SEFELEC 506-D

Data sheet

DIELECTRIC TESTER

GENERAL SPECIFICATIONS

Mains power supply	230 ± 10 % 50 à 60 Hz / monophasé			
Mains protection	Double fusible temporisé type T10AH 250V			
Input power	950 VA max.			
Temperature range	Stockage	Utilsation		
	-10°C à +60°C	0°C à +45°C		
	Spécification garantie après un préchauffage de ½ heure et une humidité relative <50%			
Altitude	Jusqu'à 2000 m			
Relative humidity	80% max. @31°C			
Dimensions & weight	Hauteur	Largeur	Profondeur	Poids
	131 mm	440 mm	455 mm	environ 23kg

ADVANTAGES OF THE SEFELEC 506-D

- **Dielectric strength:** up to 5 kVAC / 500 VA and 6 kVDC
- **Megohmmeter:** up to 2 TΩ at 1000 VDC
  Adjustable voltage from 20 to 1000 VDC in 1 V steps
- **Programmable test ramps:** Ramp-up, hold, and ramp-down
- **Embedded technologies ARM Dual-Core control & 3D NAND :** for enhanced accuracy, stability, and repeatability
- **Large internal memory:** For storing configurations and test results
- **Plug & Play solution:**
  - Real-time test visualization via 7" TFT touchscreen
  - Embedded DSP for increased test speed
  - Sequence mode to combine multiple successive tests
  - Automatic range selection
  - Control via Winpass software for test report generation
- **Compliance and safety**
  - IEC 61010-2-034 (safety standard for insulation testers and dielectric strength test equipment)
  - Dual safety loop SIL2
- **Connectivity & Communication**
  - Ethernet / RS232 / USB / API ports as standard
  - IEEE488-2 interface as an option
  - CAN bus for controlling extensions (scanners)

