

SHL series - AC-DC current sensor 38A - 90A

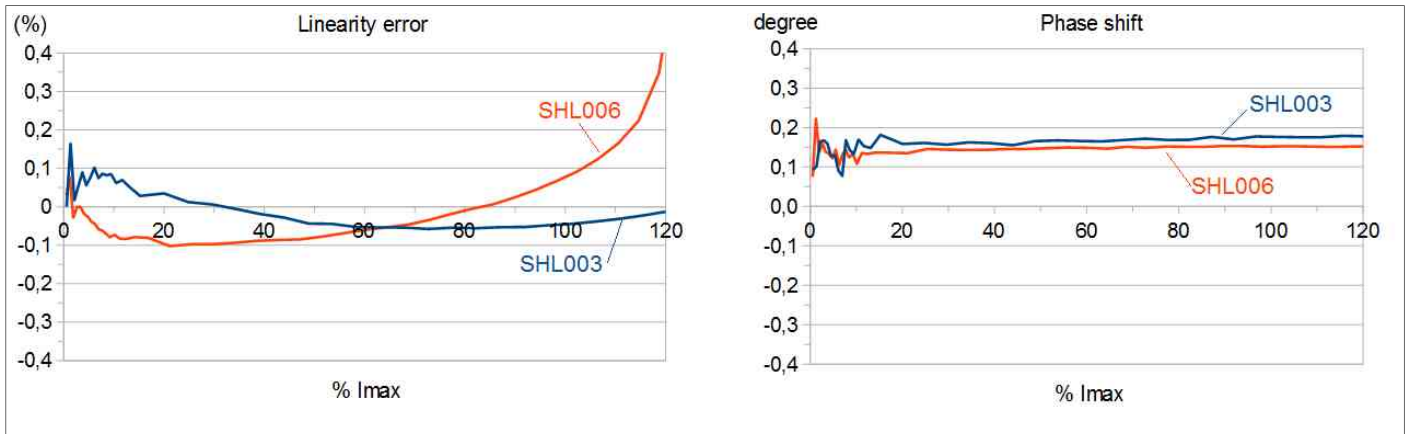
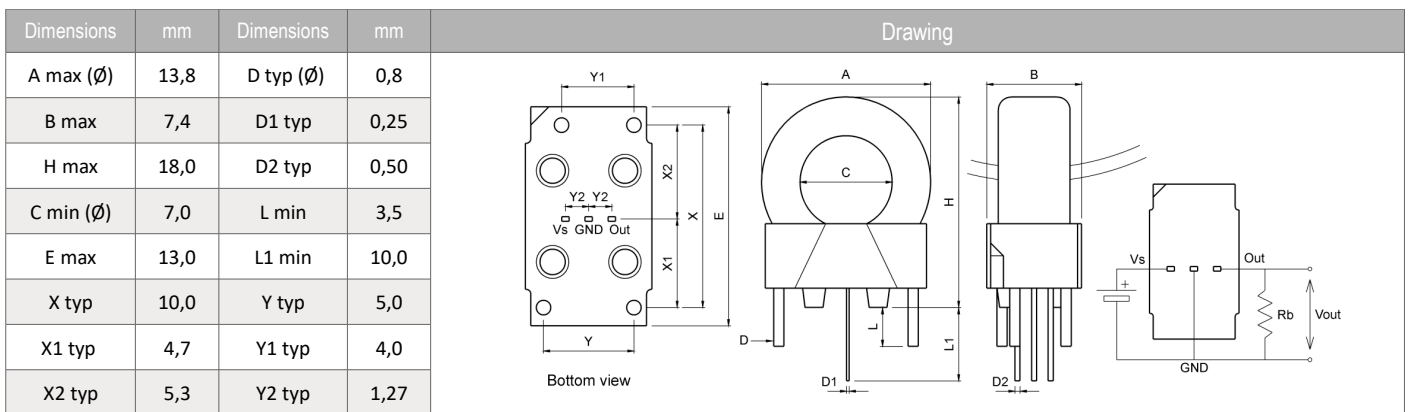
- Precision open loop AC/DC current sensor
- Cost effective solution in digital measuring equipments
- DC to over 100KHz bandwidth
- Low and constant phase shift
- Low temperature drift
- Working temperature up to 60°C, 95°C with current derating
- Quick response time
- High insulation and creepage-clearance
- Custom versions on request from 2A to 100A on the same size



38A - 90A

PRELIMINARY

Code	Precision Input Current	Max Input Current	Typ linearity error ¹	Max linearity error ¹	Typ phase shift ²	Nominal Vout (Vs=5V)	Supply voltage (Vs)	Vdc Offset (quiescent voltage)	Typ Offset Temperature drift	Typ Gain Temperature drift	Creepage Clearance ³	In/Out Dielectric strenght ³
SHL003	38A	38A	±0,1%	±0,6%	0,15°	38 mV/A	3,3..5 Vdc	0,46...0,54*Vs	±0,35mV/°C	±0,022%/°C	8 mm	5 KV
SHL006	75A	90A	±0,2%	±0,6%	0,15°	6 mV/A	3,3..5 Vdc	0,46...0,54*Vs	±0,35mV/°C	±TBD%/°C	8 mm	5 KV



The showed errors and typical graphs are referred to 50/60Hz AC current measuring, Rb=10kΩ.

For precise measurements offset and gain compensation are required after primary conductor securing.

Vout is proportional to both input current and Vs, so it should be monitored by the systems or sufficiently stable.

With frequency over 10KHz sine the max current is derated of a factor $K_{(SHL003)} = -0,0074 * KHz + 1,073$.

For mono-directional DC current measurements use software compensation. With bi-directional DC current the linearity error increase +1% due to the hysteresis.

For mono-directional DC current the hysteresis error can be excluded performing the offset compensation after a first DC current pulse with same polarity.

Supply current 12,5mA max. Allowed Rb range 5,6...47kΩ.

¹ Within precision input current range, 50-400Hz AC current.

² Within max input current range, 50Hz AC current.

³ Between pins and uninsulated primary conductor (not supplied).