	4.7	-	-	k Ω
CL_ZCR	Reference terminal capacitance load	VZCR-GND	-	0.47	-	nF
IND	noise density	Vcc=5V, T _A =25°C, C _L =1nF	-	120	-	$\mu\text{A}/\sqrt{\text{Hz}}$
		Vcc=3.3V, T _A =25°C, C _L =1nF	-	190	-	$\mu\text{A}/\sqrt{\text{Hz}}$
R _{OUT}	output resistance	-	4.7	-	-	Ω
TRESP	response time	T _A =25°C, constant magnetic field 400Gs, C _L =1nF, sensitivity 2mV/Gs	-	4.2	-	μs
VN	noise	T _A =25°C, C _L =1nF, sensitivity 2mV/Gs, BWf=Bwi	-	14.1	-	mVp-p
RP	Main current terminal resistance			1.5	1.8	m Ω
E _{lin}	linearity error	T _A =25°C, C _L =1nF, Sensitivity 2mV/Gs, BWf=Bwi	-1.0	0.3	1.0	%
Voq	quiescent point	T _A =25°C, C _L =1nF, Sensitivity 2mV/Gs, BWf=Bwi	2.485	2.500	2.515	V
ERAT_SNST	Sensitivity proportional error	T _A =25°C	-	± 1.5	-	%
ERAT_VOQ	Static voltage output proportional error	T _A =25°C	-	± 1.0	-	%
ERAT_VZCR	Reference voltage output proportional error	T _A =25°C	-	± 1.0	-	%
PSRR_VOQ	Static output voltage to power suppression ratio	DC~1kHz, 200mV pk-pk ripple on Vcc, IP=0A	-	-40	-	dB
PSRR_VZCR	Reference output voltage to power suppression ratio	DC~1kHz, 200mV pk-pk ripple on Vcc, IP=0A	-	-45	-	dB

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PSRR_SNST	Sensitivity to power suppression ratio	DC~1kHz, 200mV pk-pk ripple on Vcc, IP=IPR(max)	-	-35	-	dB
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8.4 Precision Parameters

AH910W-V-B-30

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-30	-	30	A
Sensitivity	Sens	Full current range	-	66.7	-	mV/A
Zero current output voltage	VOQ		-	$V_{CC} \times 0.5$	-	V
Reference output voltage	VZCR		-	$V_{CC} \times 0.5$	-	V
Reference output error	VOE_ZCR	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, $T_A=25^\circ\text{C}$	-5	-	5	mV
		IP=0A, $T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		IP=0A, $T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	16	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(Q)}$		-	0	-	mV/ $^\circ\text{C}$
Sensitivity temperature coefficient	ΔSens	$T_A=150^\circ\text{C}$, $T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/ $^\circ\text{C}$
sensitivity error	ESNST	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		IP=20A, $T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-	± 2.5	-	%
		IP=20A, $T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-	± 2.2	-	%
Total output error	ETOT	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.5	-	%
		IP=20A, $T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-	± 3.5	-	%
		IP=20A, $T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-	± 3.0	-	%

AH910W-V-B-40

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-40	-	40	A
Sensitivity	Sens	Full current range	-	50	-	mV/A
Zero current	VOQ		-	$V_{CC} \times$	-	V

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output voltage				0.5		
Reference output voltage	VZCR		-	$V_{CC} \times 0.5$	-	V
Reference output error	VOE_ZCR	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, $T_A=25^\circ\text{C}$	-5	-	5	mV
		IP=0A, $T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		IP=0A, $T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	16	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(Q)}$		-	0	-	mV/ $^\circ\text{C}$
Sensitivity temperature coefficient	ΔSens	$T_A=150^\circ\text{C}$, $T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/ $^\circ\text{C}$
sensitivity error	ESNST	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		IP=20A, $T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-	± 2.5	-	%
		IP=20A, $T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-	± 2.2	-	%
Total output error	ETOT	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.5	-	%
		IP=20A, $T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-	± 3.5	-	%
		IP=20A, $T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-	± 3.0	-	%

AH910W-V-B-50

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-50	-	50	A
Sensitivity	Sens	Full current range	-	40	-	mV/A
Zero current output voltage	VOQ		-	$V_{CC} \times 0.5$	-	V
Reference output voltage	VZCR		-	$V_{CC} \times 0.5$	-	V
Reference output error	VOE_ZCR	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, $T_A=25^\circ\text{C}$	-5	-	5	mV
		IP=0A, $T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		IP=0A, $T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	14	-	mV

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Zero current output temperature coefficient	$\Delta V_{OUT(Q)}$		-	0	-	mV/°C
Sensitivity temperature coefficient	$\Delta Sens$	$T_A=150^\circ\text{C}, T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/°C
sensitivity error	ESNST	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		IP=20A, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 2.5	-	%
		IP=20A, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 2.2	-	%
Total output error	ETOT	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.5	-	%
		IP=20A, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 3.5	-	%
		IP=20A, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 3.0	-	%

