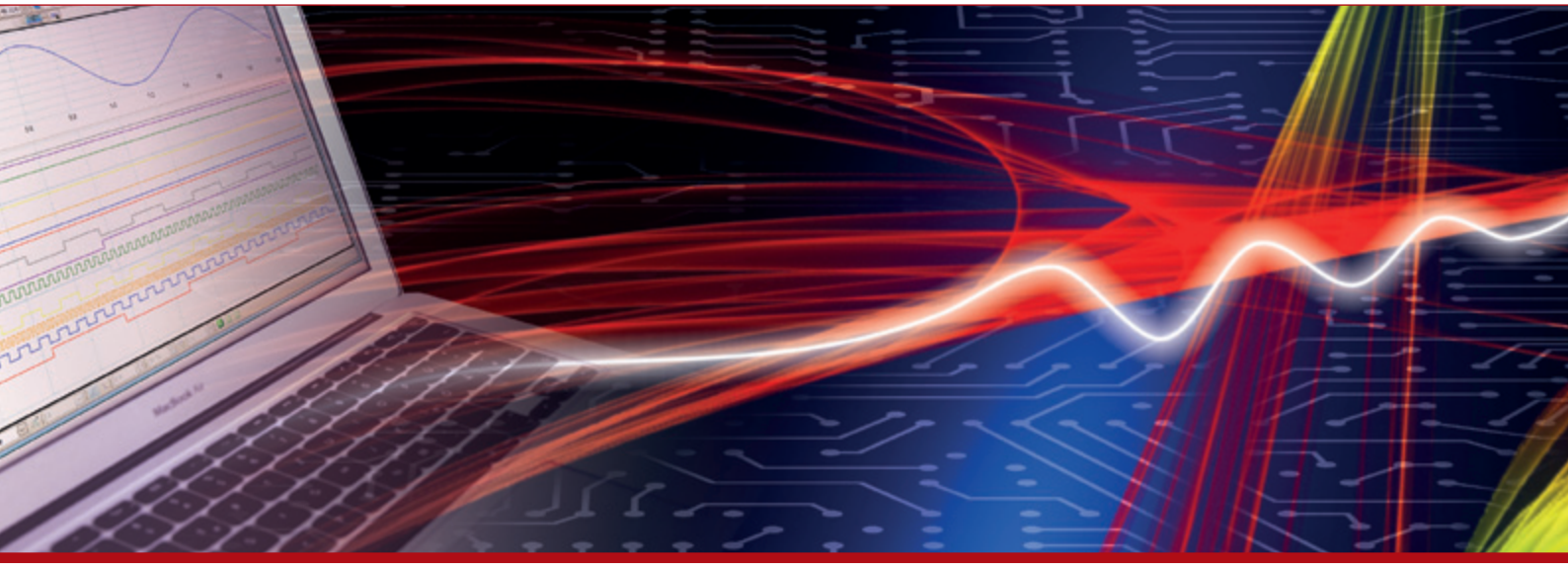
Product Datasheet - Technical Specifications



More information in our Web-Shop at ▸ **www.meilhaus.com**

Your contact

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Product Brochure

SEFELEC 56-S

The EATON Electrical Safety Tester

The **SEFELEC 56-S** is the new generation EATON Safety Tester (3 tests in 1 device: hipot, insulation, earth bond test) 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-S** 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-S: features and benefits:

Dielectric strength up to 5kVAC 50VA or 6kVDC

Insulation measurement up to 2TΩ at 1000 VDC
Adjustable voltage from 10 to 1000 VDC
by steps of 1V

Earth bond test under 6VAC / 32A

Programmable test ramps
Up, Steady, Down
Multi-ramps mode (hipot test)

