Earth- / Ground-Tester **SATURN GEO**

With SATURN GEO you can measure and test:

- RA (RE) Earth / Ground resistance 3 pole and 4 pole for 0.001 Ω ... 300 kΩ with voltages of 20 V / 48 V AC with frequencies of 94, 105, 111, 128 Hz or AFC (Automatic Frequency Control) with autom. test of socket connection
- R~ Resistance 2 pole AC 0.001 Ω ... 300 kΩ
- Noise voltage up to 50 V
- R* Measurement of the earthing impedance of electricity pylons
- Autom. definition of auxiliary earth
- electrode- and probe-resistance
- Autom. limit value monitoring
- Permanent storage of measurement values

Description



Technical data

General:	
Display:	4-digit (2999), 7-Segment-Liquid-Crystal- Display,
	16 mm high, with fluorescent illumination
Working temp. range:	–10° C 50° C
Operating temp. range:	0° C 35° C
Reference temp. range:	+23° C ± 2° C
Storage temp. range:	–30° C 60° C
Operating error:	Considers influence of operating tempera-
	ture. Position and supply voltage have no
	influence.
Intrinsic error:	Refers to the reference temperature range
Climate class:	JWG as per DIN 40040
Protective class:	IP 56 as per DIN 40050
Safety class:	Complies with class II () as per
	IEC 1010 300 V cat. II
Quality standard:	Developed, designed and manufactured
	refering to DIN ISO 9001
Max. noise voltage:	For > 24 V measurements are locked
Power supply:	6 pcs. 1.5 V Alkali-Mangan batteries (LR 6)
	or 1.5 V Zinc-Carbon-batteries (IEC R 6) or
	1.2 V accus
Dimensions:	240 x 180 x 110 mm (L x W x H)
Weight:	Approx. 1.5 kg with batteries



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Earth/Ground resistance RA (RE)

Measuring method:	Current and voltage measurement with
Ū	probe as per IEC 61557-5
Measuring voltage:	20 / 48 V switchable, AC
Measuring frequency:	94/105/111/128 Hz switchable or auto-
	matic (AFC), 55 Hz for R*
Max. overload:	U _{~"} = 250 V

		en			
Switch position	Measuring range	Resolution	Intrinsic error	Operating error	
RA 3 pole 4 pole	0.020Ω299,9kΩ	0.001100Ω	±(2% of mv +2D)	±(5% of mv +5D)	
Automatic range selection and resolution switch-over					

Measuring time:	typ. 8 s. with fixed frequency chosen, 30 s. max. with AFC and complete cycle of all measuring frequencies
Max. probe resistance:	<1 MΩ
Max. auxiliary earth	
electrode resistance:	<1 MΩ
	Display shows a warning (RS or RH),
	if measurement error is higher than e.g.
	>30 % of mv:
	RH : RA = 5000 : 1 and RS = 3 k Ω
Max. noise voltage:	24 V, for higher voltages no measurement
	is started
Noise voltage	

suppression: 120 dB (16 2/3, 50, 60 and 400 Hz)

Measurement external voltage (DC + AC) (UST)

Measuring method: Mean value rectification

Range	Display range	Resolution	Frequency range	Intrinsic error
1 50 V	0,0 50 V	0.1 V	DC/AC 45400Hz sine	±(5% of mv +5 D)
Measurir Internal	ng rate: resistance:	Approx Approx	. 4 values / s . 1.5 MΩ	

U_{eff} = 250 V Max. overload:

Measurement of interference frequency (FST)

Measuring r	nethod:	Meas	urement of	period osc	illation

Range	Display range	Resolution	Volt. range	Intrinsic error
16 400 Hz	16.0299.9999Hz	0.1 1Hz	1V 50 V	±(1% of mv +2 D)

Measurement of resistance (R~)

Measuring method:	2 pole current and voltage measurement
Measuring voltage:	20 V AC
Short circuit current:	250 mA AC
Measuring frequency:	94/105/111/128 Hz or autom. (AFC), switchable

Switch position	Measuring range	Resolution	Intrinsic error	Operating error
R~ 2 pole	0.020Ω299.9kΩ	0.001100Ω	±(2% of mv +2D)	±(5% of mv +5D)
Measuring tim Max. noise vo	ne: typ oltage: Fo	o.6s. r>24Vno	o measuremen	ts started

U_{eff} = 250 V

Max. noise voltage: Max. overload:

Order Codes			
Description	Order no.		
SATURN GEO inclusive			
2 measuring leads each 1,5m long,			
2 alligator clips, insulated			
Carrying belt			
6 batteries			
Operating instructions	A 1885 06411		
Accessories for reorders			
Accuset for charging and extern			
power supply with accessories	A 6403 06211		
1 earth stake	A 6045 10350		
1 reel with 25 m cable	A 6045 05102		
1 reel with 50 m cable	A 6045 05103		
Operating instructions, German	A 1885 41GA 1D		

A 1885 41GA 1E A 1885 41GA 1F

Operating instructions, English

Operating instructions, French

Distributor



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