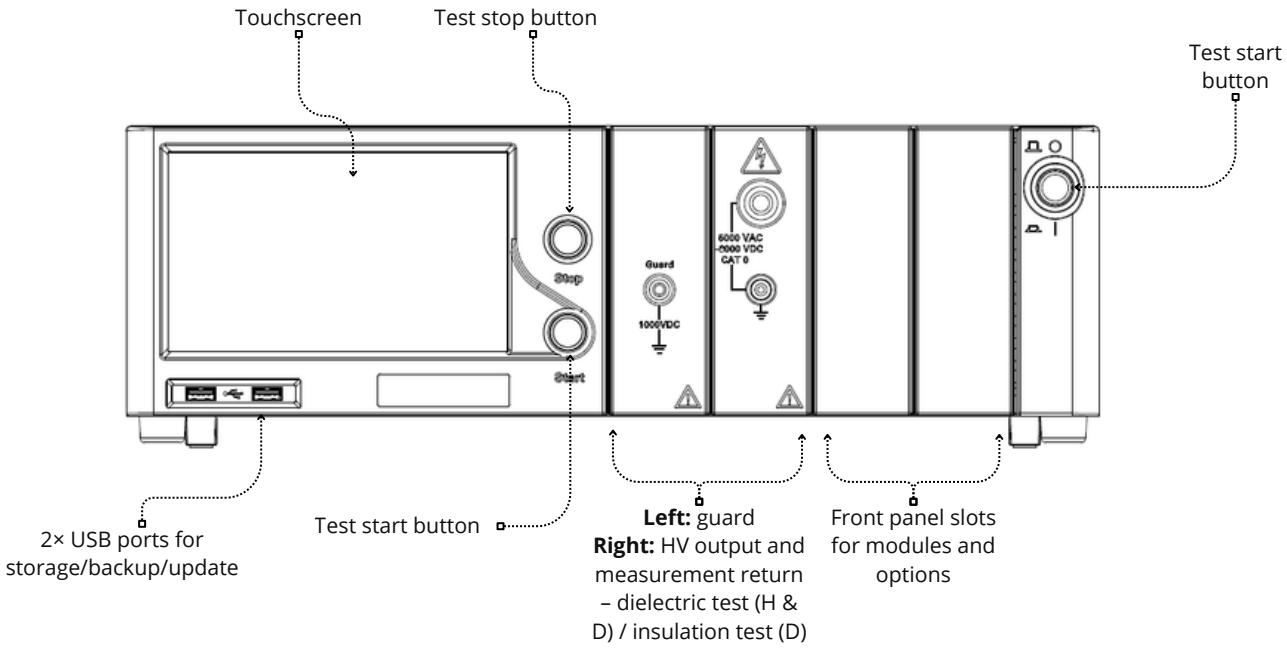
SEFELEC 506-D

TECHNICAL SPECIFICATIONS

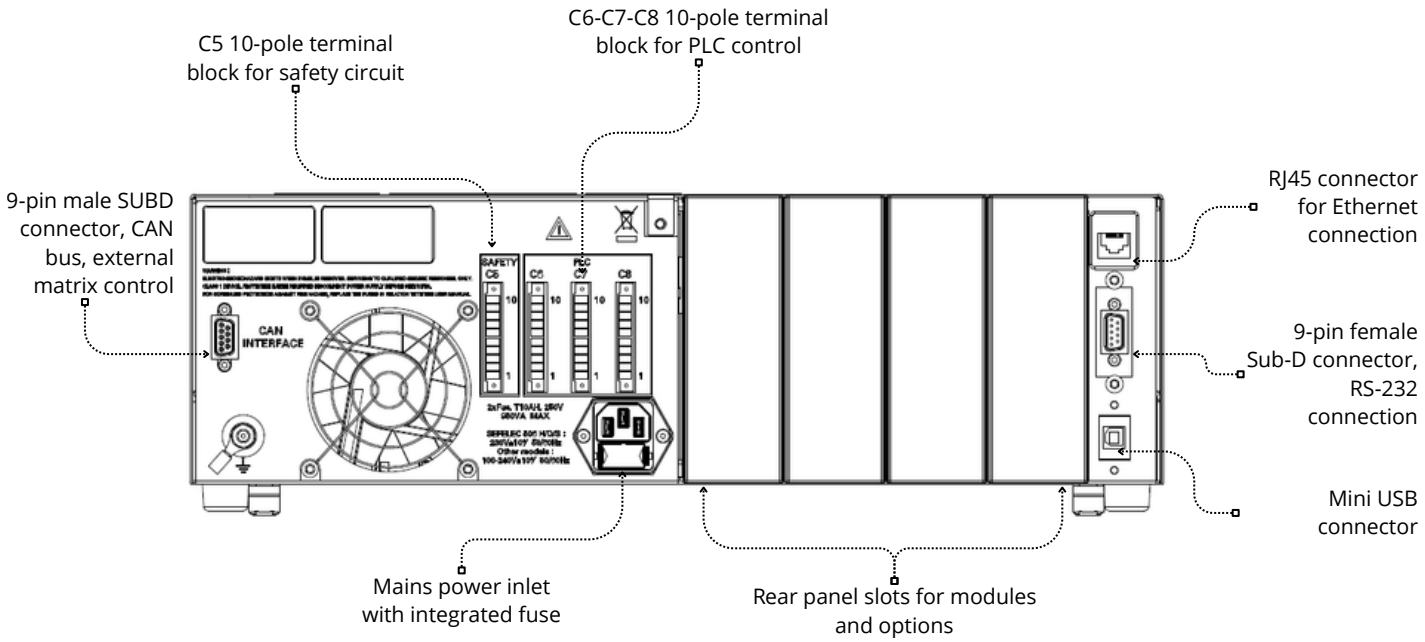
Dielectric Strength Function				
Voltage range	100 ... 5,000 VAC / 100 ... 6,000 VDC – positive pole grounded in DC			
Voltage generation accuracy	± (3% + 5 V) over the full range with current < 10 mA			
DC ripple	< 3% at current < 3 mA @ 6000 VDC			
Maximum DUT capacitance	< 1 µF (discharge time < 10 sec.) Discharge resistor in DC = 1.5 MΩ			
Voltage measurement	Kilovoltmeter directly connected to output terminals ± (1.5% + 5 V), resolution: 6000 points			
Short-circuit current	≥ 200 mA AC / ≥ 100 mA DC			
Nominal current	100 mA from 800 to 5000 VAC (capacitive load) 100 mA from 1500 to 5000 VAC (resistive load) 20 mA from 400 to 6000 VDC			
Fault detection modes	ΔI current variation / Max-Min current thresholds / No detection			
ΔI detection range	Adjustable from 1 mA to 100 mA ±(10% + 0.5 mA), step 1 mA DC range: 1 mA – 5 mA for U < 3000 VDC Pulse: 10 µs ±20%			
Threshold detection mode	0.01 mA to 110 mA (step: 0.01 mA)			
Total current measurement	Resolution: 11,000 points via shunt in test circuit			
Accuracy	dAC (RMS): ±(2.5% + 20 µA) / ±(3% + 1 mA) DC: ±(2.5% + 20 µA)			
Permanent mode	Ramp time applied, constant voltage output, stops on fault			
Manual mode	No timing, manual control via interface			
Auto mode	3 phases: Ramp → Hold → Ramp down			
Programming	Ramp up and ramp down: 0.0 to 9999.0 s, step 0.1 s, accuracy ±20 ms Dwell time: 0.1 to 9999.0 s, step 0.1 s, accuracy ±20 ms			
Insulation Resistance Function				
Test voltage	20 – 1000 VDC, ±(1% + 1 V), positive pole grounded			
Max current in measurement circuit	2 mA (-20% / +0%)			
Maximum DUT capacitance	< 100 µF (discharge < 10 sec.) Discharge resistor: 2.2 kΩ			
Display resolution	1999 points (kΩ, MΩ, GΩ, TΩ)			
Measurement ranges	100V	250V	500V	1000V
Standard version	100 kΩ to 20 GΩ	250 kΩ to 50 GΩ	500 kΩ to 100 GΩ	1 MΩ to 200 GΩ
2 TΩ option	100 kΩ to 200 GΩ	250 kΩ to 500 GΩ	500 kΩ to 1 TΩ	1 MΩ to 2 TΩ
Accuracy	Standard: ± (1.5% + 1 digit)			
	2 TΩ option: ≤ 200 VDC: ± (2% + 1 digit)			
	2 TΩ option: > 200 V DC : ± (1% x Uessai / 100 +1 chiffre)			
Current measurement accuracy	± (1% + 1 digit) With 2 TΩ option: ± (1% × Utest / 100 + 5 digits)			
Capacitance mode accuracy	Recommended for R > 1 GΩ: [Normal mode accuracy] ±100 kΩ			
Programmation Montée et Descente	0.0 to 9999.0 s, step 0.1 s, accuracy ±20 ms			
Maintien	0.1 to 9999.0 s, step 0.1 s, accuracy ±20 ms			
Range	100 kΩ to 200 GΩ (or 2 TΩ)			
Limits	Programmable high and low thresholds from 100 kΩ to 200 GΩ (or up to 2 TΩ with optional extension)			
Test result based on thresholds (examples)	Low Limit (LL)	Measured R	High Limit (HL)	
PASS: R ≥ LL, HL disabled	10 MΩ	26,1 MΩ	- - -	
PASS: R ≤ HL, LL disabled	- - -	98, 0 MΩ	100 MΩ	
PASS: LL ≤ R ≤ HL	25 MΩ	63,2 MΩ	70 MΩ	
FAIL: R ≥ HL	45 MΩ	110 MΩ	80 MΩ	
Programming	Ramp up / Ramp down: 0.0 to 9999.0 s, step 0.1 s, accuracy ±20 ms Dwell time: 0.1 to 9999.0 s, step 0.1 s, accuracy ±20 ms			

