

SEFELEC 56-H

Data sheet



DIELECTRIC STRENGTH TEST STATION

GENERAL SPECIFICATIONS

Mains power supply	100–240 VAC ±10%, 50 to 60 Hz / single-phase			
Mains protection	Dual time-delay fuse, type T10AH 250V			
Input power	700 VA max.			
Temperature range	Storage			Operation
	-10°C à +60°C			0°C à +45°C
	Specifications guaranteed after a 30-minute warm-up and with relative humidity < 50%			
Altitude	Up to 2000 m			
Relative humidity	80% max. @31°C			
Dimensions & weight	Height	Width	Depth	Weight
	131 mm	440 mm	455 mm	approx. 16kg



ADVANTAGES OF THE SEFELEC 56-H

- ✓ **Dielectric strength:** Up to 5 kVAC 50 VA and 6 kVDC
- ✓ **Detection modes:** threshold current or current variation (ΔI)
- ✓ **Programmable test ramps:** Ramp-up, hold, and ramp-down
- ✓ **Burn-in function:** detection-free current mode
- ✓ **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)

TECHNICAL SPECIFICATIONS

Tension de sortie

Signal	50 Hz or 60 Hz sinusoidal
Adjustment range	100 V to 5 000 V AC 100 V to 6 000 V DC
DC Polarity	Generator positive terminal connected to ground
Dynamic stability	for $\Delta V_{\text{mains}} = \pm 10\%$, measurement voltage variation $< \pm 3\%$
Residual ripple in DC (according to IEC 61180)	$< 3\%$ RMS for a current $< 3 \text{ mA}$ @ 6000 VDC
Generator accuracy	$\pm (2\% + 5 \text{ V})$ für einen Strom $< 100 \mu\text{A}$ in den AC- oder DC-Einstellbereichen
Maximum test sample capacitance	$< 1 \mu\text{F}$ (discharge time $< 10 \text{ s}$)
Discharge resistance	1.5 M Ω in DC – Discharge of the tested element and internal capacitances

Voltage Measurement

Measured using a kilovoltmeter connected directly to output terminals

Accuracy	$\pm (1,5\% + 5 \text{ V})$
Resolution	6000 counts

Current

	Nominal	Short-circuit
at 5 000V AC	$< 10 \text{ mA}$ or $< 1,5 \text{ mA}$ option SEFA-5X3MA	$< 20 \text{ mA}$ or $< 3 \text{ mA}$ option SEFA-5X3MA
at 6 000V DC	$< 8 \text{ mA}$ or $< 1,5 \text{ mA}$ option SEFA-5X3MA	$< 20 \text{ mA}$ or $< 5 \text{ mA}$ option SEFA-5X3MA

Fault Detection

Fault indication via LCD display message, LED indicators, and audible signal

Breakdown voltage and IMAX fault current are stored

Current Variation Mode (ΔI) The ΔI detector automatically subtracts the normal current flowing through the test sample ($I = U/Z$) from the current that appears suddenly during a fault (breakdown): $I' = I + I_{\text{fault}}$

Amplitude setting	1 mA to 10 mA $\pm (10\% + 0.5 \text{ mA})$ in 100 μA steps (AC & DC) 100 μA to 900 μA $\pm 10\%$ in 100 μA steps (AC only from 100 VAC to 2500 VAC)
Pulse width	$> 10 \mu\text{s}$ $\pm 20\%$

IMAX Current Threshold Mode: Adjustable from 0.001 mA to 10.000 mA in 0.001 mA steps

Upper threshold $> 0.000 \text{ mA}$, lower threshold = 0.000 mA	→ If measured current $\geq$ threshold → FAIL (trip) → If current $<$ upper threshold → PASS
Lower threshold $> 0.000 \text{ mA}$ and upper $>$ lower	→ If current within limits → PASS → Otherwise → FAIL

IMIN Current Mode: Minimum current can be defined (0.000 mA to 9.999 mA), Ensures proper connection of the test sample

No Detection Mode (Burn-in): No current monitoring, Generator protected against overheating

Continuous Current Measurement

Current measurement via shunt directly in the test circuit

Resolution	9,999 counts
Current accuracy	AC (total / real) 0.001 mA to 9.999 mA $\pm (1.5\% + 2 \mu\text{A})$ / $\pm (3\% + 100 \mu\text{A})$ DC (total) 0.001 mA to 9.999 mA $\pm (1.5\% + 2 \mu\text{A})$

