



SEFELEC 1500-M

Data sheet

THE TERA-OHMMETER / PICOAMMETER

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. 15kg



ADVANTAGES OF THE SEFELEC 1500-M

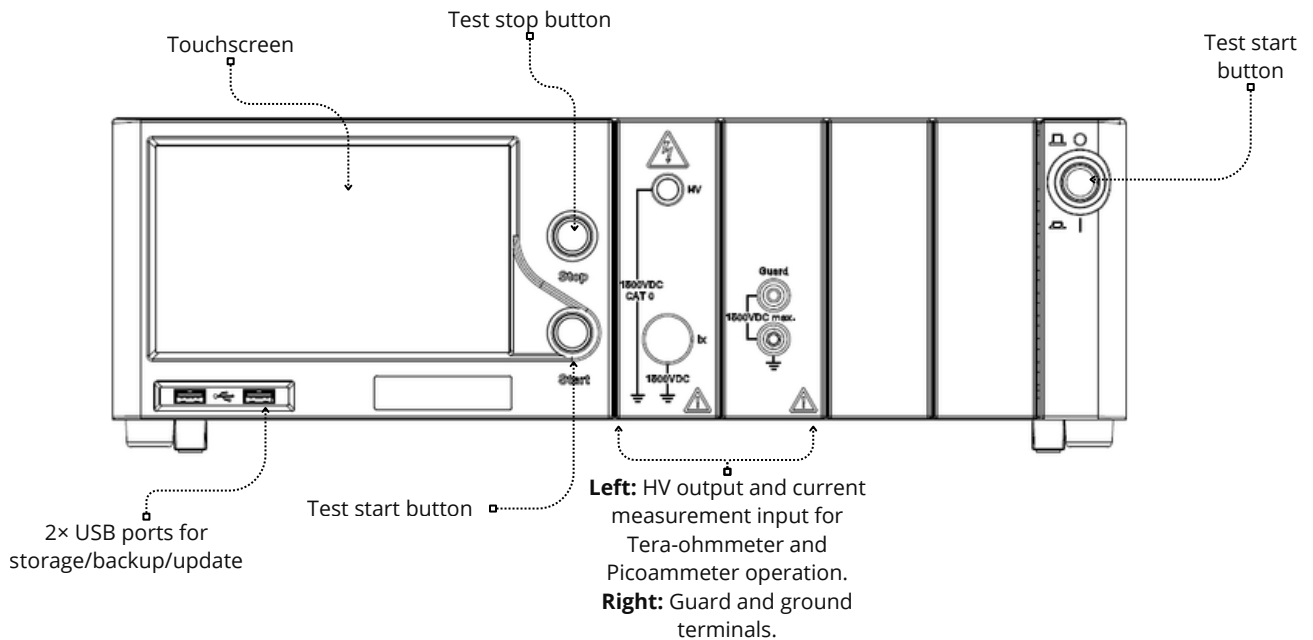
- ✓ **Tera-ohmmeter:** 0.1 k Ω to 2000 T Ω
- ✓ **Picoammeter:** 0.50 pA to 20.00 mA
- ✓ **Test voltage:** Adjustable from 1 V to 1500 VDC in 1 V increments.
- ✓ **Embedded technologies ARM Dual-Core control & 3D NAND:** for enhanced accuracy, stability, and repeatability
- ✓ **Large internal memory:** For storing configurations and test results
- ✓ **Plug-and-play solution:**
 - Real-time test visualization via a 7" TFT touchscreen display
 - Integrated DSP for increased testing speed
 - Automatic measurement range selection
 - Selectable measurement speed from 1 to 10 readings per second
 - Wi-Fi connectivity for wireless connection to industrial networks
- ✓ **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 / PLC as standard
 - IEEE488-2 interface as an option

