VACUUMSCHMELZE	SPECIFICATION	Item-No.: T60404-M4645-X211

K-No.: 22743	**10-16-25-50 Current-Sensor-Module (MiniComp)** For the electronic measurement of currents: DC, AC, pulsed, mixed ..., with a galvanic Isolation between the primary circuit (high power) and the secondary circuit	Date: 28.11.2008

Customer: Standard Type	Cutomers Part No.:	Page 1 of 2

Description
- Closed loop (compensation) Current Sensor with magnetic field probe
- Printed circuit board mounting
- Casing and materials UL-listed

Characteristics
- Excellent accuracy
- Very low offset current
- Very low temperature dependency and offset current drift
- Very low hysteresis of offset current
- Low response time
- Wide frequency bandwidth
- Compact design

Applications

Mainly used for stationary operation in industrial applications:
- AC variabel speed drives and servo motor drives
- Static converters for for DC motor drives
- Battery supplied applications
- Switched Mode Power Supplies (SMPS)
- Power Supplies for welding applications
- Uninterruptable Power Supplies (UPS)

Electrical Data - Ratings

I_{PN}	Primary rated current, r.m.s	50	A
R_M	Load resistance	0 ... 200	Ω
I_{SN}	Output rated current, r.m.s	50	mA
K_N	Turns ratio	1...5 : 1000	

Accuracy – Dynamic performance data

		min.	typ	max.	Unit
X*	Measuring accuracy @ I_{PN}, T_A=25°C (Module)			0,5	%
ε_L	Linearity			0,2	%
I_{0H}	Hystersis		0,05	0,1	mA
t_r	Response time			1	µs
$\Delta t(I_{p,max})$	Delay time at di/dt = 100 A/µs		0,05	1	µs
f	Frequency range	DC...200			kHz

General Data

		min.	typ.	max.	Unit
T_A	Ambient temperature	-40		+85	°C
T_S	Storage temperature	-40		+85	°C
m	Mass		15	16	g
R_S	Secondary coil resistance @ T_A=85°C			23	Ω
R_P	Primary coil resistance per turn @ T_A=25°C		0,95	1,1	mΩ
C_k	Coupling capacity			5	pF
	Mechanical Stress according to M3209/3 Settings: 10 – 2000 Hz, 1 min/Decade, 2 hours		5g		
V_b	Rated insulation voltage, according to EN50178 reinforced insulation Insulation material group 1, Pollution degree 2 mains supply, rms non mains supply (peak od DC)			600 940	V V

HV transient test according to M3064 — Settings: $V_{d,max}$ = 8 kV; R_i = 40 Ω; 1,2 µs / 50 µs-waveform; 3 pulses in a cycle t = 10 seconds with changing polarity
Pin 1 - 4 to Pin 5 - 14

Test voltage and partial discharge voltage according to M3024 — V_d = 3,5 kV 60s; V_e ≥ 0,9 kV
Pin 1 - 4 to Pin 5 - 14

All data marked with * is verified by final inspection, other values are typetested.

Datum	Name	Index	Änderung
28.11.08	Le	82	Write error: Pinning changed. See connection at page 2. Insignificant

Hrsg.: KB-E editor	Bearb: Tr designer		KB-E: Le check	KB-PM IA: KRe check		freig.: prs. released

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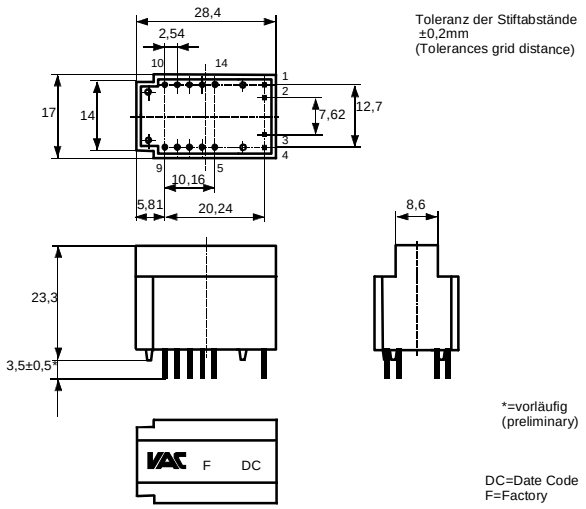
Mechanical outline (mm): General tolerances DIN ISO 2768-c



Toleranz der Stiftabstände
±0,2mm
(Tolerances grid distance)

*=vorläufig
(preliminary)

DC=Date Code
F=Factory

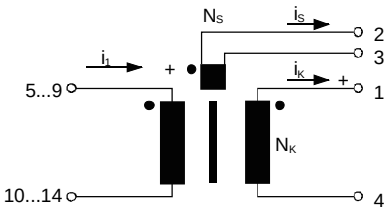
Connections:

1...4 : 0,7 x 0,7 mm
5...14: ∅ 1,0 mm
.....

Marking:

4645X211
F DC

Schematic diagram



Pin2 :S2
Pin3 :S1
} Sensorwicklung (sensor winding)

Pin1 :K2
Pin4 :K1
} Kompensationswicklung (compensation winding)

Inspection (Measurements after temperature balance of the samples at room temperature.)

K_N (N1/N2)*	(V)	M3011/6c:	Turns ratio (I_1=5A, 40-80 Hz)	1 : 1000 ± 0,5	%
I_0*		M3226:	Offset current	< 0,1	mA
ΔΦ (S1-S2)*	(V)	M3090:	Magnetic Flux sensor	20...35	nVs
R_S (K1-K2)*	(V)	M3011/5:	Winding resistance compensation coil	15...17,5	Ω
R (S1-S2)*	(V)	M3011/5:	Winding resistance magnetic probe coil	2,5...3,5	Ω
V_d *	(V)	M3014:	Testing voltage, rms, 1s Pin 1 - 10 to Pin 11 – 13	3,5	kV
V_e*	(AQL1/S4)	M3024:	Partial discharge voltage	>900	V

Applicable documents

Current direction: A positive output current appears at point I_S, by primary current in direction of the arrow.
Constructed, manufactured and tested in accordance with EN 50178 (VDE 0160) and agrees with the standards.
Housing and bobbin material: UL-listed. Flammability class UL 94V-0.
This component is recognized and controlled by VDE Institution
Enclosures according to IEC 60529: IP50.

Additional data available on request.
This specification is no declaration of warranty acc. BGB §443.

Hrsg.: KB-E editor	Bearb: Tr designer		KB-E: Le check	KB-PM IA: KRe check		freig.: prs. released

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