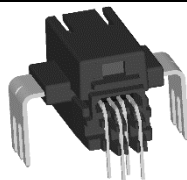


		Specification		Item no.: T60404-N4643-P160	
K-no.: K30716		80A Open Loop Current Sensor for industrial application DC, AC, pulsed and mixed electric current measurement with a galvanic insulation, analog voltage output, integrated primary busbar			Date 22.06.2026
Customer: Standard type			Customer part no:		Page 1 of 4
Description - Open Loop Current Sensor - Hall-Effect field probe		Characteristics - Wide frequency bandwidth - Short response time - Compact design		Applications Mainly used for stationary operation in industrial applications	
					
Electrical Data – Ratings					Unit
I_{PN}	Primary nominal current value	80			A
V_{OUT}	Output Voltage @ I_P against V_{REF}	$V_{REF} \pm G \cdot I_P$			V
V_{REF}	External Reference voltage range	0.5 ... 2.65			V
	Internal Reference voltage	2.5 ± 0.02			V
G	Sensitivity	10.0			mV / A
Accuracy & Dynamic performance data			min.	typ.	max.
$I_{P,max}$	Max. Measuring range	-200			+200
X	Accuracy @ I_{PN} for $\vartheta_A = 25^\circ\text{C}$	-1.0			1.0
ϵ_G	Sensitivity error @ $\vartheta_A = 25^\circ\text{C}$ (factory adjusted)	-0.5			0.5
ϵ_L	Linearity error @ $\vartheta_A = 25^\circ\text{C}$	-0.5			0.5
$V_{OUT(0)} - V_{REF}$	Offset voltage @ $\vartheta_A = 25^\circ\text{C}$, $I_P = 0\text{A}$	-10			10
I_{OM}	Magnetic offset (hysteresis after 3 x I_{PN} calc. to primary)	-0.6			0.6
TC_G	sensitivity drift over temperature	-40 to 25°C	-540	540	
		25 to 105°C	-175	175	
TC_0	offset drift over temperature	-40 to 25°C	-22	22	
		25 to 105°C	-10	10	
t_{r80}	Response time @ 80% of I_{PN} (200 A/μs)				1.4
t_{r90}	Response time @ 90% of I_{PN} (200 A/μs)				1.5
f	Frequency bandwidth (-3dB)	200			kHz
General data			min.	typ.	max.
ϑ_A	Ambient operating temperature	-40			+105
$\vartheta_{Storage}$	Ambient storage temperature acc. VAC M3101	-45			+105
m	Mass		6.0	7.0	
V_{CC}	Supply voltage	4.5			5.5
I_{C0}	Current consumption for $I_P = 0\text{A}$		16	23	
REMARK: The temperature of the primary conductor must not exceed 140°C * (hottest point in the middle of the sensor) for verification: the measured temperature at the kink of the primary conductor should not exceed 125°C *					
$S_{clear}^{[1]}$	Clearance distance	8			mm
$S_{creep}^{[1]}$	Creepage distance	8			mm
$U_{sys}^{[1]}$	System voltage	basic insulation			1000
		reinforced insulation			600
$U_{work}^{[1]}$	Working voltage	basic insulation			1600
		reinforced insulation			800
$U_{PD}^{[1]}$	Rated discharge voltage				1131
UL508	max. potential difference according UL 508				600
[1] Constructed, manufactured and tested in accordance with IEC 61800-5-1:2007 - Material group 1, Pollution degree 2, OVC III, altitude ≤ 2000m					
Date	Name	Issue	Amendment		
22.06.26	Ku	81	Minor Change - Test condition t_{r80} & t_{r90} changed from '(50A/μs 300A)' to '(200A/μs)'. – page 1.		
20.04.26	Ku	81	Minor Change - additional dimension and pin description – page 2.		
Hrg R&D-PD-CS		Bearb: Ku.	MC-PM: FS		freig.: SB
editor		designer	check		released

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K-no.: K30716

80A Open Loop Current Sensor for industrial application

DC, AC, pulsed and mixed electric current measurement
with a galvanic insulation, analog voltage output, integrated primary busbar