AH910W-V-B-60

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-60	-	60	A
Sensitivity	Sens	Full current range	-	33.33	-	mV/A
Zero current output voltage	VOQ		-	$V_{CC} \times 0.5$	-	V
Reference output voltage	VZCR		-	$V_{CC} \times 0.5$	-	V
Reference output error	VOE_ZCR	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, $T_A=25^\circ\text{C}$	-5	-	5	mV
		IP=0A, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-20	-	20	mV
		IP=0A, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	14	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(Q)}$		-	0	-	mV/°C
Sensitivity temperature coefficient	$\Delta Sens$	$T_A=150^\circ\text{C}, T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/°C
sensitivity error	ESNST	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		IP=20A, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 2.5	-	%
		IP=20A, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 2.5	-	%
Total output error	ETOT	IP=20A, $T_A=25^\circ\text{C}$	-	± 1.5	-	%

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		IP=20A, T _A =-40°C~25°C	-	±3.5	-	%
		IP=20A, T _A =25°C~125°C	-	±3.2	-	%

AH910W-V-B-70

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-70	-	70	A
Sensitivity	Sens	Full current range	-	28.5	-	mV/A
Zero current output voltage	VOQ		-	V _{CC} × 0.5	-	V
Reference output voltage	VZCR		-	V _{CC} × 0.5	-	V
Reference output error	VOE_ZCR	T _A =25°C	-10	-	10	mV
		T _A =-40°C~25°C	-20	-	20	mV
		T _A =25°C~125°C	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, T _A =25°C	-5	-	5	mV
		IP=0A, T _A =-40°C~25°C	-20	-	20	mV
		IP=0A, T _A =25°C~125°C	-15	-	15	mV
output noise	V _{NOISE(PP)}		-	12	-	mV
Zero current output temperature coefficient	ΔV _{OUT(0)}		-	0	-	mV/°C
Sensitivity temperature coefficient	ΔSens	T _A =150°C, T _A =-40°C, relative to 25°C	-	0	-	%/°C
sensitivity error	ESNST	IP=20A, T _A =25°C	-	±1.0	-	%
		IP=20A, T _A =-40°C~25°C	-	±2.5	-	%
		IP=20A, T _A =25°C~125°C	-	±2.5	-	%
Total output error	ETOT	IP=20A, T _A =25°C	-	±1.5	-	%
		IP=20A, T _A =-40°C~25°C	-	±3.5	-	%
		IP=20A, T _A =25°C~125°C	-	±3.2	-	%

AH910W-V-B-80

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-80	-	80	A
Sensitivity	Sens	Full current range	-	25	-	mV/A
Zero current output voltage	VOQ		-	V _{CC} × 0.5	-	V
Reference output voltage	VZCR		-	V _{CC} × 0.5	-	V

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Reference output error	VOE_ZCR	$T_A=25^{\circ}\text{C}$	-10	-	10	mV
		$T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	$IP=0\text{A}, T_A=25^{\circ}\text{C}$	-5	-	5	mV
		$IP=0\text{A}, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$IP=0\text{A}, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-15	-	15	mV
output noise	$V_{\text{NOISE(PP)}}$		-	12	-	mV
Zero current output temperature coefficient	$\Delta V_{\text{OUT}(0)}$		-	0	-	mV/ $^{\circ}\text{C}$
Sensitivity temperature coefficient	ΔSens	$T_A=150^{\circ}\text{C}, T_A=-40^{\circ}\text{C},$ relative to 25°C	-	0	-	%/ $^{\circ}\text{C}$
sensitivity error	ESNST	$IP=20\text{A}, T_A=25^{\circ}\text{C}$	-	± 1.0	-	%
		$IP=20\text{A}, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-	± 2.5	-	%
		$IP=20\text{A}, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-	± 2.5	-	%
Total output error	ETOT	$IP=20\text{A}, T_A=25^{\circ}\text{C}$	-	± 1.5	-	%
		$IP=20\text{A}, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-	± 3.5	-	%
		$IP=20\text{A}, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-	± 3.2	-	%

AH910W-V-U-60

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		0	-	60	A
Sensitivity	Sens	Full current range	-	66.67	-	mV/A
Zero current output voltage	VOQ		-	$V_{\text{CC}} \times 0.1$	-	V
Reference output voltage	VZCR		-	$V_{\text{CC}} \times 0.1$	-	V
Reference output error	VOE_ZCR	$T_A=25^{\circ}\text{C}$	-10	-	10	mV
		$T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	$IP=0\text{A}, T_A=25^{\circ}\text{C}$	-5	-	5	mV
		$IP=0\text{A}, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$IP=0\text{A}, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-15	-	15	mV
output noise	$V_{\text{NOISE(PP)}}$		-	12	-	mV
Zero current output temperature coefficient	$\Delta V_{\text{OUT}(0)}$		-	0	-	mV/ $^{\circ}\text{C}$