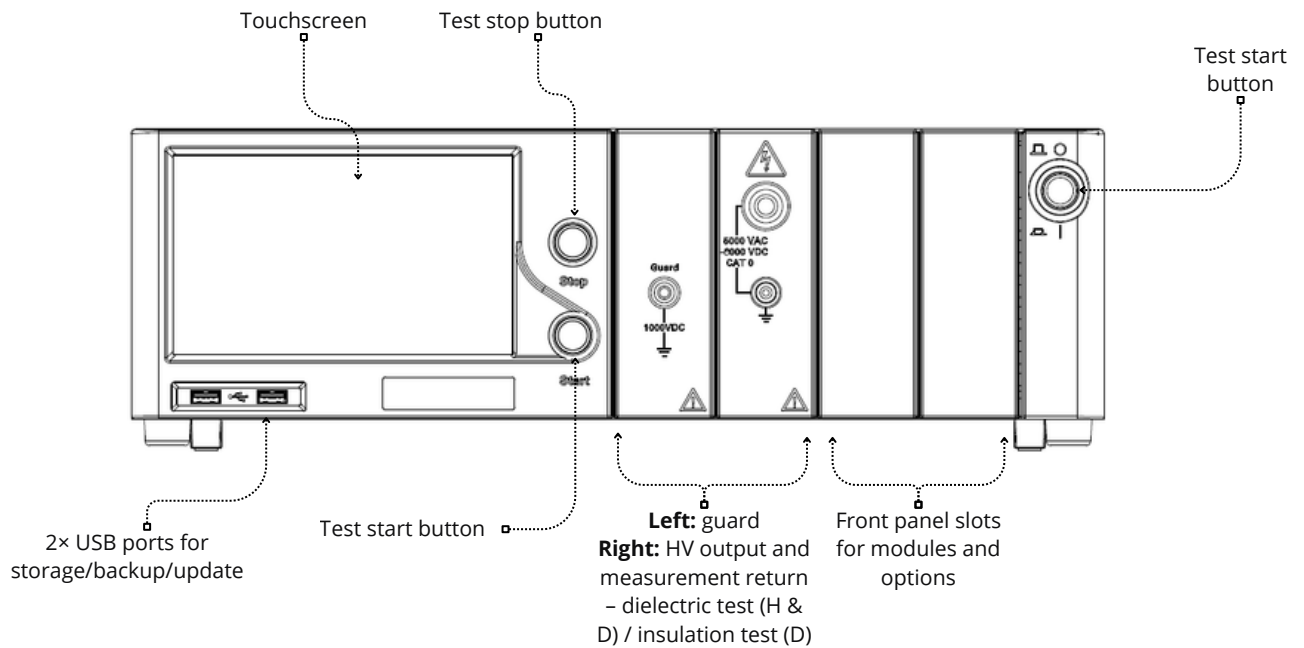
In DC, accuracy is guaranteed for load resistance $> 1 \text{ M}\Omega$

Timing

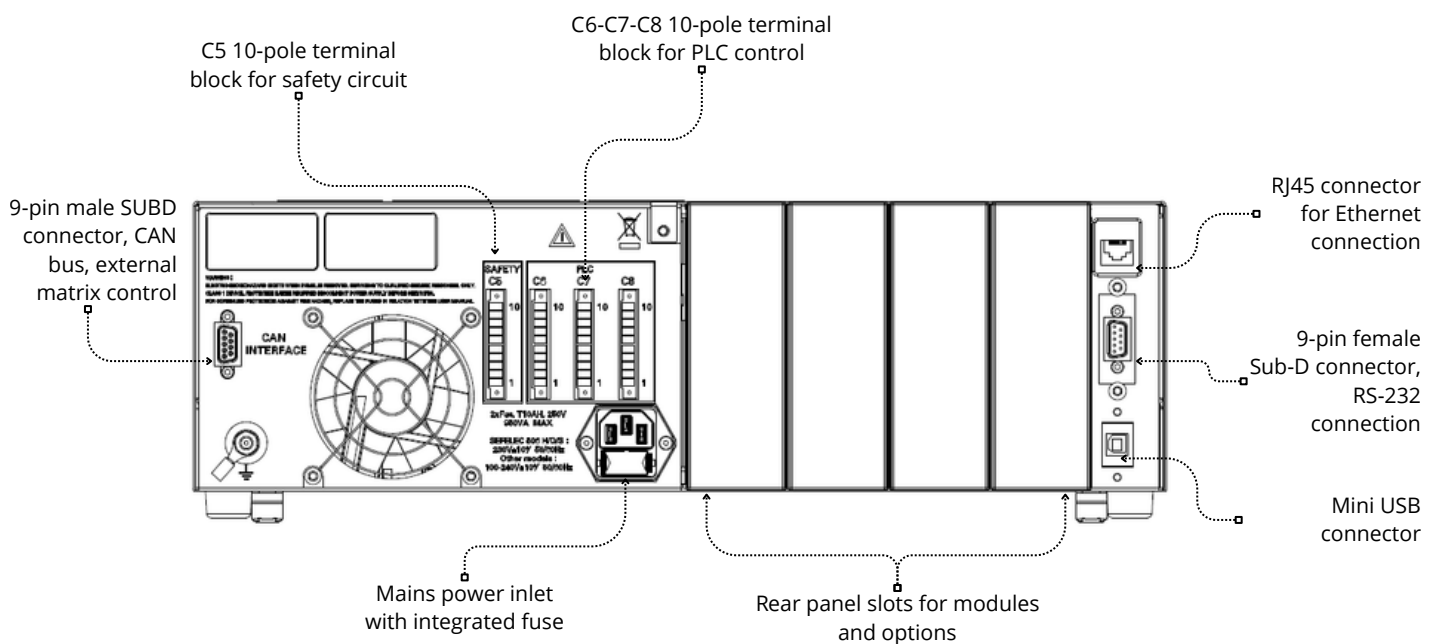
PERMANENT Mode	The rise time is taken into account during the measurement. The output voltage corresponds to the set value. Shutdown in case of fault or when the red front panel button is pressed.
MANUAL Mode	No timing is applied during the measurement. Manual control via the up and down arrows on the display. Shutdown in case of fault or when the red front panel button is pressed.
AUTO Mode	The test consists of three successive phases: Linear rise to the desired value (Rise), Holding at the programmed value (Hold), Gradual return to 0 (Fall).
Programming	Ramp up / Ramp down 0.0 to 9999.0 sec in 0.1 sec steps accuracy $\pm 20 \text{ ms}$ Hold 0.1 to 9999.0 sec in 0.1 sec steps accuracy $\pm 20 \text{ ms}$
Timing accuracy	$\pm 20 \text{ ms}$

DESIGN

FRONT PANEL



REAR PANEL





CONFIGURE YOUR SEFELEC 56-H

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-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-KR	Adapters for 19" rack mounting
SEFA-CO160	Red/Green safety lamp
SEFA-5XLIGHT	Two-hand control for test start
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-5X3MA	Output current limited to 3 mA
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