The Model PD05034 is a DC-stable, high-voltage power amplifier used in industrial and research applications. It features an all-solid-state design for high slew rate, wide bandwidth and low-noise operation. The four-quadrant, active output stage sinks or sources current into reactive or resistive loads throughout the output voltage range. This type of output is essential to achieve an accurate output response and high slew rate demanded by a variety of loads such as highly capacitive or reactive loads. It is configured as a non-inverting amplifier.

Key Specifications

- Output Voltage Range: 0 to ±7.5 kV DC or peak AC
- Output Current Range: 0 to ±50 mA DC with a 0 to ±160 mA peak current capability for 50 µs
- Slew Rate: Greater than 1000 V/µs
- Large Signal Bandwidth (3% distortion): DC to greater than 15 kHz
- DC Voltage Gain: Fixed at 1000 V/V

Typical Applications Include

- Dielectric charge material characterization
- Polymer and ceramic corona charging
- Piezoelectric driving and control

Features and Benefits

- Four-quadrant output for driving capacitive loads
- Closed loop system for high accuracy
- Short-circuit protected for equipment protection
- All solid-state design for maintenance free operation
- DC-stable for programmable supply applications
- Low output noise for ultra-accurate outputs
- NIST-traceable Certificate of Calibration provided with each unit
- CE compliant (230 VAC unit only)
### Features (cont.)

**Dynamic Adjustment**
Graduated 1-turn panel potentiometer is used to optimize the AC response for various load parameters.

**Current Limit/Trip**
Switch selectable for either limit or trip. Graduated 1-turn panel potentiometer is used to adjust limit or trip level from 0 to ±50 mA.

**Out of Regulation Status**
Illuminates and a TTL low is provided when unit fails to produce required HV output such as during current limit or short circuit conditions.

**Trip Status**
Illuminates and a TTL low is provided when the high-voltage output is disabled due to the output current exceeding the current trip level, the detection of a high-voltage supply fault or the removal of the top cover.

**Fault Status**
A BNC provides a TTL low when the PD05034 is out of regulation for greater than 100 ms.

### Mechanical

**Dimensions**
279 mm H x 482 mm W 654 mm D
(11" H x 19" W x 25.75" D)

**Weight**
24.9 kg (55 lb)

**HV Connector**
Alden High Voltage Connector

**BNC Connectors**
Amplifier Input, Voltage Monitor, Current Monitor, Remote High Voltage ON/OFF, Out of Regulation Status, Fault/Trip Status

### Operating Conditions

**Temperature**
0°C to 40°C (32°F to 104°F)

**Relative Humidity**
To 85%, noncondensing

**Altitude**
To 2000 meters (6561.68 ft.)

### Electrical

**Line Voltage**
Factory Set for one of two ranges: 104 to 127 V AC or 180 to 250 V AC, either at 48 to 63 Hz

**AC Line Receptacle**
Standard 3-prong AC line connector

**Power Consumption**
1000 VA, maximum

### Supplied Accessories

- Operators’ Manual: PN: 23340
- HV Output Cable: PN: 43463
- Line Cord, Spare: PN: N5011; selected per geographic destination
- Fuses

### Optional Accessories

- HV Output Cable: PN: 43463
- 19-in Rack Mount Kit: Model 608RA (with EIA hole spacing)
- 19-in Rack Mount Kit: Model 608RAJ (with JIS hole spacing)

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