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Sensitivity temperature coefficient	Δ Sens	$T_A=150^\circ\text{C}$, $T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/ $^\circ\text{C}$
sensitivity error	ESNST	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 2.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 2.2	-	%
Total output error	ETOT	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.5	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 3.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 3.0	-	%

AH910W-V-U-70

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	I_P		0	-	70	A
Sensitivity	Sens	Full current range	-	57.1	-	mV/A
Zero current output voltage	V_{OQ}		-	$V_{CC} \times 0.1$	-	V
Reference output voltage	V_{ZCR}		-	$V_{CC} \times 0.1$	-	V
Reference output error	V_{OE_ZCR}	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-20	-	20	mV
Zero current output error $V_{OQ}-V_{ZCR}$	V_{OE}	$I_P=0\text{A}$, $T_A=25^\circ\text{C}$	-5	-	5	mV
		$I_P=0\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-20	-	20	mV
		$I_P=0\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	12	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(Q)}$		-	0	-	mV/ $^\circ\text{C}$
Sensitivity temperature coefficient	Δ Sens	$T_A=150^\circ\text{C}$, $T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/ $^\circ\text{C}$
sensitivity error	ESNST	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 2.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 2.2	-	%
Total output error	ETOT	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.5	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 3.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 3.0	-	%

AH910W-V-U-80

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Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		0	-	80	A
Sensitivity	Sens	Full current range	-	50	-	mV/A
Zero current output voltage	VOQ		-	$V_{CC} \times 0.1$	-	V
Reference output voltage	VZCR		-	$V_{CC} \times 0.1$	-	V
Reference output error	VOE_ZCR	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	$IP=0A, T_A=25^\circ\text{C}$	-5	-	5	mV
		$IP=0A, T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		$IP=0A, T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	12	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(0)}$		-	0	-	mV/ $^\circ\text{C}$
Sensitivity temperature coefficient	ΔSens	$T_A=150^\circ\text{C}, T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/ $^\circ\text{C}$
sensitivity error	ESNST	$IP=20A, T_A=25^\circ\text{C}$	-	± 1.0	-	%
		$IP=20A, T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-	± 2.5	-	%
		$IP=20A, T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-	± 2.2	-	%
Total output error	ETOT	$IP=20A, T_A=25^\circ\text{C}$	-	± 1.5	-	%
		$IP=20A, T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-	± 3.5	-	%
		$IP=20A, T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-	± 3.0	-	%

AH910W-F-B-30

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-30	-	30	A
Sensitivity	Sens	Full current range	-	44	-	mV/A
Zero current output voltage	VOQ		-	1.65	-	V
Reference output voltage	VZCR		-	1.65	-	V
Reference output error	VOE_ZCR	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C} \sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C} \sim 125^\circ\text{C}$	-20	-	20	mV
Zero current	VOE	$IP=0A, T_A=25^\circ\text{C}$	-5	-	5	mV

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output error VOQ-VZCR		IP=0A, T _A =-40°C~25°C	-20	-	20	mV
		IP=0A, T _A =25°C~125°C	-15	-	15	mV
output noise	V _{NOISE (PP)}		-	16	-	mV
Zero current output temperature coefficient	ΔV _{OUT (Q)}		-	0	-	mV/°C
Sensitivity temperature coefficient	Δ Sens	T _A =150°C, T _A =-40°C, relative to 25°C	-	0	-	%/°C
sensitivity error	ESNST	IP=20A, T _A =25°C	-	±1.0	-	%
		IP=20A, T _A =-40°C~25°C	-	±2.5	-	%
		IP=20A, T _A =25°C~125°C	-	±2.2	-	%
Total output error	ETOT	IP=20A, T _A =25°C	-	±1.5	-	%
		IP=20A, T _A =-40°C~25°C	-	±3.5	-	%
		IP=20A, T _A =25°C~125°C	-	±3.0	-	%

AH910W-F-B-40

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-40	-	40	A
Sensitivity	Sens	Full current range	-	33	-	mV/A
Zero current output voltage	VOQ		-	1.65	-	V
Reference output voltage	VZCR		-	1.65	-	V
Reference output error	VOE_ZCR	T _A =25°C	-10	-	10	mV
		T _A =-40°C~25°C	-20	-	20	mV
		T _A =25°C~125°C	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, T _A =25°C	-5	-	5	mV
		IP=0A, T _A =-40°C~25°C	-20	-	20	mV
		IP=0A, T _A =25°C~125°C	-15	-	15	mV
output noise	V _{NOISE (PP)}		-	16	-	mV
Zero current output temperature coefficient	ΔV _{OUT (Q)}		-	0	-	mV/°C
Sensitivity temperature coefficient	Δ Sens	T _A =150°C, T _A =-40°C, relative to 25°C	-	0	-	%/°C
sensitivity error	ESNST	IP=20A, T _A =25°C	-	±1.0	-	%
		IP=20A, T _A =-40°C~25°C	-	±2.5	-	%

