

# F6300



TOGETHER WE POWER THE WORLD

## HIGH-POWER CURRENT AMPLIFIER

Using the F6300 High-Power Current Amplifier in combination with the F6150 Power System Simulator takes you to the next level of realistic power system simulation for protection scheme testing. With this powerful combination, the performance of the protection scheme can be evaluated for practically all power system events.

### Applications

- Test protection schemes by simulating 3-phase close-in fault with high short circuit current for a realistic simulation of power system events. Up to 180 Amps, 3 phase.
- Test high burden protection schemes, (e.g. primary and secondary schemes simultaneously), or electromechanical protection schemes. The powerful combination of the F6300 and F6150 provides you with the high power current source to drive the desired level of current for realistic simulation of power system events.
- Use the F6300 and F6150 combination to perform dynamic and transient testing of 3 winding, 3 phase current differential protection schemes that require up to 9 high power current sources. Up to 60 Amps, 3 phase.

### F6300 Features

- **High Power** – Capable of testing complete high-burden electromechanical protection schemes and panels.
- **Transient Mode** – Two channels up to 180 A at 675 VA to simulate close-in faults on the power system.
- **Flexibility** – Configurable sources for testing high-burden protection schemes and three-winding transformer differential protection.
- **Multiple Ranges** – Delivers maximum power even at low currents for testing of high burden electromechanical schemes such as earth / ground fault relays.
- **Reliability** – Rugged construction and proven, state-of-the-art design provide laboratory accuracy without compromising field performance.

### F6300

More power for realistic testing of protection scheme.



# F6300 APPLICATION EXAMPLE AND DESCRIPTION

The F6300 and F6150 combination can easily test all high-burden electromechanical relays. The burden presented by electromechanical relay-based protection schemes are very high, requiring high-power current sources to drive the necessary current. When used together, the F6300 and F6150 can deliver three currents up to 90 A, 3-phase continuous at 450 VA or 180 A for 1.5 seconds at 675 VA.

Three voltage sources and one current source of 450 VA are provided by the F6150, while two 450 VA current sources are provided by the F6300.

## F6300 Technical Specifications and Source Configurations

### Output Power Continuous

2 x 450 VA sources  
6 x 150 VA sources

### Output Power Transient for 1.5 seconds

2 x 675 VA sources  
6 x 225 VA sources

## 2 x 450 VA Sources Ranges (Resolutions)

### AC Current

1.5 seconds transient 15A (0.001 A), 45, 90, 180 A rms (0.01 A)  
Continuous 7.5 (0.001 A), 22.5 A, 45, 90 A rms (0.01 A)

### DC Current

1.5 seconds Transient 10 (0.001 A), 30, 60, 120 A dc (0.01A)  
Continuous 5 15 (0.001 A), 30, 60 A dc (0.001 A)

## 6 x 150 VA Sources Ranges (Resolutions)

### AC Current

1.5 seconds Transient 15 (0.001 A), 30, 60 A rms (0.01 A)  
Continuous 7.5, 15 A (0.001 A), 30 A rms (0.01 A)

### DC Current

1.5 seconds Transient 10 (0.001 A), 20, 40 A dc (0.01 A)  
Continuous 5 A (0.001 A), 10, 20 A dc (0.01 A)

## AC Amplitude Accuracy at 50/60 Hz

### Current Sources

From 20° to 30° C: < 0.02% typical or < 0.09%

Guaranteed typical 0.02% of reading

## Distortion and Noise at 50/60 Hz Output (10 Hz-2 kHz Bandwidth)

### Current Sources

Total Harmonic Distortion (THD) < 0.02% typical, < 0.1% guaranteed

## Phase Angle:

**Range:** 0 to + 359.9° (lead) / 0 to - 359.9° (lag)

**Accuracy:** ±0.25° at 50/60 Hz for current sources

**Resolution:** 0.1°

## Frequency:

**Bandwidth:** dc to 3 kHz at full power for transient playback

**Range:** dc; ac from 0.1 Hz to 2 kHz at full power continuous load  
0.001 Hz

## Resolution:

### Accuracy:

0.05 ppm Typical  
1.5 ppm 20° to 30° C  
10 ppm 0° to 50° C

## Physical Specifications

**Dimensions:** 15 x 9.5 x 18 inches  
38 x 24 x 45.7 cm

**Weight:** 35.4 lb / 16.1 kg

**Line Power Supply:** 105–132 V or 210–264 V, 47–63 Hz

**Interfaces:** RS 232 and Ethernet control to PC

**Operating Temperature:** 0° to 50° C  
32° to 122° F

**Storage Temperature:** -25° to 70° C  
-13° to 158° F

**Humidity:** Up to 95% relative humidity, non-condensing

*Specifications are subject to change without notice.*

*For more information, email [fserieshelp@doble.com](mailto:fserieshelp@doble.com)*

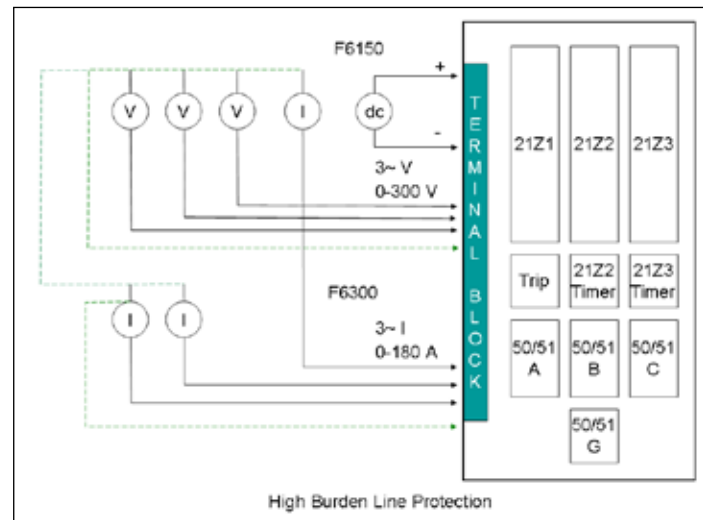
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High Burden Line Protection

**Doble is certified ISO 9001:2000**  
**Doble is an ESCO Technologies Company**

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