

Electrical data

 At $T_A = 25\text{ °C}$, $\pm U_C = \pm 15\text{ V}$, unless otherwise noted.

 Lines with a * in the comment column apply over the $-40 \dots 85\text{ °C}$ ambient temperature range.

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Primary continuous direct current	I_{PNDC}	A	-60		60	*
Primary nominal rms current	I_{PN}	A			60	*
Primary current, measuring range	I_{PM}	A	-85		85	* Peak limit
Measuring resistance over supply voltage range	R_M	Ω	0		50	See graph page 5
Secondary current	I_S	mA	-142		142	* Peak limit
Secondary nominal rms current	I_{SN}	mA			100	*
Conversion ratio	K_N			1:600		*
Resistance of secondary winding	R_S	Ω		28		
Overload capability ¹⁾	\hat{I}_P	A	-300		300	@ pulse of 100 ms
Supply voltage DC	U_C	V	± 14.25	± 15	± 15.75	*
Current consumption	I_C	mA		65	71	Add I_S for total current consumption
				70	78	
Output rms noise current 0 ... 10 Hz ²⁾	I_{no}	ppm			0.5	
Output rms noise current 0 ... 100 Hz ²⁾					0.75	
Output rms noise current 0 ... 1 kHz ²⁾					2	
Output rms noise current 0 ... 10 kHz ²⁾					6	
Output rms noise current 0 ... 50 kHz ²⁾					15	
Re-injected rms noise on primary bus bar		μV			30	0 ... 50 kHz
Electrical offset current + self magnetization + effect of earth magnetic field ²⁾	I_{OE}	ppm		± 225	± 300	
				± 330	± 400	
Offset stability ²⁾		ppm/month			2.5	
Linearity error ²⁾	ϵ_L	ppm		± 1	± 3	@ $\pm I_{PNDC}$ range
				± 3	± 9	
Step response time to 90 % of I_{PNDC}	t_r	μs			1	di/dt of 100 A/ μs
di/dt accurately followed	di/dt	A/ μs		100		
Frequency bandwidth ($\pm 1\text{ dB}$)	BW	kHz		600		Small-signal bandwidth, 0.5 % of I_{PNDC}
Frequency bandwidth ($\pm 3\text{ dB}$)	BW	kHz		800		Small-signal bandwidth, 0.5 % of I_{PNDC}

Notes: ¹⁾ Single pulse only, not AC. The transducer may require a few seconds to return to normal operation when autoreset system is running

²⁾ All ppm figures refer to full-scale which corresponds to a secondary nominal rms current (I_{SN}) of 100 mA.

Overload protection - Electrical specification - Status

The overload occurs when the primary current I_p exceeds a trip level such that the fluxgate detector becomes completely saturated and, consequently, the transducer will switch from normal operation to overload mode.

This trip level is guaranteed to be greater than 110 % of I_{PM} and its actual value depends on operating conditions such as temperature and measuring resistance.

When this happens, the transducer will automatically begin to sweep in order to lock on the primary current again.

The overload conditions will be:

- The secondary current I_s generated is a low frequency signal between -142 mA and 142 mA.
- The signal V_{out} (operation status between pin 3 and 8 of the D-sub connector) switches to V+ or GND depending on how it is wired. In other words, the output transistor is switched off (i.e., no current from collector to emitter). See the status port wiring below.
- The green LED indicator (normal operation status) turns off.

The measuring can resume when the primary current returns in the measuring range between $-I_{PM}$ and $+I_{PM}$. Then the signal V_{out} switches to V+ or GND and the green LED indicator (normal operation status) is again lit.

TO ENSURE A SAFE RECOVERY FROM SATURATION, THE MAXIMUM BURDEN RESISTOR ALLOWED IS 43 Ω.

Status/Interlock port wiring