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		IP=20A, T _A =25°C~125°C	-	±2.2	-	%
Total output error	ETOT	IP=20A, T _A =25°C	-	±1.5	-	%
		IP=20A, T _A =-40°C~25°C	-	±3.5	-	%
		IP=20A, T _A =25°C~125°C	-	±3.0	-	%

AH910W-F-B-50

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-50	-	50	A
Sensitivity	Sens	Full current range	-	26.4	-	mV/A
Zero current output voltage	VOQ		-	1.65	-	V
Reference output voltage	VZCR		-	1.65	-	V
Reference output error	VOE_ZCR	T _A =25°C	-10	-	10	mV
		T _A =-40°C~25°C	-20	-	20	mV
		T _A =25°C~125°C	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, T _A =25°C	-5	-	5	mV
		IP=0A, T _A =-40°C~25°C	-20	-	20	mV
		IP=0A, T _A =25°C~125°C	-15	-	15	mV
output noise	V _{NOISE(PP)}			14		mV
Zero current output temperature coefficient	ΔV _{OUT(Q)}			0		mV/°C
Sensitivity temperature coefficient	ΔSens	T _A =150°C, T _A =-40°C, relative to 25°C		0		%/°C
sensitivity error	ESNST	IP=20A, T _A =25°C	-	±1.0	-	%
		IP=20A, T _A =-40°C~25°C	-	±2.5	-	%
		IP=20A, T _A =25°C~125°C	-	±2.2	-	%
Total output error	ETOT	IP=20A, T _A =25°C	-	±1.5	-	%
		IP=20A, T _A =-40°C~25°C	-	±3.5	-	%
		IP=20A, T _A =25°C~125°C	-	±3.0	-	%

AH910W-F-B-60

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-60	-	60	A
Sensitivity	Sens	Full current range	-	33.33	-	mV/A
Zero current output voltage	VOQ		-	1.65	-	V

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Reference output voltage	VZCR		-	1.65	-	V
Reference output error	VOE_ZCR	$T_A=25^{\circ}\text{C}$	-10	-	10	mV
		$T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	$IP=0A, T_A=25^{\circ}\text{C}$	-5	-	5	mV
		$IP=0A, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$IP=0A, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	14	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(Q)}$		-	0	-	mV/ $^{\circ}\text{C}$
Sensitivity temperature coefficient	ΔSens	$T_A=150^{\circ}\text{C}, T_A=-40^{\circ}\text{C}$, relative to 25°C	-	0	-	%/ $^{\circ}\text{C}$
sensitivity error	ESNST	$IP=20A, T_A=25^{\circ}\text{C}$	-	± 1.0	-	%
		$IP=20A, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-	± 2.5	-	%
		$IP=20A, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-	± 2.5	-	%
Total output error	ETOT	$IP=20A, T_A=25^{\circ}\text{C}$	-	± 1.5	-	%
		$IP=20A, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-	± 3.5	-	%
		$IP=20A, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-	± 3.2	-	%

AH910W-F-B-70

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		-70	-	70	A
Sensitivity	Sens	Full current range	-	28.5	-	mV/A
Zero current output voltage	VOQ		-	1.65	-	V
Reference output voltage	VZCR		-	1.65	-	V
Reference output error	VOE_ZCR	$T_A=25^{\circ}\text{C}$	-10	-	10	mV
		$T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	$IP=0A, T_A=25^{\circ}\text{C}$	-5	-	5	mV
		$IP=0A, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$IP=0A, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	12	-	mV
Zero current output	$\Delta V_{OUT(Q)}$		-	0	-	mV/ $^{\circ}\text{C}$

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temperature coefficient						
Sensitivity temperature coefficient	Δ Sens	$T_A=150^\circ\text{C}$, $T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/ $^\circ\text{C}$
sensitivity error	ESNST	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 2.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 2.5	-	%
Total output error	ETOT	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.5	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 3.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 3.2	-	%

AH910W-F-B-80

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	I_P		-80	-	80	A
Sensitivity	Sens	Full current range	-	16.5	-	mV/A
Zero current output voltage	V_{OQ}		-	1.65	-	V
Reference output voltage	V_{ZCR}		-	1.65	-	V
Reference output error	V_{OE_ZCR}	$T_A=25^\circ\text{C}$	-10	-	10	mV
		$T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-20	-	20	mV
		$T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-20	-	20	mV
Zero current output error $V_{OQ}\text{-}V_{ZCR}$	VOE	$I_P=0\text{A}$, $T_A=25^\circ\text{C}$	-5	-	5	mV
		$I_P=0\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-20	-	20	mV
		$I_P=0\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	12	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(O)}$		-	0	-	mV/ $^\circ\text{C}$
Sensitivity temperature coefficient	Δ Sens	$T_A=150^\circ\text{C}$, $T_A=-40^\circ\text{C}$, relative to 25°C	-	0	-	%/ $^\circ\text{C}$
sensitivity error	ESNST	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.0	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 2.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 2.5	-	%
Total output error	ETOT	$I_P=20\text{A}$, $T_A=25^\circ\text{C}$	-	± 1.5	-	%
		$I_P=20\text{A}$, $T_A=-40^\circ\text{C}\sim 25^\circ\text{C}$	-	± 3.5	-	%
		$I_P=20\text{A}$, $T_A=25^\circ\text{C}\sim 125^\circ\text{C}$	-	± 3.2	-	%

