

Ultrastab Saturn 600U

Rack mounted programmable current transducer

Last update: 01.04.2008
 Electronics.:810089200
 Transducerhead: 8100089254

Parameter	Symbol	Condition	Value	Unit
Primary current				
Nominal primary current	I_p		± 600	A
Programmable from	I_{pn}		40	A
Programming steps			20	A
Polarity			Bipolar	
Voltage output				
Nominal voltage output	V_o		± 10	V
Max. output load current	V_{on}		5	mA
Max. output load capacitance	$I_{o, max}$		3	nF
	$C_{o, max}$			
Transfer ratio				
	G		60	A/V
Overload capacity				
Max. nondestructive overload	$I_{p, max}$	@ 0.1s	500	% I_{pn}
Min. overload trip value	$I_{p, trip}$		130	% I_{pn}
DC accuracy				
Offset				
Initial	V_{oo}		< 2	ppm
Drift vs. Temp.	$V_{oo, temp}$		< 0.6	ppm / K
Drift vs. Time	$V_{oo, time}$		< 1	ppm / month
Transfer ratio				
Deviation	G_d		< 50	ppm
Deviation vs. Temp.	$G_{d, temp, elec.}$		< 2	ppm / K
Deviation vs. Time	$G_{d, time}$		< 2	ppm / month
Linearity				
Deviation	X_d		< 3	ppm
Output noise				
	$V_{o, noise}$	0 - 10Hz	< 0.15	ppm (RMS)
		0 - 10kHz	< 6.5	ppm (RMS)
		0 - 100kHz	< 16	ppm (RMS)

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Parameter	Symbol	Condition	Value	Unit
Dynamic response				
Slew rate	dI/dt	See note 3	> 50	A / μ S
Delay time	t_d		< 1	μ S
Bandwidth				
± 3 dB	f	< 5% I_{pn}	0 - 300	kHz
Busbar noise				
Measured on primary cable, one turn	U_b	DC - 100kHz	< 2	μ V RMS
Busbar free zone				
Length	l		150	mm
Radius	r		75	mm
Operating voltages				
Max. busbar voltages	$V_{b, max}$		1250	VAC
Test voltages				
Busbar to GND	$V_{t, b}$		5000	VAC RMS
Power supply				
Supply voltage (Selectable)	V_{ac}	$\pm 10\%$	100/110/230	VAC, 50~60Hz
Maximum power consumption	S_{max}		50	VA
Operating environment				
Electronics				
Temperature	$T_{a, elec.}$		10 - 40	$^{\circ}$ C
Humidity	$RH_{a, elec.}$	Noncondensing	20 - 80	%RH
Transducerhead				
Temperature	$T_{a, head}$		0 - 55	$^{\circ}$ C
Humidity	$RH_{a, head}$	Noncondensing	20 - 80	%RH

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Parameter	Symbol	Condition	Value	Unit
Storage environment				
Electronics				
Temperature	$T_{s, \text{elec.}}$		-20 - 85	°C
Humidity	$RH_{s, \text{elec.}}$	Noncondensing	20 - 80	%RH
Transducerhead				
Temperature	$T_{s, \text{head}}$		-20 - 85	°C
Humidity	$RH_{s, \text{head}}$	Noncondensing	20 - 80	%RH

Mechanical dimension

Electronics				
Width	$W_{\text{elec.}}$		482.6	mm
Height	$H_{\text{elec.}}$		88.1	mm
Depth	$D_{\text{elec.}}$		323	mm
Weight (approx.)	$m_{\text{elec.}}$		5	kg
Transducerhead				
Width	W_{head}		98	mm
Height	H_{head}		122	mm
Depth	D_{head}		57	mm
Weight (approx.)	m_{head}		1	kg
Inner hole diameter	O	Minimum	25.4	mm

Transducer cable length

Standard		2.5	m
Maximum optional length		30	m

Notes:

- 1: All ppm figures refer to nominal current and transducerhead programmed to maximum nominal primary current
- 2: Bandwidth measurements only valid when programmed to maximum nominal primary current
- 3: Corresponds to 1V/uS on the voltage output with transducerhead programmed to maximum nominal primary current
- 4: Specifications is subject to change without notice