DESIGN

FRONT PANEL



REAR PANEL



SEFELEC 506-D

CONFIGURE YOUR SEFELEC 506-D

ACCESSORIES AND OPTIONS

Accessories	
SEFA-TE65-02	High-voltage probe and measuring cable – length 2 m
SEFA-TE58-02	High-voltage probe and measuring cable with remote control – length 2 m
SEFA-CO175-02	Return cable with 4 mm plug – length 2 m
SEFA-5XGUARD	4 mm plug cable for guard connection – length 2 m
SEFA-CO180-02	High-voltage cable without termination – length 2 m
SEFA-P5X-HRC-02	High-voltage gun with remote control – length 2 m
SEFA-P5X-RT-02	Measurement return gun – length 2 m
SEFA-CO160	Red/Green safety lamp
SEFA-5XLIGHT	Magnetic Red/Green Safety Lamp
SEFA-CO200	Schuko/FR test socket, max. 1500 V
SEFA-CO200HV	Schuko/FR high-voltage test socket, max. 5000 V
SEFA-AO10	Two-hand control for test start

Options	
SEFO-5XRC	Remote control connection module
SEFO-IEEE488	IEEE488-2 communication card
SEFO-5XREAR	Rear panel connection
SEFO-5X2TO	2 TΩ insulation measurement range
SEFO-5X500V	Insulation measurement limited to 500 V
SEFO-4WHV	4-wire detection of the device under test
SEFM-4IHV	Internal 4-channel high-voltage scanner module
SEFM-8IHV	Internal 8-channel high-voltage scanner module

Discover also

More info at www.sefelec.com

SCANNER 64-SC

- High density: 8 to 512 Channels
- Maximum voltage 5kVAC 500VA and 6kVDC
- Insulation up to 200GΩ under 1000 VDC
- Earth continuity under 32A AC max.
- Compliant IEC 61010-2-034

Automatic wiring testers
SYNOR 5000

- From 8 to 140,000 test points
- Continuity in 2 and 4 wires up to 10A
- Insulation up to 5000V DC
- Dielectric strength up to 4000V AC and 5500V DC
- Configuration: cabinet or compact case, mobile or remote

Measuring instruments
SEFELEC 5X

- Dielectric strength 5 kVAC and 6 kVDC with 50 or 500VA power
- Insulation measurement under 1000VDC for measurements up to 2 TΩ
- Earth continuity testing under 32A or 50AAC