HS57-A-E4 SERIES CURRENT SENSOR/TRANSDUCER

DESCRIPTION:

For the electronic measurement of current: DC, AC, pulsed ..., with galvanic separation between the primary and the secondary circuit.

FEATURES:

- Open loop using the Hall effect
- The primary side and the secondary side are isolated
- Low power consumption
- Wide range
- No insertion loss
- Raw materials recognized according to UL 94-V0



APPLICATIONS:

- Inverter
- Uninterruptible Power Supplies (UPS)
- Static converters for DC motor drives
- Switched Mode Power Supplies (SMPS)
- Power supplies for welding applications
- Battery management

MODEL LIST:

PRODUCT MODEL		
Model	**Rated input current I_{PN} (A)**	**Measuring range I_{PM} (A)**
HS57- 800A-E4	800	± 1600
HS57-1000A-E4	1000	± 2100
HS57-1500A-E4	1500	± 2100
HS57-2000A-E4	2000	± 2100
HS57-3000A-E4	3000	± 3000
HS57-4000A-E4	4000	± 4500

HS -A-E4 SPECIFICATION

Parameter	Symbol	Unit	Value	Test Conditions
Electrical Data				
Supply voltage (±5%) (1)	V_C	V	±15	
Current consumption	I_C	mA	±25	
Output voltage (analog output)	V_{OUT}	mV	±4V±40	@ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C
Overload capacity	I_{CC}	A rms	5* I_{PN}	
Insulation resistance	R_{IS}	MΩ	>1000	@ 500 VDC
Internal impedance	R_{OUT}	Ω	100	approximation
Load Resistor (2)	R_L	KΩ	>10	
Performance Data				
Linearity (3) (0…± I_{PN})	ε_L	%of I_{PN}	<±1	
Precision	X	%	<±1	@ I_{PN} , T_A = 25°C (remove zero offset voltage)
Zero offset voltage	V_{OE}	mV	<±20	@T_A = 25°C
Magnetic offset voltage	V_{OM}	mV	<±10	@I_P=0; 1 times the rated current impact
Zero offset temperature drift	TCV_{OE}	mV/K	<±0.5	@ HS57-A~E4
Output offset temperature drift	TCV_{OUT}	ppm/K	<500	@% of reading
Response time	t_r	μS	<10	@ 90% of I_{PN} step response
Current follows d_i/d_t	d_i/d_t	A/μS	>50	
Bandwidth (4)	BW	kHz	DC~10	@-3dB
General Data				
Ambient operating temperature	T_A	℃	-40….+85	
Ambient storage temperature	T_S	℃	-40….+105	
Mass	m	g	600	approximation

Notice:

(1) Under the power supply condition of ±12V≤VC≤±15V, the measurement range of the sensor will be reduced;

(2) If the customer uses a load resistance of 1 KΩ, the current to be measured needs to be limited to the rated current. If the full-scale current is to be measured, the load resistance should be at least 10 KΩ.

(3) Linearity data does not include zero offset.

