

Current Transducer 0201#600A ... 1000A

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



All data are given with $R_L = 10\text{ k}\Omega$

Electrical data

	Primary nominal RMS current I_{PN} (A)	Primary current measuring range I_{PM} (A)	Type	
	600	± 750	0201#600 A	
	700	± 875	0201#700 A	
	1000	± 1250	0201#1000 A	
U_C	Supply voltage ($\pm 5\%$)		+5	V
I_C	Current consumption @ $U_C = +5\text{ V}$		< 22	mA
R_{INS}	Insulation resistance @ 500 V DC		< 500	M Ω
U_{out}	Output voltage (Analog) @ I_{PN}		$U_{OE} \pm (1.5 \pm 1\%)$ V	
R_L	Load resistance		10	k Ω

Accuracy - Dynamic performance data

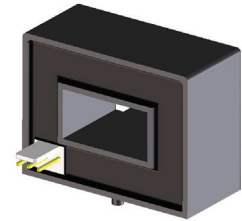
ϵ_L	Linearity error 0 ... I_{PN}	< ± 1	% of I_{PN}
	Linearity error 0 ... I_{PM}	0201#600 A, 700 A	< ± 1 % of I_{PM}
	Linearity error 0 ... I_{PM}	0201#1000 A	< ± 3 % of I_{PM}
U_{OE}	Electrical offset voltage, $T_A = 25\text{ }^\circ\text{C}$	2.5 ± 0.035	V
U_{OM}	Magnetic offset voltage @ $I_P = 0$ and specified R_M , after an overload of $1 \times I_{PN}$	< ± 5	mV
TCU_{OE}	Temperature coefficient of U_{OE}	< ± 0.5	mV/K
TCU_{out}	Temperature coefficient of U_{out} (% of reading)	< ± 0.1	%/K
t_{D90}	Delay time to 90 % of the final output for I_{PN} step (% of reading)	< 5	μs
U_{no}	RMS noise voltage 210 kHz (min)	> 20	mVp-p

General data

T_A	Ambient operating temperature	-10 ... +80	$^\circ\text{C}$
T_{Ast}	Ambient storage temperature	-15 ... +85	$^\circ\text{C}$
m	Mass	53	g
	Standard	EN 50178: 1997	

Note: ¹⁾ Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.

$I_{PN} = 600 \dots 1000\text{ A}$



Features

- Hall effect measuring principle
- Low power consumption
- Galvanic separation between primary and secondary circuit
- Insulating plastic case regrozed according to UL 94-V0.

Advantages

- Excellent accuracy
- Very good linearity
- Low temperature drift
- Optimized response time
- Wide frequency bandwidth
- No insertion losses
- High immunity to external interference.

Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Electrical appliances.

Application Domain(s)

- Industrial.

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Insulation coordination

U_d	RMS voltage for AC insulation test, 50 Hz, 1 min	2.5	kV
U_{Ni}	Impulse withstand voltage 1.2/50 μ s	4	kV
		Min	
d_{Cp}	Creepage distance	> 5	mm
d_{Cl}	Clearance	> 4	mm
CTI	Comparative tracking index (group I)	> 275	

Applications examples

According to EN 50178 and IEC 61010-1 standards and following conditions:

- Over voltage category OV 3
- Pollution degree PD2
- Non-uniform field

	EN 50178	IEC 61010-1
d_{Cp}, d_{Cl}, U_{Ni}	Rated insulation voltage	Nominal voltage
Basic insulation	300 V	300 V
Reinforced insulation	150 V	150 V

Safety

This transducer must be used in limited-energy secondary circuits according to IEC 61010-1.