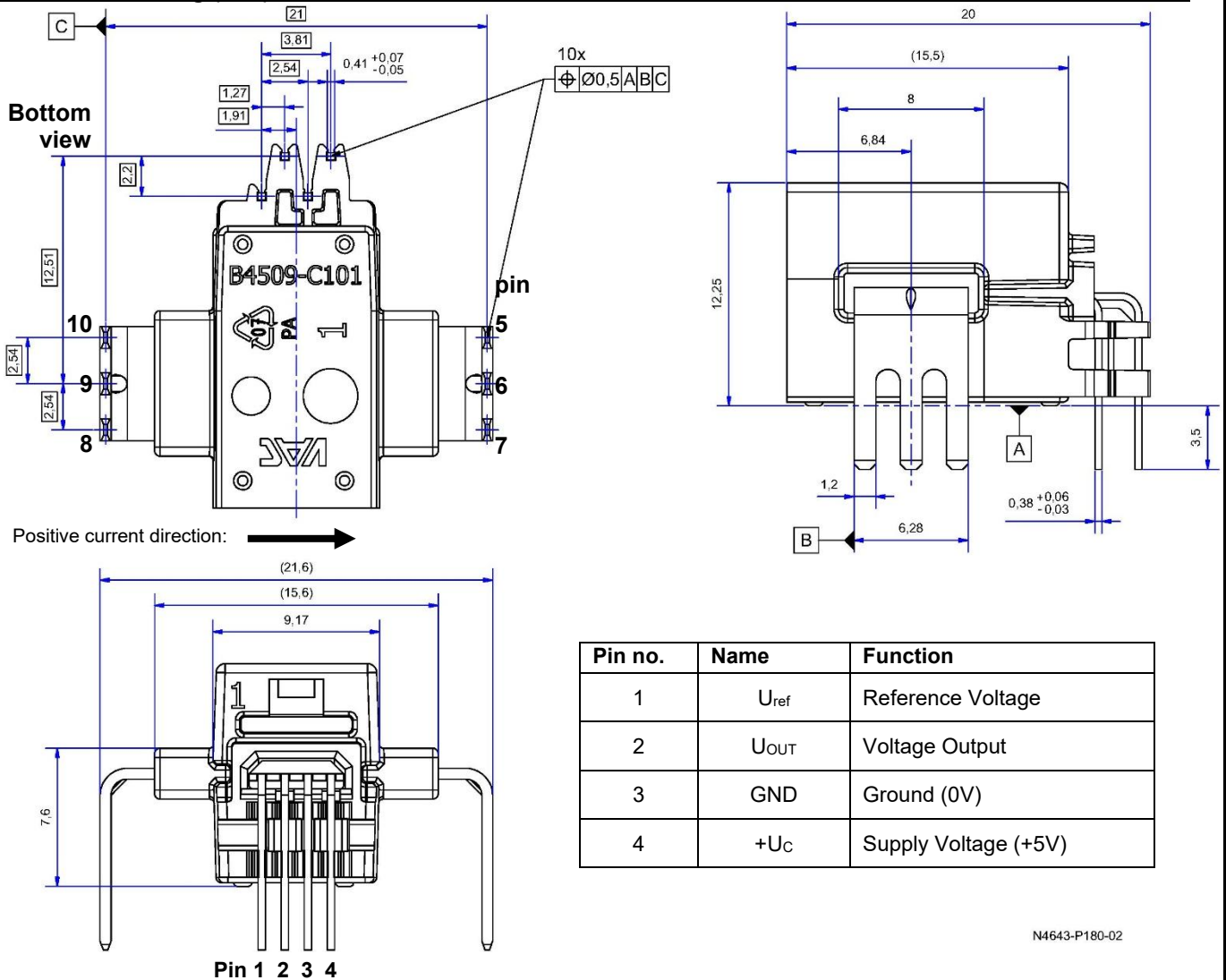
Date	22.06.2026
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Customer: Standard type

Customer part no:

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Mechanical drawing (mm): General tolerance DIN ISO 2768-c



Connection diagram

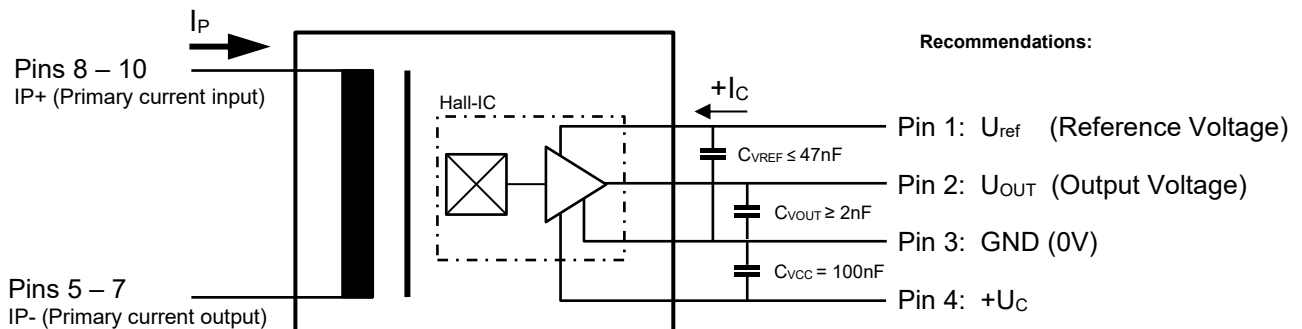


Fig. 6: functional block diagram of the sensor

	Specification	Item no.: T60404-N4643-P160			
K-no.: K30716	80A Open Loop Current Sensor for industrial application DC, AC, pulsed and mixed electric current measurement with a galvanic insulation, analog voltage output, integrated primary busbar			Date 22.06.2026	
Customer: Standard type			Customer part no:		Page 3 of 4

