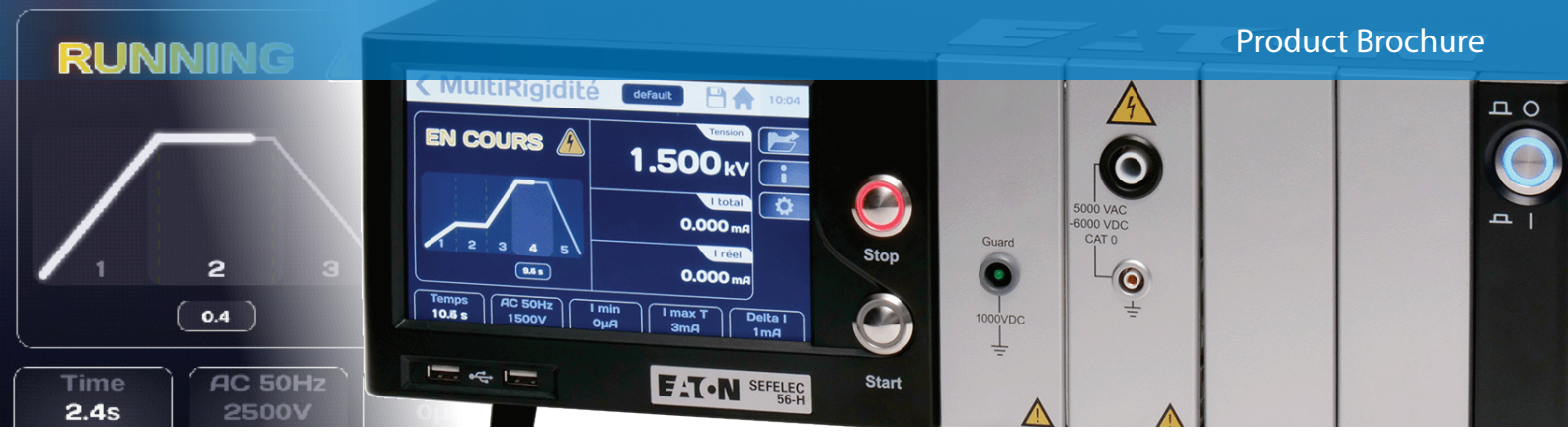


SEFELEC 56-H

The EATON Dielectric Strength Tester

The **SEFELEC 56-H** is a new generation EATON dielectric strength tester (hipot tester) based and controlled by ARM-Dual Core and DSP technologies providing the best stability and repeatability.

The high accuracy and measurement speed are suitable for quality control or incoming inspection departments.

The sequence mode makes the **SEFELEC 56-H** easier to use and integrate in a control or a test-bench.

The new SEFELEC Series HMI, with its 7" dual-touch TFT screen, offers simple and intuitive operations.

SEFELEC 56-H features and benefits:

Dielectric withstand at 5kVAC 50VA and 6kVDC

Detection modes with Min/Max current thresholds or flashover detection (ΔI)

Burning function without current detection

Programmables test ramps
Rise, dwell, fall
Multi-ramp mode, up to 7 steps

7" TFT Multi touchscreen 16 million colors
for programming, tests and results display

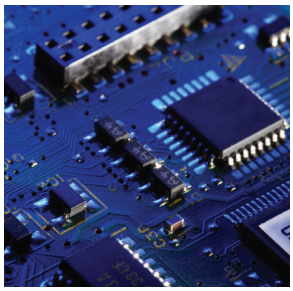
ARM-Dual core control & Nand 3D technologies
inside for more accuracy, stability and repeatability

DSPs speeds up measurements and production tests

Large internal memory for configurations and test results storage

IEC 61010-2-034 full compliance, specific safety standard for insulation and dielectric strength meters

- Native Ethernet / RS232 / USB / PLC / CAN IEEE488-2 interface in option
- CAN Bus to drive extension modules (Scanners)
- SIL2 double safety loop
- Automatic measurement range selection
- Sequence mode to combine several successive tests

