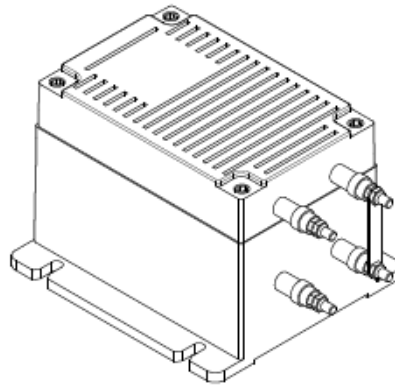


Current sensor

Model Number:

VN3A 6400 M00



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

Features

- ◇ Closed loop (compensated) voltage sensor using the Hall Effect
- ◇ Insulating plastic case recognized according to UL 94-V0
- ◇ Mutual shielding between the primary and secondary
- ◇ Primary side resistance R1 integrated into the sensor
- ◇ High accuracy
- ◇ Good linearity
- ◇ Very low offset drift over temperature
- ◇ Resistant to strong external interference
- ◇ Standards:
 - EN50178: 1997
 - IEC 61010-1: 2000
 - UL 508: 2010

Applications

- ◇ AC variable speed
- ◇ Uninterruptible Power Supply (UPS)
- ◇ Static converters for DC motor drives
- ◇ Switch Mode Power Supplies (SMPS)
- ◇ Rail transit line voltage measurement

Safety

This sensor must be used according to IEC61010-1.

This sensor must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the following manufacture's operating instructions.

Caution, risk of electrical shock!



When operating the sensor, certain parts of the module can carry hazardous voltage (e.g., Primary busbar, power supply).

Ignore this warning can lead to injury and/or cause serious damage.

This sensor is a built-in device, whose conducting parts must be inaccessible after installation. A protective housing or additional shield could be used.

Main supply must be able to be disconnected.

Environmental and mechanical characteristics

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Ambient operating temperature	T_A	°C	-20		70	
Ambient storage temperature	T_S	°C	-40		85	
Mass	m	g		2000		
Standards	EN 50178, IEC 61010-1, UL 508					

Insulation coordination

Parameter	Symbol	Unit	Value	Comment
Rms voltage for AC insulation test @ 50Hz, 1min	V_d	kV	12	Primary and Secondary+Shielding
Rms voltage for AC insulation test @ 50Hz, 1min	V_d	kV	1	Secondary+Shielding
Partial discharge test voltage@50pC		kV	4.8	AC RMS Value
Plastic case	-	-	UL94-V0	
Clearance (pri.- sec.)	d_{cl}	mm	203	
Creepage distance (pri.- sec.)	d_{cp}	mm	226	
Comparative tracking index	CTI		600	

