

# DIRANA

## Technical Data



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# 1 Technical data

Table 1-1: DIRANA specifications

Characteristic	Rating
<b>Test modes</b>	
UST, GST, GSTg	
<b>Voltage source</b>	
Measurement voltage	$\pm 200 V_{\text{peak}}$
Max. continuous output current	$50 \text{ mA}_{\text{peak}}$
<b>PDC</b>	
<b>Current measurement</b>	
Range	$\pm 10 \text{ mA}$
Resolution	0.1 pA
Input resistance	2 k $\Omega$
Accuracy	0.5 % $\pm$ 1 pA
<b>FDS</b>	
Measurement voltage	$200 V_{\text{peak}}$
Measurement current	$\pm 50 \text{ mA}_{\text{peak}}$
<b>Dissipation factor</b>	
Range	0...10
<b>Accuracy<sup>1</sup></b>	
1 mHz < f < 100 Hz	1 % + $3 \times 10^{-4}$
f < 1 mHz and f > 100 Hz	2 % + $5 \times 10^{-4}$
<b>Capacitance</b>	
Range	10 pF...100 $\mu$ F
Accuracy	0.5 % + 1 pF
<b>Ranges for combined FDS and PDC measurements</b>	
Frequency	10 $\mu$ Hz...5 kHz

1. For capacitances > 100 pF and using default settings

Table 1-2: Power requirements

Characteristic	Rating
Input voltage/power	10 V...24 V DC/24 W

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Table 1-3: Power supply specifications

Characteristic	Rating
<b>Input</b>	
Voltage	85 V...264 V
Frequency	50 Hz/60 Hz
Power	40 W max.
<b>Output</b>	
Voltage	12 V <sub>DC</sub>
Current	3.34 A max.




Table 1-4: Climate

Characteristic	Rating	
Temperature	Operating	-10 °C...+55 °C/+14 °F...+131 °F
	Storage	-35 °C...+65 °C/-31 °F...+149 °F
Max. altitude (air pressure)	Operating	70 kPa...106 kPa
	Storage	70 kPa...106 kPa

Table 1-5: Mechanical data

Characteristic	Rating
Dimensions (w × h × d)	260 mm × 50 mm × 265 mm/10.25 inch × 2 inch × 10.5 inch
Weight of instrument	<2.3 kg/5 lb (without measuring cables)

Table 1-6: Standards conformity

<b>EMC, safety</b>		
EMC	IEC/EN 61326-1 (industrial electromagnetic environment) FCC subpart B of part 15, class A	
Safety	IEC/EN/UL 61010-1, IEC/EN/UL 61010-2-30	 
<b>Other</b>		
Shock	IEC/EN 60068-2-27 (15 g/11 ms, half-sinusoid, 3 shocks in each axis)	
Vibration	IEC/EN 60068-2-6 (frequency range 10 Hz...150 Hz, acceleration 2 g continuous (20 m/s <sup>2</sup> /65 ft/s <sup>2</sup> ), 20 cycles per axis)	
Humidity	IEC/EN 60068-2-78 (20%...95% relative humidity, no condensation), tested at 40 °C/104 °F for 48 hours	