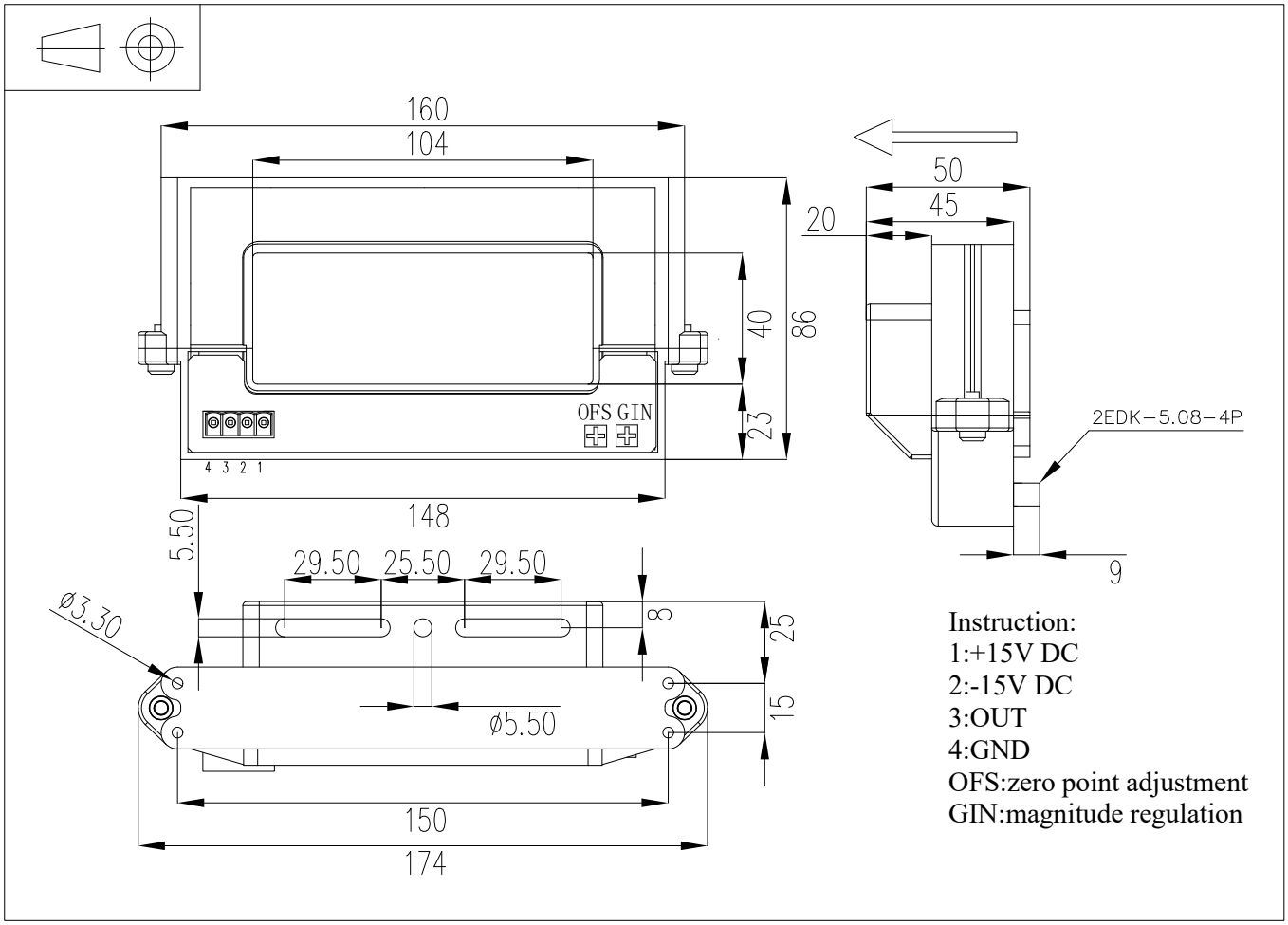
Insulation data :

Parameter	Symbol	Unit	Value	Remark
AC isolation withstand voltage test RMS @ 50Hz, 1min	U_D	KV	5	
Impulse withstand voltage 1.2/50uS	U_W	KV	12	
Shell material	-	-	UL94-V0	PET+30%GF
Relative tracking index	CTI	PLC	3	
Creepage distance	d_{CP}	mm	21	
Electrical clearance	d_{CI}	mm	16	

Maximum limit :

Parameter	Symbol	Unit	Value
Supply voltage	V_C	V	±18
Output current (output shorted to ground)	I_{out}	mA	-
Electrostatic discharge-contact discharge	V_{ESD}	V	-

Mechanical Dimensions :



Safety

This device must be used according to IEC610101.

This device must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the operating instructions.

Caution, risk of electrical shock.

When operating the device, certain parts can carry hazardous voltage (eg. primary busbar, power supply).
Ignoring this warning can lead to injury and/or cause serious damage.
This is a builtin device, whose conducting parts must be inaccessible after installation.
A protective housing or additional shield can be used.
Main supply must be able to be disconnected.