Current Transducer LA 205-S/SP33

I_{PN} = 300 A

For the electronic measurement of currents: DC, AC, pulsed..., with galvanic isolation between the primary circuit (high power) and the secondary circuit (electronic circuit).

16214

Electrical data

I_{PN}	Primary nominal current rms		300	A
I_{PM}	Primary current, measuring range		0 .. ± 600	A
$\hat{I}_{P\,max}$	Measuring overload		600	A
R_M	Measuring resistance @ T_A = 70°C		$R_{M\,min}$ $R_{M\,max}$	
	with ± 15 V	@ ± 300 A $_{max}$	5 49	Ω
		@ ± 600 A $_{max}$	5 7	Ω
I_{SN}	Secondary nominal current rms		150	mA
K_N	Conversion ratio		1 : 2000	
V_C	Supply voltage (± 5 %)		± 15	V
I_C	Current consumption		20 + I_S	mA

Accuracy - Dynamic performance data

X_G	Overall accuracy @ I_{PN} , T_A = 25°C		± 0.6		%
ε_L	Linearity error		< 0.1		%
			Typ	Max	
I_O	Offset current @ I_P = 0, T_A = 25°C			± 0.15	mA
I_{OM}	Magnetic offset current [2] @ I_P = 0 and specified R_M, after an overload of 3 x I_{PN}			± 0.50	mA
I_{OT}	Temperature variation of I_O	- 40°C .. + 70°C	± 0.20	± 0.50	mA
t_{ra}	Reation time @ 10 % of I_{PN} step		< 500		ns
t_r	Response time [3] to 90 % of I_{PN} step		< 1		µs
di/dt	di/dt accurately followed		> 100		A/µs
BW	Frequency bandwidth (- 3 dB)		DC .. 100		kHz

General data

T_A	Ambient operating temperature	- 40 .. + 70	°C
T_S	Ambient storage temperature	- 50 .. + 95	°C
R_S	Secondary coil resistance @ T_A = 70°C	35	Ω
m	Mass	190	g
	Standards	EN 50155: 1995	

Notes: [1] 3 mn/hour @ V_C = ± 15 V, R_M = 5 Ω
[2] The result of the coercive force (Hc) of the magnetic circuit
[3] With a di/dt of 100 A/ µs.

Features

- Closed loop (compensated) current transducer using the Hall effect
- Isolated plastic case recognized according to UL 94-V0.

Special features

- I_{PM} = 300 A
- I_{PM} = 0 .. ± 600 A
- V_C = ± 15 V (± 5 %)
- T_A = - 40 ..+ 70°C
- Connection to secondary circuit on shielded cable GKW 3 x 0.5 mm²
- Potted
- VRT burn-in.

Advantages

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

Applications

- Single or three phase inverter
- Propulsion and braking chopper
- Propulsion converter
- Auxiliary converter
- Battery charger.

Application Domain

- Traction.

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Isolation characteristics

$\mathbf{V}_d$	Rms voltage for AC isolation test, 50 Hz, 1 min	6	kV
$\mathbf{V}_b$	Rated isolation voltage rms [4], reinforced isolation	1625	V
	basic isolation	3250	V
		Min	
dCp	Creepage distance	32.8	mm
dCl	Clearance distance	30.5	mm
CTI	Comparative Tracking Index (group IIIa)	225	

Note: [4] Pollution class 2. With a non insulated primary bar which fills the through-hole