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AH910W-F-U-60

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		0	-	60	A
Sensitivity	Sens	Full current range	-	66.67	-	mV/A
Zero current output voltage	VOQ		-	0.5	-	V
Reference output voltage	VZCR		-	0.5	-	V
Reference output error	VOE_ZCR	$T_A=25^{\circ}\text{C}$	-10	-	10	mV
		$T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	$IP=0\text{A}, T_A=25^{\circ}\text{C}$	-5	-	5	mV
		$IP=0\text{A}, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$IP=0\text{A}, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-15	-	15	mV
output noise	$V_{NOISE(PP)}$		-	12	-	mV
Zero current output temperature coefficient	$\Delta V_{OUT(O)}$		-	0	-	mV/ $^{\circ}\text{C}$
Sensitivity temperature coefficient	ΔSens	$T_A=150^{\circ}\text{C}, T_A=-40^{\circ}\text{C}$, relative to 25°C	-	0	-	%/ $^{\circ}\text{C}$
sensitivity error	ESNST	$IP=20\text{A}, T_A=25^{\circ}\text{C}$	-	± 1.0	-	%
		$IP=20\text{A}, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-	± 2.5	-	%
		$IP=20\text{A}, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-	± 2.5	-	%
Total output error	ETOT	$IP=20\text{A}, T_A=25^{\circ}\text{C}$	-	± 1.5	-	%
		$IP=20\text{A}, T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-	± 3.5	-	%
		$IP=20\text{A}, T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-	± 3.2	-	%

AH910W-F-U-70

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		0	-	70	A
Sensitivity	Sens	Full current range	-	57.1	-	mV/A
Zero current output voltage	VOQ		-	0.5	-	V
Reference output voltage	VZCR		-	0.5	-	V
Reference output error	VOE_ZCR	$T_A=25^{\circ}\text{C}$	-10	-	10	mV
		$T_A=-40^{\circ}\text{C}\sim 25^{\circ}\text{C}$	-20	-	20	mV
		$T_A=25^{\circ}\text{C}\sim 125^{\circ}\text{C}$	-20	-	20	mV

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Zero current output error VOQ-VZCR	VOE	IP=0A, T _A =25°C	-5	-	5	mV
		IP=0A, T _A =-40°C~25°C	-20	-	20	mV
		IP=0A, T _A =25°C~125°C	-15	-	15	mV
output noise	V _{NOISE (PP)}		-	12	-	mV
Zero current output temperature coefficient	ΔV _{OUT (Q)}		-	0	-	mV/°C
Sensitivity temperature coefficient	Δ Sens	T _A =150°C, T _A =-40°C, relative to 25°C	-	0	-	%/°C
sensitivity error	ESNST	IP=20A, T _A =25°C	-	±1.0	-	%
		IP=20A, T _A =-40°C~25°C	-	±2.5	-	%
		IP=20A, T _A =25°C~125°C	-	±2.5	-	%
Total output error	ETOT	IP=20A, T _A =25°C	-	±1.5	-	%
		IP=20A, T _A =-40°C~25°C	-	±3.5	-	%
		IP=20A, T _A =25°C~125°C	-	±3.2	-	%

AH910W-F-U-80

Parameters	Symbols	Conditions	Min	Typ	Max	Units
Current range	IP		0	-	80	A
Sensitivity	Sens	Full current range	-	50	-	mV/A
Zero current output voltage	VOQ		-	0.5	-	V
Reference output voltage	VZCR		-	0.5	-	V
Reference output error	VOE_ZCR	T _A =25°C	-10	-	10	mV
		T _A =-40°C~25°C	-20	-	20	mV
		T _A =25°C~125°C	-20	-	20	mV
Zero current output error VOQ-VZCR	VOE	IP=0A, T _A =25°C	-5	-	5	mV
		IP=0A, T _A =-40°C~25°C	-20	-	20	mV
		IP=0A, T _A =25°C~125°C	-15	-	15	mV
output noise	V _{NOISE (PP)}		-	12	-	mV
Zero current output temperature coefficient	ΔV _{OUT (Q)}		-	0	-	mV/°C
Sensitivity temperature coefficient	Δ Sens	T _A =150°C, T _A =-40°C, relative to 25°C	-	0	-	%/°C
sensitivity error	ESNST	IP=20A, T _A =25°C	-	±1.0	-	%

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		IP=20A, T _A =-40°C~25°C	-	± 2.5	-	%
		IP=20A, T _A =25°C~125°C	-	± 2.5	-	%
Total output error	ETOT	IP=20A, T _A =25°C	-	± 1.5	-	%
		IP=20A, T _A =-40°C~25°C	-	± 3.5	-	%
		IP=20A, T _A =25°C~125°C	-	± 3.2	-	%

9. Characteristic definition

9.1 TPO

When the power supply rises to the operating voltage, the chip needs a limited time to power its internal components before it can react to the input magnetic field.

