

E1 1 kA SYSTEM



The E1 Suitcase is a completely integrated, portable test system used to satisfy the MIL-STD-188-125 requirement for E1 short-pulse direct current injection up to 1 kA.

It is a dual-use system for an inductive coupler or a direct injection output adapter.

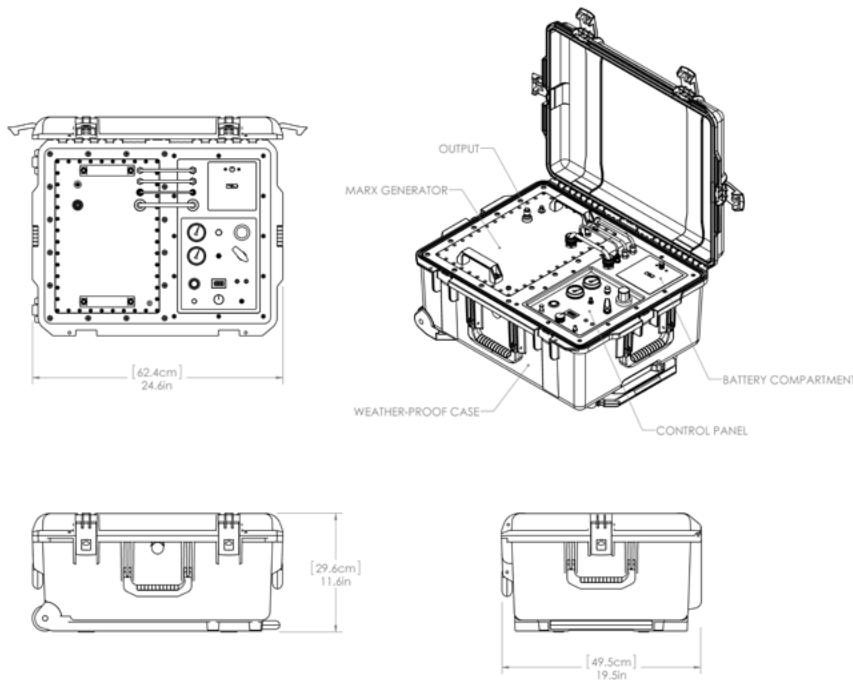
Operated using a handheld fiber-optic remote control, the E1 Suitcase includes a calibration fixture that uses a current transformer with traceable components from the U.S. Department of Commerce's National Institute of Standards and Technology (NIST). This system is battery-powered using commercial-off-the-shelf (COTS) batteries, as well as pressurized, dry breathable air in an onboard pony bottle.

The control and data acquisition option for this system allows the user to enter a desired output current and have the software calculate and set the required charge voltage and air-pressure for the Marx. The data acquisition portion of the software automatically acquires the injected and residual waveforms from the oscilloscope, scales them based upon calibration factors and attenuation, and displays them along with peak current, rise-time, and FWHM. A separate control in the software allows the user to automatically generate a test report at the push of a button.

Parameter	Description	Value	Unit
V_e	Erected voltage	70	kV
C_e	Erected capacitance	11	nF
V_{ch}	Operating charge voltage range	7–35	kV
Pres.	Operating pressure range	atm–90	psi
L	Length	24.6	in
W	Width	19.7	in
H	Height	11.7	in
Wt	Weight	73	lbs
T_R	Current rise time	<20	ns
T_w	Pulse width, Full Width Half Maximum (FWHM)	500–550	ns



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The E1 Suitcase and internal system are built for rugged, portable use, with logical controls and an onboard battery and air supply. The suitcase is constructed to be impact-resistant and weather-tight with easy-to-transport casters. As for versatility, the suitcase offers direct injection or inductive coupling for use in various applications.

Components

- 188-125 E1 portable test system
- Test fixture with current transformer diagnostic
- Direct connection output adapter
- Inductive coupler
- Fiber-optic remote control
- Spare battery and charger

Characteristics

- Dual-use system for an inductive coupler or a direct injection output adapter
- Calibration fixture uses a current transformer with traceable components from NIST

Size: **24.6 × 19.7 × 8.6 in**
(62.5 × 50.0 × 21.8 cm)

Weight: **90 lb (40.9 kg)**

Peak output current: **1.1 kA**

Peak output voltage: **46 kV**

Energy per pulse: **10.5 J**

Pulse rise-time: **<20 ns**

Pulsewidth (FWHM): **500–550 ns**