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

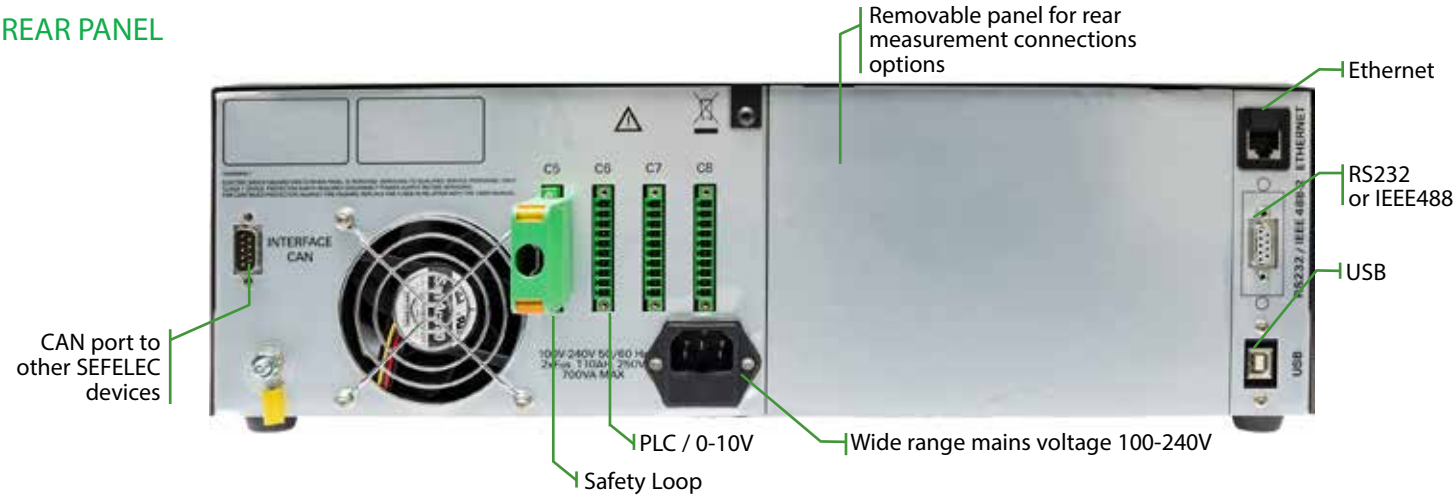
- Native Ethernet / RS232 / USB / PLC / 0-10 V
- IEEE488-2 interface as an option
- Bus CAN for external additional modules (Scanners)
- SIL2 double safety loop
- Automatic measurement range selection
- Sequence mode to combine several successive tests (i.e.: Insulation / Hipot / Insulation / Earth Bond)

EATON
Powering Business Worldwide

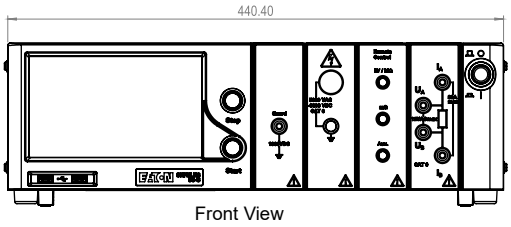
SEFELEC 56-S : Electrical Safety Tester - Overview

FRONT PANEL

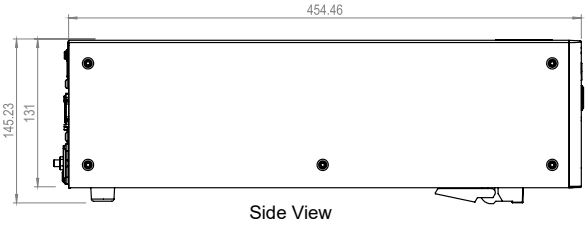
REAR PANEL



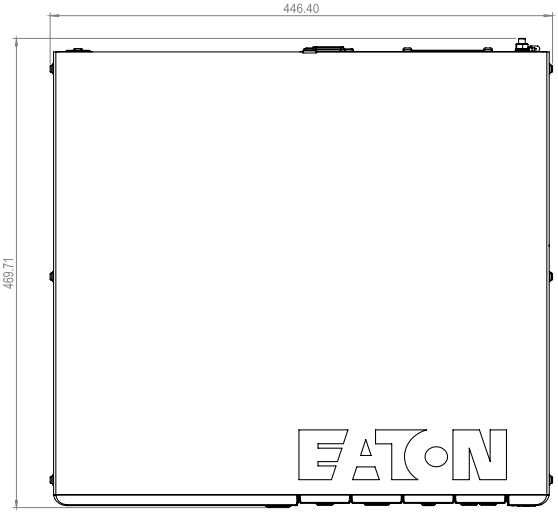
SCHEMAS D'ENCOMBREMENT



Front View



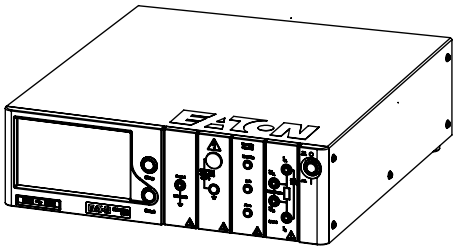
Side View



Top View

Rack-Mount operation requires SEFA-KR adaptor.

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



SEFELEC 56-S : Touchscreen - Overview

Hipot function

Insulation function

Earth Bond function

Passed Test

Failed Test

Permanent Mode

Communication configuration

Measurement parameters configuration

Save and Restore configurations

SEFELEC 56-S : Accessories & Options

Accessories

SEFA-TE65-02 [1]	High voltage probe and test lead length. 2 meters
SEFA-CO175-02 [1]	Return lead with 4mm termination - length 2 metres.
SEFA-CO180-02 [1]	High voltage lead without probe for hardwire connection, length 2 meters
SEFA-TE81-3202 [1][2]	32A safety probe for earth bond test with remote control, length 2 meters
SEFA-CO183-3202 [1][2]	32A 4mm leads / alligator clips for earth bond test, length 2 meters
SEFA-KR	19" rack mounting adaptor for SEFELEC range
SEFA-CO160	Red/Green Lamps