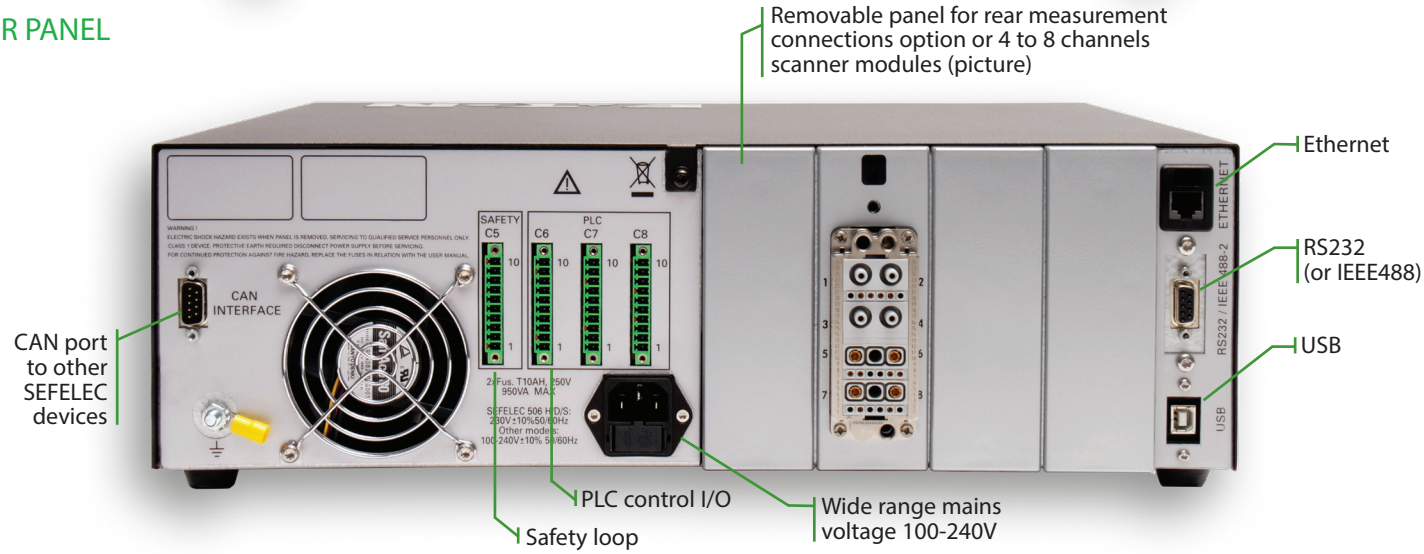


EATON
Powering Business Worldwide

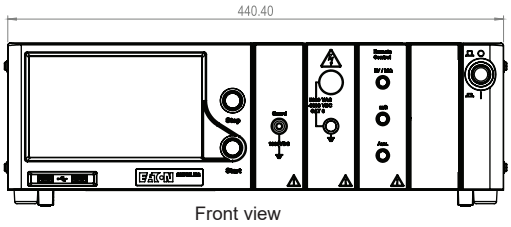
SEFELEC 56-H : Dielectric Withstand Tester - General Overview