Power-on time: the time it takes for the power supply to reach the minimum working voltage VCCMIN is t1; In the case of an external magnetic field, the time it takes for the output to reach 90% of the stable value t2, the difference between the two is the power-on time.

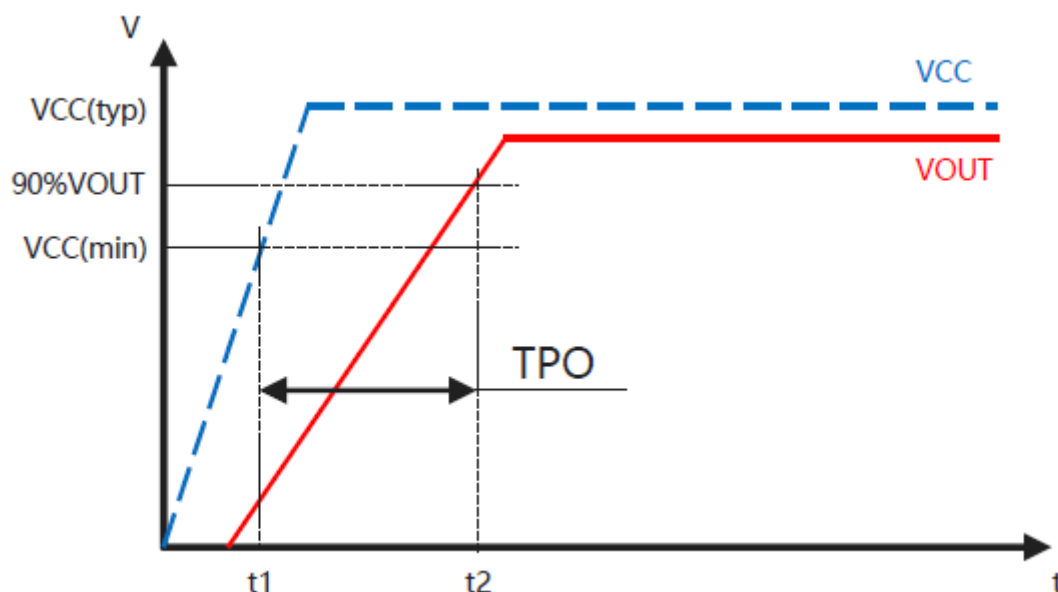


Figure 1: Power-on time definition

9.2 TTC

After power-on, temperature tune-up time is required before effective temperature compensation output.

9.3 TPD

The time difference between when the external magnetic field reaches 20% of the final value and when the output reaches 20% of the final value.

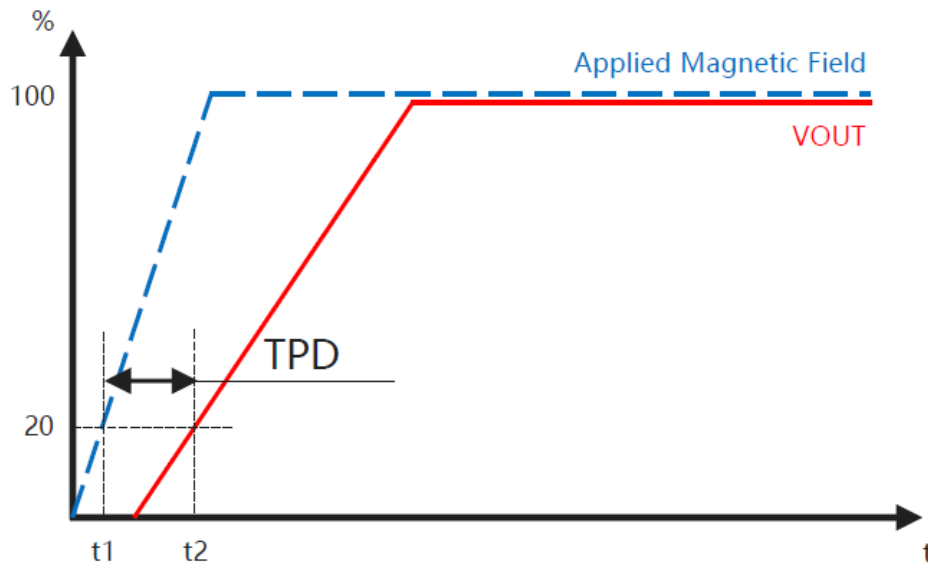


Figure 2: Transmission delay definition

9.4 TR

The time difference between the chip output level rising from 10% to 90%, both TR and TRESP are negatively affected from eddy currents if used to ground the conductive plane.