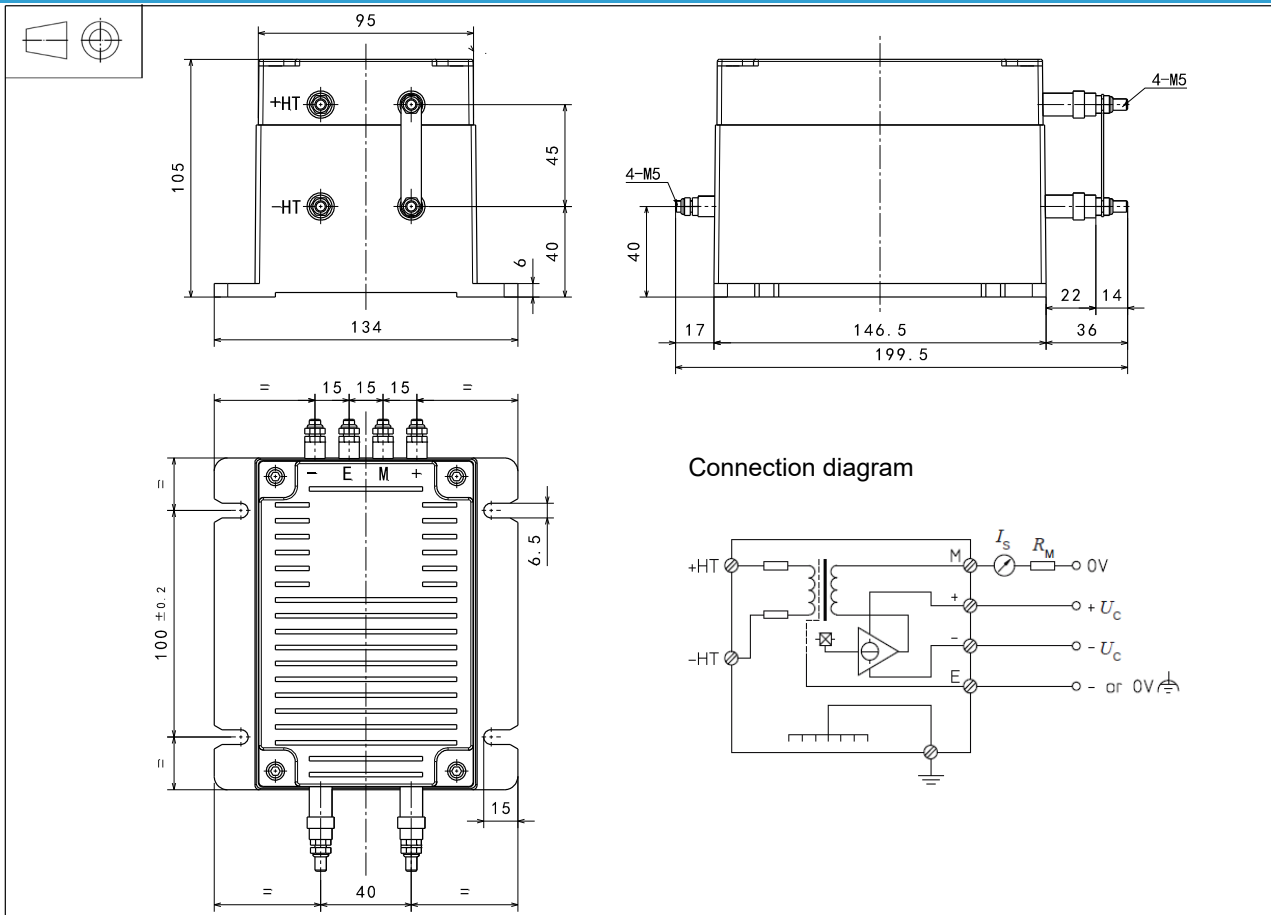
Electrical data

※ With $T_A = 25^\circ\text{C}$, $V_C = \pm 15\text{V}$, $R_M = 60\Omega$, unless otherwise noted.

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary nominal rms voltage	V_{PN}	V	-6400		6400	
Maximum measuring voltage	V_{PM}	V	-9600		9600	
Measuring resistance	R_M	Ω	0		120	@±15V, @±6400V
			0		60	@±15V, @±9600V
			60		220	@±24V, @±6400V
			60		110	@±24V, @±9600V
Output nominal rms current	I_{SN}	mA		80		
Supply voltage	V_C	V	±15		±24	@ ±5%
Primary resistance	R_1	k Ω		5120	300	
Secondary coil resistance	R_S	Ω		40		@ 70°C
Turns ratio	K_N	-		160000:2500		
Current consumption	I_C	mA		$30 + I_S$		
Electrical offset current	I_0	mA	-0.3		0.3	
Offset current temperature drift	I_{0T}	mA	-0.6	±0.30	0.6	@ -20°C~70°C
Sensitivity error	ε_G	%	-0.5		0.5	
Linearity error	ε_L	% of V_{PN}	-0.1		0.1	
Accuracy@ V_{PN}	X	% of V_{PN}	-1.0		1.0	
Response time@ 90% of V_{PN}	t_r	μs		500		
Primary total power	P_T	W		8		

VN3A M00

Dimensions(Unit mm)



Mechanical characteristics

◇ General tolerance	±0.5 mm
◇ Sensor	4pc Φ6.5 mm through hole
◇ Recommended fastening torque torque	2.2 N•m(±10%)
◇ Primary connection	M5 threaded Bolt
◇ Connection of secondary	M5 threaded Bolt
◇ Recommended fastening torque	2.2 N•m (±10%)

Remarks

- ◇ I_S is positive when V_P is connected to +HV.
- ◇ The primary side and the voltage under test must be securely connected.
- ◇ This is a standard model. For different applications (measurement, secondary connections...), please contact CHIPSENSE.