FRONT PANEL

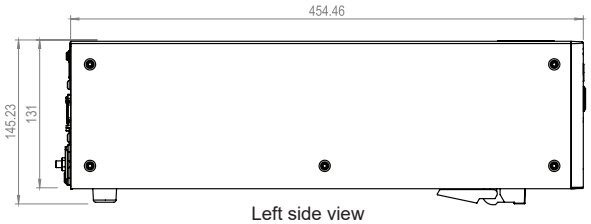
REAR PANEL



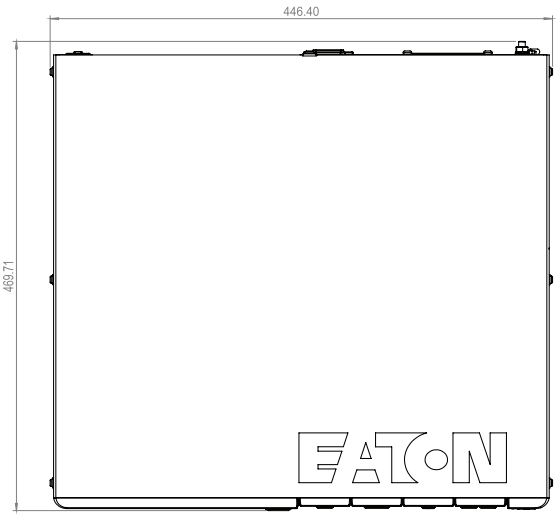
DIMENSIONAL DIAGRAMS



Front view



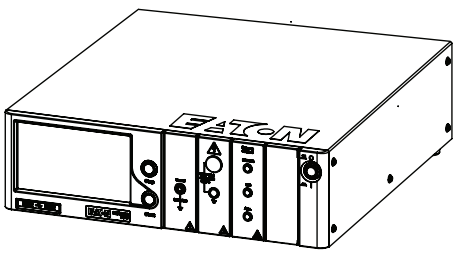
Left side view



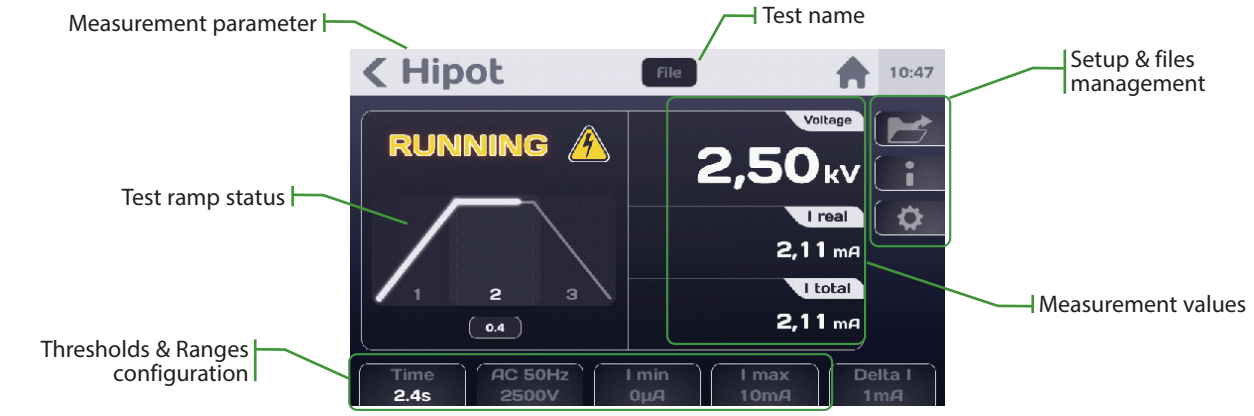
Top view

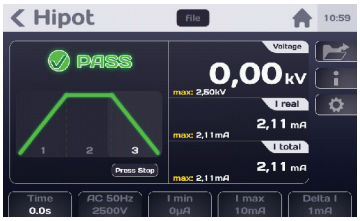
Rack-Mount operation requires SEFA-KR adaptor.

SEFO-5XREAR option provides measurement connectors on the back plane.

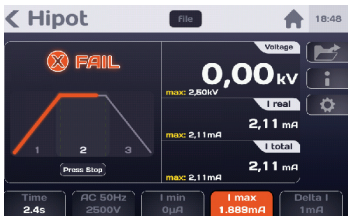


SEFELEC 56-H : Touchscreen Overview

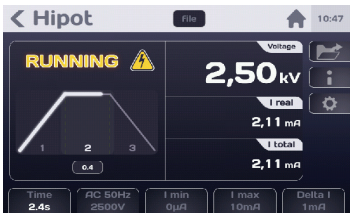




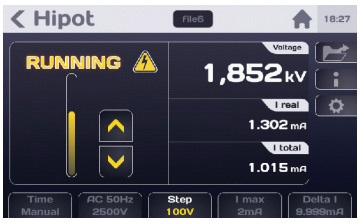
Passed test



Failed test



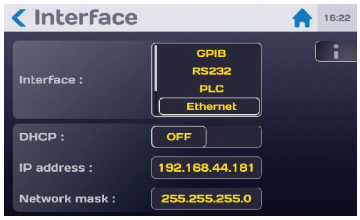
Permanent measurement mode



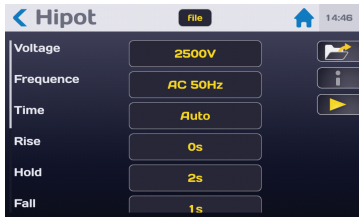
Manual mode

Multi-steps mode

Measurement mode selection



Communication settings



Measurement parameters settings

Sequence mode

SEFELEC 56-H : Accessories & Options

SEFA-TE65

SEFA-TE58

SEFA-CO180

SEFA-CO200

SEFA-5XLIGHT

Accessories

SEFA-TE65-02 (*)	High woltage probe with lead - L. 2m
SEFA-TE58-02 (*)	High woltage probe with lead with remote control - L. 2m
SEFA-CO175-02 (*)	Return lead with 4mm connector - L. 2 m
SEFA-CO180-02 (*)	Free terminal high voltage lead - L. 2m
SEFA-P5X-HRC-02 (*)	High voltage test gun with lead with remote control L. 2m
SEFA-P5X-RT-02 (*)	Return test gun with lead - L. 2m
SEFA-KR	19" rackmount kit
SEFA-CO160	Red/Green safety lamp
SEFA-5XLIGHT	Red/Green safety lamp - magnetic
SEFA-CO200	Test mains socket Schuko/FR 1500V max.
SEFA-CO200HV	Test mains socket Schuko/FR 5000V max.
SEFA-AO10	Dual palm remote switch for test start

(1) These accessories are also available with 5 or 10m leads. Please use model numbers -05 and -10