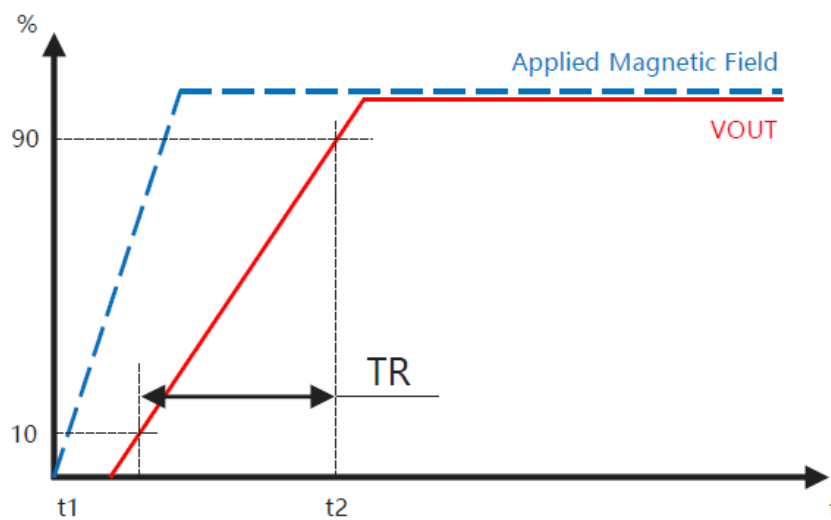


Figure 3: Rise time definition

9.5 TRESP

The time difference when the external magnetic field applied by the chip reaches 80% of the final value and the corresponding output value also reaches 80%.

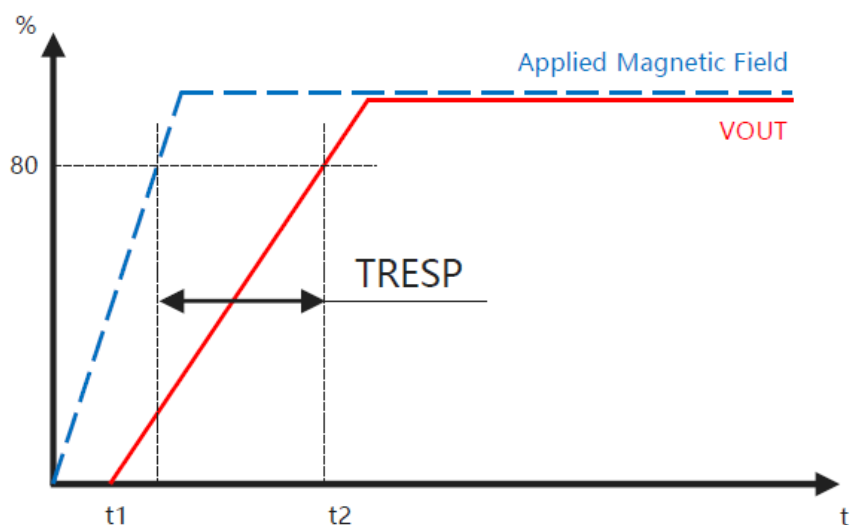


Figure 4: Response time definition

9.6 VOQ

The hall sensor supply voltage and ambient temperature in working range, magnetic field for 0Gs, chip output. Attention: Working at the maximum rated value for a long time may affect the reliability of the device, and exceeding the maximum rated value may damage the device.

9.7 VOE

The difference between the actual output voltage of the sensor and the ideal output voltage supply when the magnetic field is zero. When the output voltage is fixed, the static voltage output error is the difference between the actual output error and the 2.5V voltage. In output mode proportional to the supply, the static voltage output error is the difference between the actual output error and $V_{CC}/2$.

9.8 Sens

Sensitivity indicates the change in the sensor output in mV/Gs for every 1 Gauss change in the magnetic field generated by the current being measured. The calculation method is as follows: the south magnetic field and the north magnetic field are respectively entered, and the difference of the sensor output voltage at 2 points is divided by the difference of the south magnetic field and the north magnetic field, that is, the sensitivity of the sensor. The specific calculation formula is as follows:

$$\text{SENS} = (\text{Vout}(\text{IPma0}) - \text{Vout}(\text{Inma0})) / (\text{IPma0} - \text{Inma0})$$

IPma0 and Inma0 represent the forward full range current and the negative full range current, respectively. Vout (IPma0) and Vout (Inma0) represent the analog output voltage of the sensor at the forward full range

AH910W

Hall Current Sensor

current and the negative full range current, respectively.

9.9 ETOT

This error value represents the maximum error of the sensor in various environments, and is equal to the absolute value of the measurement error in each temperature range over the full current measurement range, divided by the maximum output dynamic range of the sensor. It can be expressed as follows: :

$$ETOT(IP) = Ma0 (Vout - Vout_idea) / (Vout(IPma0) - Voq)$$

$Ma0 (Vout - Vout_idea)$ represents the maximum error within the measurement range, and $(Vout(IPma0) - Voq)$ represents the maximum output dynamic range of the sensor.