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



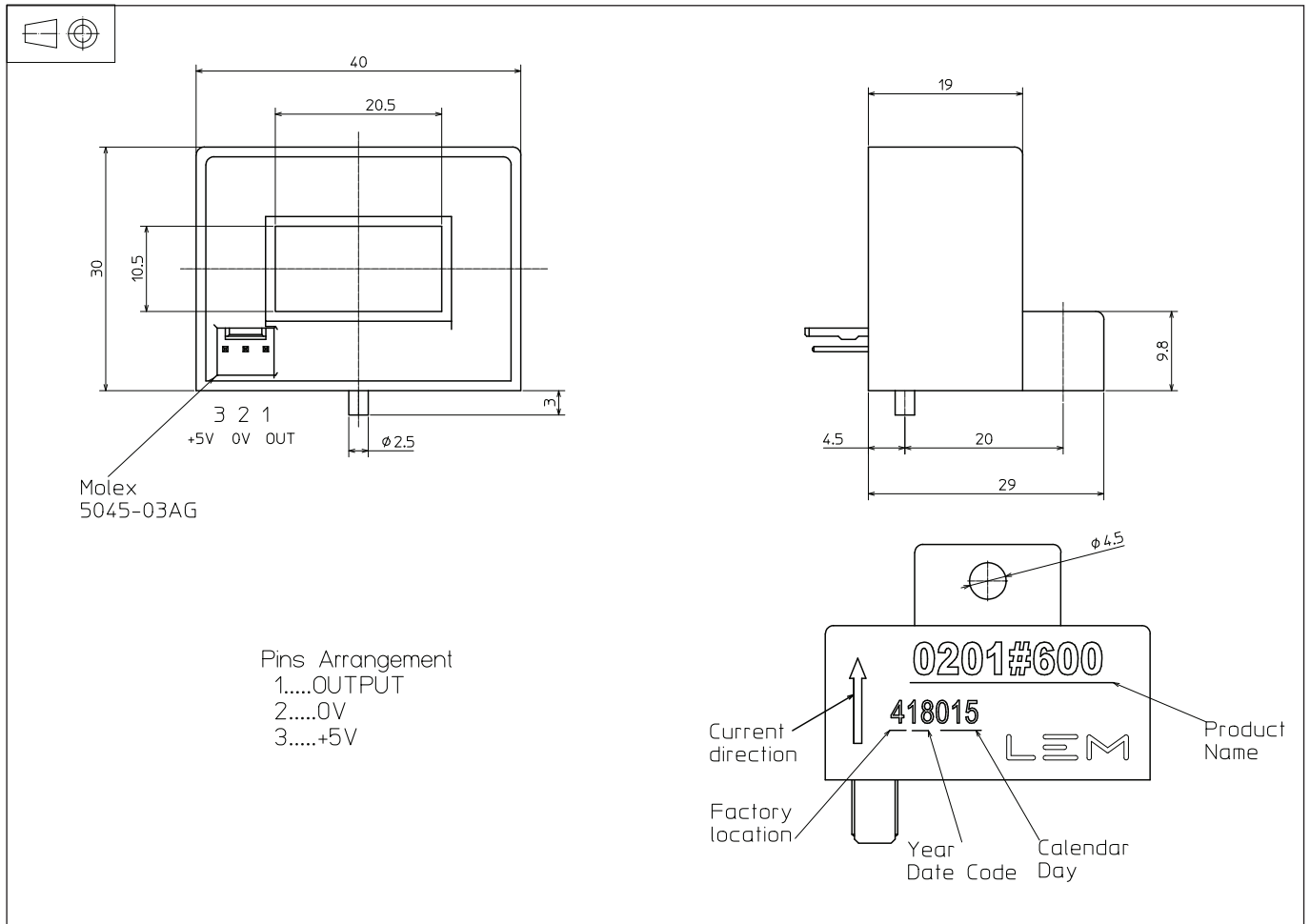
Caution, risk of electrical shock

When operating the transducer, certain parts of the module can carry hazardous voltage (e.g. primary busbar, power supply). Ignoring this warning can lead to injury and/or cause serious damage.

This transducer is a build-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.

Dimensions 0201#600 ... 1000 A (in mm)



Mechanical characteristics

- General tolerance ± 0.5 mm

Remarks

- I_s is positive when I_p flows in the direction of the arrow.
- Temperature of the primary conductor should not exceed 100 °C.
- Dynamic performances (di/dt and response time) are best with a single bar completely filling the primary hole.
- This product is single power supply.