Internal scanner module

SEFO-5XRC

SEFO-IEEE488

Options

SEFO-5XRC	Remote controls module
SEFO-IEEE488	IEEE488-2 communication board
SEFO-5XREAR	Measurement connections rear installation
SEFO-5X3MA	Output current limitation to 3mA
SEFO-4WHV	Test device 4 wires detection
SEFM-4IHV	Internal scanner module 4 channels high voltage
SEFM-8IHV	Internal scanner module 8 channels high voltage

General Specifications				
Mains voltage	100-240 VAC ±10 % 50 to 60 Hz / single phase			
Mains protection	Temporized double fuse T10AH 250V			
Input power	700 VA max.			
Temperature range	Storage : -10°C to +60°C Operation : 0°C to +45°C Specified accuracy after 1/2 hour warm-up and RH<50 %			
Altitude	Up to 2 000 m			
Relative humidity	80 % max. @ 31°C			
Dimensions & weight	Height	Width	Depth	Weight
	131 mm	440 mm	455 mmm	approx. 16 kg

Output Withstand Voltage	
Signal	50 Hz or 60 Hz sinus
Range	100 V to 5 000 V AC 100 V to 6 000 V DC
DC polarity	Positive pole connected to the bond
Dynamic stability	for ΔV_{mains} = ±10 % measurement voltage variation < ±3%
DC voltage ripple	< 3% with a current <3 mA @ 6000 VAC
Generetor accuracy	± (2 % + 5 V) with a current < 3 mA over full range in AC or DC
Max D.U.T. capacitance	< 1 µF (discharge time < 10 s)
Discharge resistor	1,5 MΩ in DC - D.U.T. and internal capacitor discharge

Voltage Measurement	
Through a kilovoltmeter directly connected to output	
Accuracy	± (1,5% + 5 V)
Resolution	6000 digits

Short-Circuit Current		
	Nominal	in short-circuit
at 5 000V AC	< 10 mA or <1,5 mA with option SEFA-5X3MA	< 20 mA or <3 mA with option SEFA-5X3MA
at 6 000V DC	< 8 mA or <1,5 mA with option SEFA-5X3MA	< 20 mA or <5 mA with option SEFA-5X3MA

Default Detection	
Fault indication with a message on the LCD display, LEDs and audible signal. Default voltage and I_{MAX} fault current stored in the display and memory.	
Flashover Current Mode ΔI : The ΔI detection (delta I) makes the substraction between the normal current through the D.U.T. (I = U/Z) and the current that appears rapidly when there is a default : $I' = I + I_{default}$	
Ajustement range	from 1 mA to 10 mA ±(10%+0,5mA) by steps of 100 µA (AC & DC) from 100 µA to 900 µA ±10% by steps of 100 µA (AC only, from 100 VAC to 2500 VAC)
Pulse width	>10 µs ± 20%
Current Threshold Mode I_{MAX}: Range can be set from 0,001 mA to 10,000 mA by steps of 0,001 mA	
High limit > 0,000 mA & Low limit set at 0,000mA	If the measured current is greater than or equal to the threshold, the test is declared FAIL : DIS-JUNCTION. If the current is lower than the High Limit, the test is declared PASS
Low limit > 0,000 mA et High limit > Low limit	The measured current is within the range defined by the thresholds, the test result is PASS, outside the test is declared FAIL.
Current Threshold Mode I_{MIN}: It is possible to specify a minimum value of current flowing through the D.U.T. . The I_{MIN} value can be set from 0,000 mA to 9,999 mA. I_{MIN} mode use ensures that the D.U.T. is correctly connected to the tester.	
Without Detection Mode: There is no current control in this mode (burning mode). Generator is protected against overheat.	

Permanent Current Measurement		
The current measurement is done by a shunt installed in the test circuit.		
Resolution		9 999 points
Current accuracy	total / real (in AC)	0,001 mA to 9,999 mA AC ± (1,5 % + 3 µA) / ± (3 % + 3 µA)
	total (in DC)	0,001 mA to 9,999 mA DC ± (1,5 % + 2 µA)
Accuracy in DC current for a load > 1 MΩ		

Ramp mode	
PERMANENT mode	The rise time duration set is active. The output voltage rises to the setpoint. Test stops if there is a fault or if pressing the red button on the front panel.
MANUAL mode	No rise time is set. Manual control pressing up and down arrows on the touch-screen. Test stops if there is a fault or if pressing the red button on the front panel.
AUTO mode	Test runs in 3 sequences : linear raise up to set voltage (Ramp Up), set output voltage remains applied (Dwell), progressive descent to 0V (Fall)
Ramp Up - Dwell - Fall duration	0,1 à 9999,0 sec. by steps of 0,1sec
Accuracy	+/- 20 msec

Information on this document can be modified by EATON without notice. Non-contractual pictures.

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Please learn more about SEFELEC 5x series on : **Sefelec.com**

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