Marking

Readable text: Item-number "xxxxxxx"

 F = Factory code, e.g. "S4"

 DC = Date code (YYWW) e.g. "2138"

Datamatrix code (ECC200):



code size: 5.0mm x 5.0mm

symbol size: 16 x 16 modules

data region: 14 x 14 modules

data content:

1. Item number	IN	4	digits	
2. Reserved (std=1)	R1	1	digit	
3. Factory Code	FC	2	digits	
4. Reserved 2	R2	4	digits	
5. Serial no. (hex)	SN	5	digits	

Format: "IN,R1,FC,R2,SN" example: P1801S42403C8FB3

- For a factory code of only 1 digit an underscore character "_" is added

Routine Test

(Measurement after temperature balance of the samples at room temperature; SC = significant characteristic)

G	(100%) M3011/6	Sensitivity (I _{PN} = 80A _{DC})	±0.5	% (SC)
I _{OM} (IPN)	(100%) M3226	Magnetic Offset voltage (I _{PN} = 80A _{DC})	1.6	mV
U _P	(100%) M3014	Test voltage (1s) Pin 1,3,5 to primary opening	2.2	kV _{rms}
U _{PDE}	(AQL 1/S4)	Partial discharge voltage (extinction)	1.2	kV _{rms}
U _{PD(rms)} · 1.875		*acc. table 24	1.5	kV _{rms}

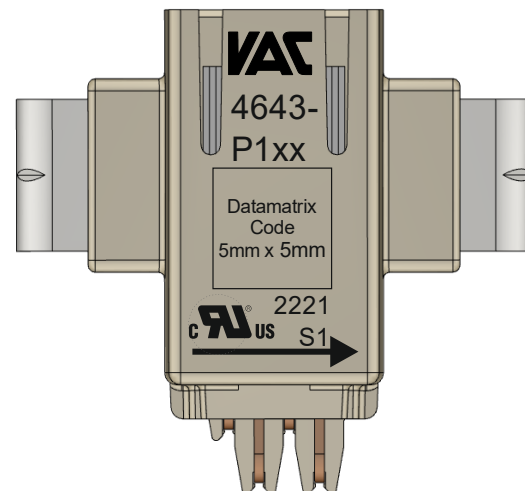
Type Test (Preconditioning acc. VAC M3236)

(Pins to primary opening)

Ü _W	M3064	HV transient test (1.2µs / 50µs, 5 pulses → polarity +, 5 pulses → polarity -)	8.0	kV
U _P	M3014	Test voltage (5s)	3.6	kV _{rms}
U _{PDE}	M3024	Partial discharge voltage (extinction)	1.2	kV _{rms}
U _{PD(rms)} · 1.875		*acc. table 24	1.5	kV _{rms}

* IEC61800-5-1:2007

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K-no.: K30716

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Customer part no:

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Explanation to parameters used in this datasheet

Accuracy

X: The sum of all errors at 25°C at nominal primary current I_{PN}

ε_S : Sensitivity error at factory adjustment.

ε_L : Linearity error where I_P is any input DC and $V_{OUT}(I_P)$ the corresponding output term.

Offset, hysteresis and drift

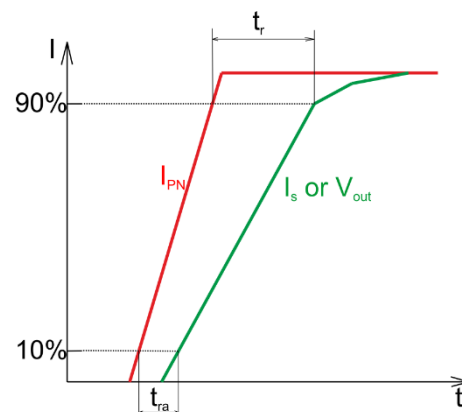
I_{SO} : Offset current

I_{SOH} : magnetic offset variation after overloading with a DC of threefold the rated value

Dynamic properties

t_{ra} Reaction time, measured as a delay time between a rectangular primary current and the output current I_S at $I_P = 0.1 \cdot I_{PN}$

$t_{80/90}$: Response time, measured as a delay time between a rectangular primary current and the output current I_S at $I_P = 0.8 \cdot I_{PN}$ (respectively $0.9 \cdot I_{PN}$)



Voltage ratings (according to IEC 61800-5-1:2007)

U_{PD} Rated discharge voltage (recurring peak voltage separated by the insulation)

U_{sys} System voltage: RMS value of rated voltage

U_{AC} Working voltage: RMS voltage which occurs by design in a circuit or across an insulation

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