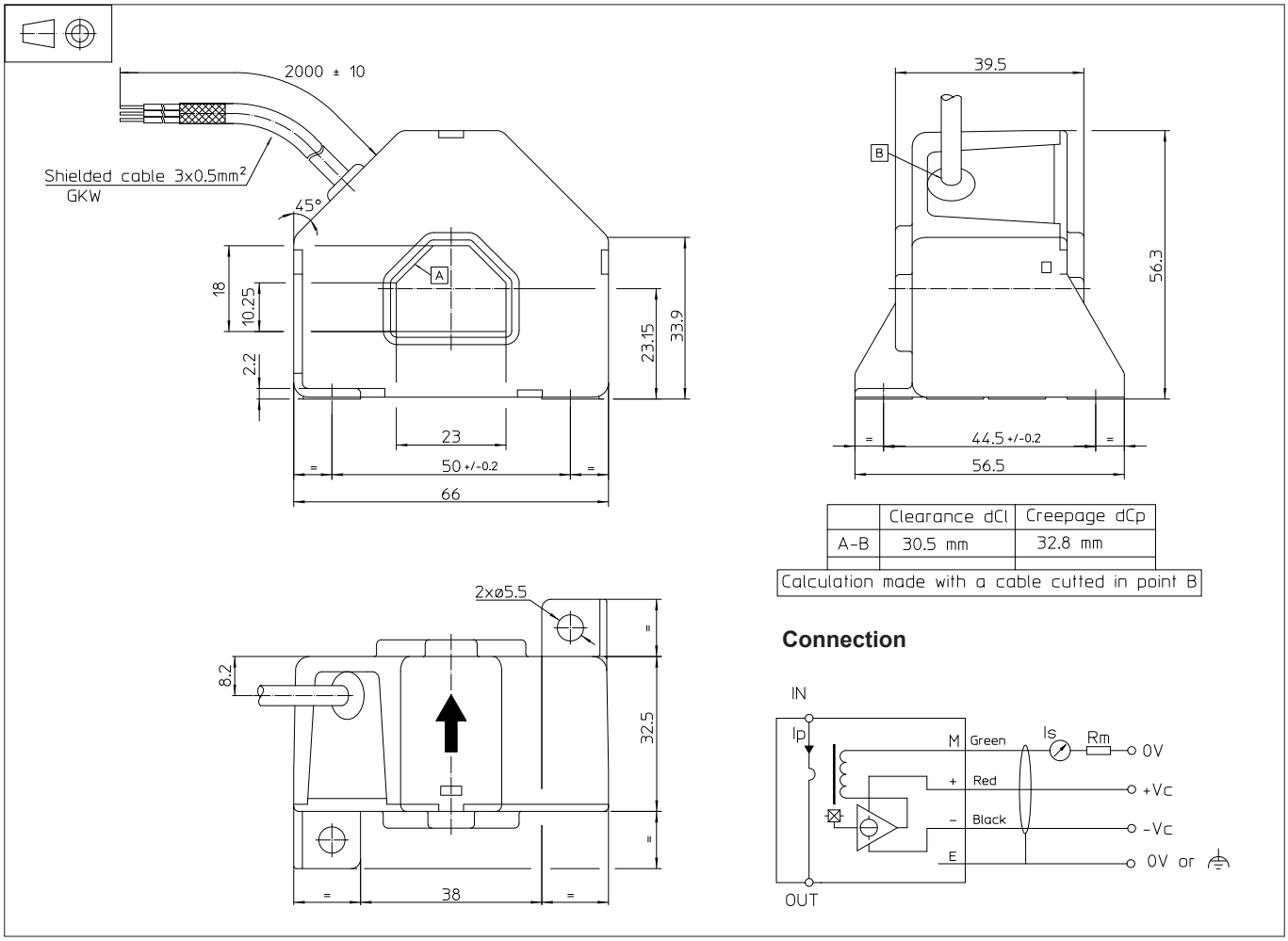
Safety

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 (eg. 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 LA 205-S/SP33 (in mm)



	Clearance dCl	Creepage dCp
A-B	30.5 mm	32.8 mm

Calculation made with a cable cutted in point B

Connection

Mechanical characteristics

- General tolerance ± 0.5 mm
- Transducer fastening 2 holes Ø 5.5 mm
  2 M5 steel screws
  Recommended fastening torque 4 Nm
- Primary through-hole 23 x 18 mm
- Connection of secondary Shielded cable
  GKW 3 x 0.5 mm².

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.

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