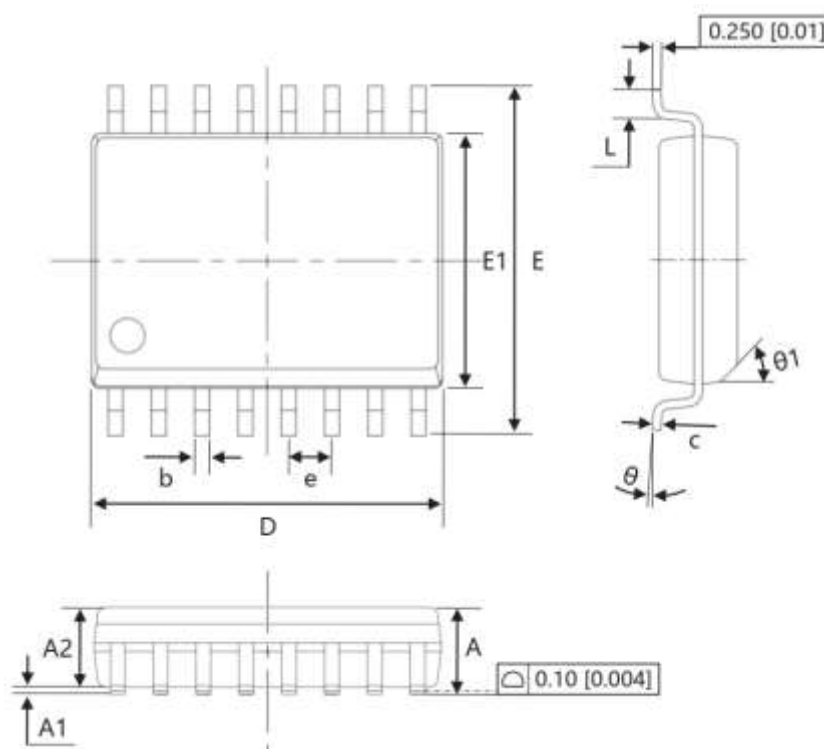
9.10 ELIN

Due to the fact that the sensor is a non ideal device, its output voltage and measured current are not completely linear in practical applications. After linear fitting using the least squares method, the maximum output error of the sensor is divided by the dynamic range of the sensor, which is the linear error of the sensor,

$$ELIN(IP) = \Delta Vout / (Vout(IPma0) - Voq)$$

$\Delta Vout$ is the maximum linear error in the measurement range of the sensor.

10. Package Material Information



AH910W

Hall Current Sensor



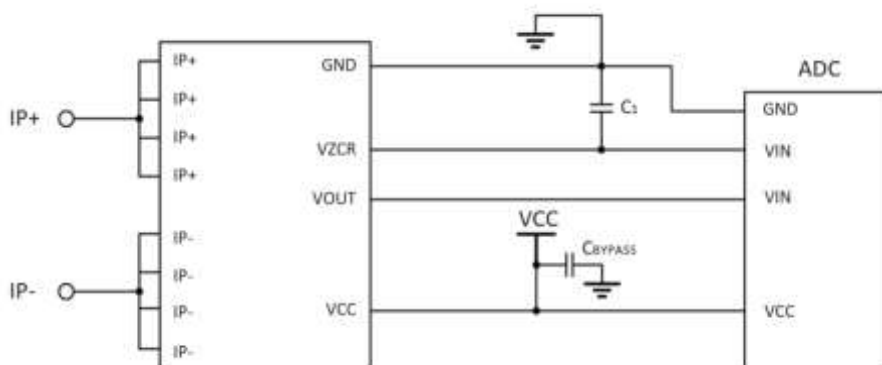
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Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	2.350	2.650	0.093	0.104
A1	0.100	0.300	0.004	0.012
A2	2.050	2.550	0.081	0.100
b	0.330	0.510	0.013	0.020
c	0.230	0.320	0.009	0.013
D	10.100	10.500	0.398	0.413
e	1.270 (BSC)		0.050 (BSC)	
E	10.000	10.630	0.394	0.419
E1	7.400	7.600	0.291	0.299
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

11. Typical application circuit

The CBYPASS=0.1uF bypass capacitor should be placed near the "power ground" of AH910W. C1 recommends 470pF, C2 and C3 recommend 1nF.

AH910W has a "reference signal output" terminal, which can be used either as a single output or as a differential output to interface with ADC or operational amplifiers.



Typical application circuit

12. Notes

- Hall chips are sensitive devices, and electrostatic protection measures should be taken during use, installation, and storage.



- During installation and use, mechanical stress applied to the device casing and leads should be minimized as much as possible.
- It is recommended that the welding temperature should not exceed 350 °C and the duration should not exceed 5 seconds.
- To ensure the safety and stability of Hall chips, it is not recommended to use them beyond the parameter range for a long time.

13. Historical Version

No.	Time	Describe
1	September 6th, 2022	Update Characteristic Performance
2	December 22th, 2022	Update static voltage output error range
3	February 9th, 2023	Update IC limit of operate temperature and storage temperature
4	April 10th, 2023	Version update to V1.2

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