TECHNICAL SPECIFICATIONS

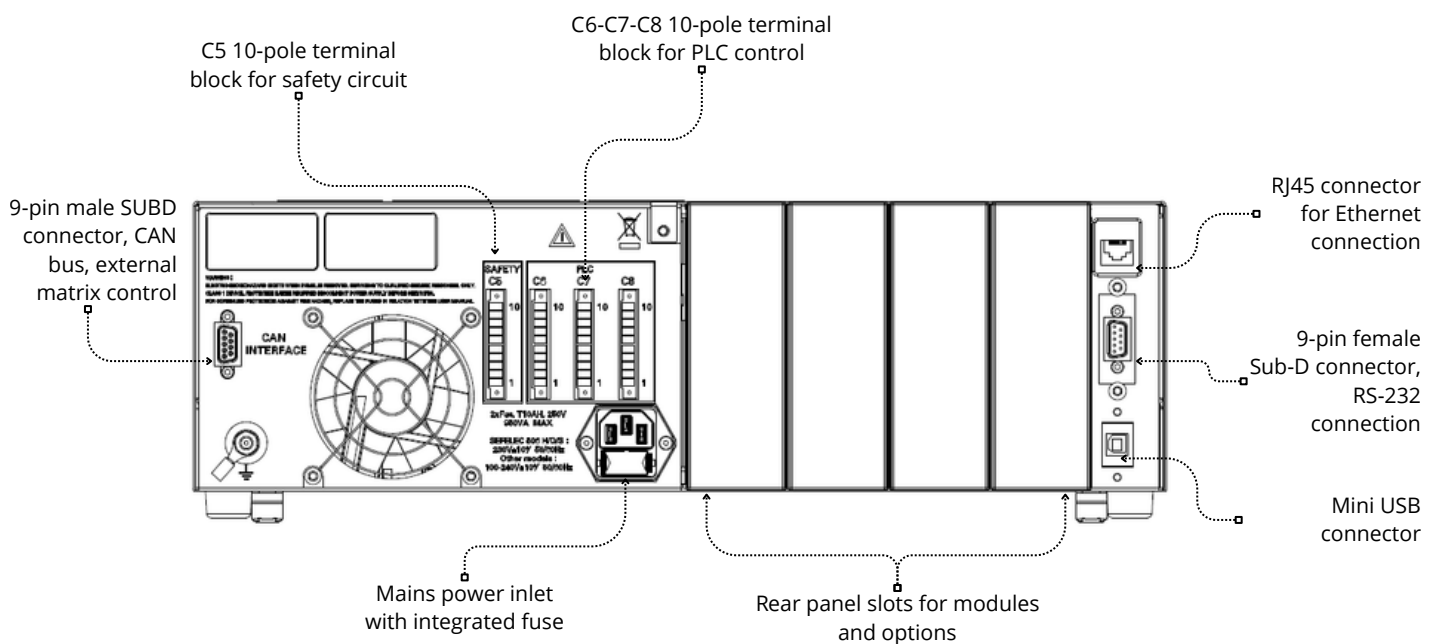
Output Voltage				
Voltage Range	Adjustable in 1 V increments from 1 VDC to 1500 VDC			
Accuracy	± (0.5 % + 0.5 V)			
Short-Circuit Current	20 mA (±10%), can be limited to 3 mA with the SEFO-5X3MA option			
Dynamic Stability	> 1.10 ⁻⁶ for mains voltage variations of ±15%			
Rated Output Current	From 1 V to 10 V	From 11 V to 1000 V	From 1000 V to 1500 V	
	1 mA (±0.5 mA)	10 mA (±10 %)	5 mA (±10 %)	
Polarity	Positive terminal connected to the HV output, or Negative terminal connected to guard Possibility to ground the high-voltage terminal (floating terminals)			
Residual Ripple	±100 mV peak-to-peak at 10 mA output current			
Noise (0.01 Hz to 10 Hz)	100 µV maximum (at 20°C)			
Temperature Coefficient	0.001 %/°C			
Maximum D.U.T. Capacitance	< 1 mF (discharge time < 10 s)			
Test Time Programming	Ramp Up and Ramp Down: 0.0 to 9999.0 s in 0.1 s increments, accuracy ±20 ms Dwell Time (Hold): 0.1 to 9999.0 s in 0.1 s increments, accuracy ±20 ms			
Discharge Resistance	2.2 kΩ			
Tera-Ohmmeter Function				
Measurement Range	From 0.1 kΩ to 2,000 TΩ in 10 automatic or manual ranges / measurement currents			
Temperature Coefficient	± 0.1 %/°C			
Display Resolution	1,999 counts			
Test Voltages (Examples)	10 V 10 ³ Ω to 2 × 10 ¹³ Ω	100 V 10 ⁴ Ω to 2 × 10 ¹⁴ Ω	1 500 V 3 × 10 ⁵ Ω to 2 × 10 ¹⁵ Ω	
Accuracy	± [current range accuracy + (50 / test voltage)% + 1 digit] of reading			
Thresholds	Two programmable limits (high and low), from 0.100 kΩ to 2000 TΩ.			
Picoammeter Function				
Gammes	500 fA à 20 mA en 10 gammes / Sélection manuelle ou automatique			
	Range	Minimum Value	Resolution	Accuracy @ 25°C
	20,00 pA	0.50 pA	10 fA	0.3 % reading + 500 fA
	200,0 pA	19.8 pA	100 fA	0.2 % + 0,6 pA
	2,000 nA	0.198 pA	1 pA	0.2 % + 2 pA
	20,00 nA	1.98 nA	10 pA	0.2 % + 20 pA
	200,0 nA	19.8 nA	100 pA	0.2 % + 200 pA
	2,000 µA	0.198 µA	1 nA	0.2 % + 2 nA
	20,00 µA	1.98 µA	10 nA	0.2 % + 20 nA
	200,0 µA	19.8 µA	100 nA	0.2 % + 200 nA
	2,000 mA	0.198 mA	1 µA	0.2 % + 2 µA
	20,00 mA	1.98 mA	10 µA	0.2 % + 20 µA
	Nota: 1 pA = 0.001 nA = 0.000 001µA = 0.000 000 001 mA = 1x10-12A			
	Display Resolution	1,999 counts		
Input Impedance	Range		Input Impedance	
	20 mA		9 Ω 1 %	
	2 mA		90 Ω 1 %	
	Autres		9 kΩ 1 %	
Thresholds	Two programmable limits (high and low) from 0.50 pA to 20.00 mA for pass/fail testing.			

DESIGN

FRONT PANEL



REAR PANEL





CONFIGURE YOUR SEFELEC 1500-M

ACCESSORIES AND OPTIONS

Accessories	
SEFA-SE15	Measurement probe and cable with Lemo® connector – length: 1.5 m
SEFA-HV15	High-voltage cable with 4 mm plug and Lemo® connector – length: 1.5 m
SEFA-HVSE15-02	Set of 2 unterminated cables fitted with Lemo® connectors – length: 2 m each
SEFA-KR	Adapters for 19" rack mounting
SEFA-CO160	Red/Green safety lamp
SEFA-5XLIGHT	Magnetic Red/Green safety lamp
SEFA-AO10	Two-hand test start control

Options	
SEFO-IEEE488	IEEE488-2 communication board
SEFO-5XREAR	Rear panel connection
SEFO-5X3MA	Limitation du courant de mesure à 3mA

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