[1] Models also available with length 5 & 10m with folling part numbers :
SEFA-TE65-05 / SEFA-TE65-10 / SEFA-CO180-05 / SEFA-CO180-10 / SEFA-CO175-05 / SEFA-CO175-10
[2] Models also available with current 50A (SEFA-TE81-50, SEFA-CO183-50)

SEFA-TE65-02

SEFO-IEEE488

Options

SEFO-5XRC	Remote controls connection module
SEFO-5X2TO	2TΩ insulation measurement range
SEFO-5X50A	8VAC/50A earth bond test
SEFO-IEEE488	IEEE488-2 communication
SEFO-5XREAR	Rear panel measurement connection
SEFO-5X3MA	3mA max. output current limitation (Hipot function)

SEFELEC 56-S TECHNICAL SPECIFICATIONS

General Specifications				
Mains	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			Operation
	-10°C à +60°C			0°C à +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. 27 kg

Hipot Function	
Voltage range	100 ... 5 000 VAC / 100 ... 6 000 VDC - Positive pole connected to bond in DC
Voltage generator accuracy	± (2 % + 5 V) over full voltage range and with a current below 100 µA
DC voltage ripple	< 1% with a current < 100 µA
Max D.U.T. capacitance	< 1µF (discharge time < 10 sec.) Discharge resistor in DC = 1,5 MΩ
Voltage measurement accuracy	Through a kilovoltmeter directly connected to output. ± (1,5% + 5 Volts) resolution: 600 pts
Short-circuit max. current	< 20 mA AC / < 20 mA DC
Default detection modes	Adjustable from 1 mA ±10 % to 10 mA ± 10% by 1 mA steps, pulse 10 µS ±20 %.
ΔI detection mode current range	Amplitude réglable de 1 mA ±10 % à 10 mA ± 10% par pas de 1 mA, impulsion 10 µS ±20 %.
Min/Max detection mode current range	Adjustable from 0,001 mA to 9,999 mA by 0,001mA steps
Permanent total current measurement	Resolution 9 999 pts with a shunt installed in the test circuit
Total current accuracy (in AC and DC)	0,001 mA to 9,999 mA = ± (2 % + 3 µA). 10,00 mA to 20,00 mA: ± (2 % + 0,05 mA) (R_{load} > 1MΩ)
Ramp Up - Dwell - Fall duration	0,1 à 9999,0 sec. by steps of 0,1sec, accuracy +/- 20 msec

Insulation Function				
Measurement voltage	20 - 1000 VDC, accuracy ±(1% + 1V), positive pole grounded			
Maximum current in measurement circuit	2 mA - 20% / +0%			
Max D.U.T. capacitance	< 100µF (discharge time < 10 sec.), Discharge resistor 2,2 kΩ			
Display resolution	1 999 points - Displayed units: kΩ, MΩ, GΩ, TΩ			
Measurement range	100V	250V	500 V	1000V
	100 kΩ to 20 GΩ	250 kΩ to 50 GΩ	500 kΩ to 100 GΩ	100 kΩ à 200 GΩ
Measurement range with 2 TΩ option	100 kΩ to 200 GΩ	250 kΩ to 500 GΩ	500 kΩ to 1 TΩ	100 kΩ à 2 TΩ
Normal mode accuracy	Standard version 200 GΩ : ± (1,5% +1 digit)			
	2 TΩ option with $U_{test} \leq$ 200 V DC : ± (2% +1 digit)			
	2 TΩ option with U_{essai} > 200 V DC : ± (1% x U_{essai} / 100 +1 digit)			
Capacitance mode accuracy	(Normal mode accuracy) ±100kΩ			
Thresholds	High and low programmable from 50 kΩ to 200GΩ (or 2TΩ with option)			
Ramp Up - Dwell - Fall duration	0,1 à 9999,0 sec. by steps of 0,1sec, accuracy +/- 20 msec			

Earth Bond Test Function	
Measurement frequency	50Hz or 60Hz depending on mains
Measurement current	5 to 32A AC adjustable by steps of 0,5A (5 to 50A AC with 50A option)
Generator accuracy	± (1% + 500mA) or ± (1% + 650mA) with 50A option
Open circuit maximum output voltage	6V AC 8V AC with 50A option
Display resolution	1 499 digits
Unit	mΩ (0,001 Ω)
Accuracy	± (2,5% + 10 points)
Measurement range	0 - 960 mΩ under 6 V AC 0 - 1,500 Ω under 8 V AC
Thresholds	High and low adjustable from 1mΩ to 1500mΩ
Ramp Up - Dwell - Fall duration	0,1 à 9999,0 sec. by steps of 0,1sec, accuracy +/- 20 msec

FTEN-SEFELEC 56-S version 1.02 Oct. 2019