DC VOLTAGE OUTPUT (1 Year, 23°C ± 5°C)

OUTPUT VOLTAGE:
0 to +20VDC (for Normal Output Response).
0 to +15VDC (for Enhanced Output Response).

OUTPUT ACCURACY: ±(0.05% + 10mV).

PROGRAMMING RESOLUTION: 5mV.

READBACK ACCURACY[1]: ±(0.05% + 10mV).

READBACK RESOLUTION: 1mV.

OUTPUT VOLTAGE SETTLING TIME: 5ms to within stated accuracy.

LOAD REGULATION: 0.01% + 2mV.

LINE REGULATION: 0.5mV.

STABILITY[2]: 0.01% + 0.5mV.

TRANSIENT RESPONSE TO 1000% LOAD CHANGE:

NORMAL MODE:
Transient Recovery Time[3]: <50µs to within 100mV of previous level.
<100µs to within 20mV of previous level.

ENHANCED MODE:
Transient Recovery Time[3,4]: <40µs to within 100mV of previous level.
<80µs to within 20mV of previous level.

Transient Voltage Drop: <100mV, typical.[3]
<200mV, typical.[4]

REMOTE SENSE: Automatic, 2V max. drop in each lead. Add 2mV to the voltage load regulation specification for each volt change in the negative output lead due to load current change.

DC CURRENT (1 Year, 23°C ± 5°C)

OUTPUT CURRENT: 5A max. (not intended to be operated in parallel).

COMPLIANCE ACCURACY: ±(0.16% + 5mA)[5].

PROGRAMMED COMPLIANCE RESOLUTION: 1.25mA.

READBACK ACCURACY[1]: **5A range:** ±(0.2% + 200µA).
5mA range: ±(0.2% + 1µA).

READBACK RESOLUTION: **5A range:** 100µA.
5mA range: 0.1µA.

CURRENT SINK CAPACITY: 3A max. (for Normal Output Response).
1A[6] (for Enhanced Output Response).

LOAD REGULATION: 0.01% + 1mA.

LINE REGULATION: 0.5mA.

STABILITY[4]: 0.01% + 50µA.

DIGITAL VOLTMETER INPUT (1 Year, 23°C ± 5°C)

INPUT VOLTAGE RANGE: 0 to +20VDC.

INPUT IMPEDANCE: $10^{10}\Omega$ typical.

MAXIMUM VOLTAGE (either input terminal) WITH RESPECT TO OUTPUT LOW: –3V, +22V.

READING ACCURACY[1]: ±(0.05% + 10mV).

READING RESOLUTION: 1mV.

DC GENERAL

MEASUREMENT TIME CHOICES: 0.01 to 10 PLC[7], in 0.01PLC steps.

AVERAGE READINGS: 1 to 10.

READING TIME[1,8,9]: 31ms, typical.

PULSE CURRENT MEASUREMENT OPERATION

TRIGGER LEVEL DELAY: 5mA to 5A, in 5mA steps.
TRIGGER DELAY: 0 to 100ms, in 10µs steps.
INTERNAL TRIGGER DELAY: 25µs.
HIGH/LOW/AVERAGE MODE:
Measurement Aperture Settings: 33.3µs to 833ms, in 33.3µs steps.
Average Readings: 1 to 100.
BURST MODE:
Measurement Aperture: 33.3µs.
Conversion Rate: 3600/second, typical.
Number of Samples: 1 to 5000.
Transfer Samples Across IEEE Bus in Binary Mode: 4800 bytes/second, typical.

GENERAL

ISOLATION (low - earth): 22VDC max.
PROGRAMMING: IEEE-488.2 (SCPI).
USER-DEFINABLE POWER-UP STATES: 5.
REAR PANEL CONNECTOR: 8-position quick disconnect terminal block for output (4), sense (2), and DVM (2).
TEMPERATURE COEFFICIENT (outside 23°C ±5°C): Derate accuracy specification by (0.1 × specification)/°C.
OPERATING TEMPERATURE:
0° to 50°C (50W[10] normal response, 25W[10] enhanced response).
0° to 35°C (100W[10] normal response, 75W[10] enhanced response).
STORAGE TEMPERATURE: –20° to 70°C.
HUMIDITY: <80% @ 35°C non-condensing.
POWER CONSUMPTION: 200VA max.
REMOTE DISPLAY/KEYPAD OPTION: Disables standard front panel.
DIMENSIONS: 89mm high × 213mm wide × 360mm deep (3½ in × 8½ in × 14³⁄₁₆ in).
SHIPPING WEIGHT: 5.4kg (12 lbs).
INPUT POWER: 100V–240V AC, 50 or 60Hz (auto detected at power-up).
WARRANTY: One year parts and labor on materials and workmanship.
SAFETY: Conforms to UL-3111-1, EN 61010-1.
EMC: Designed to meet EN 55011, EN 50082-1, EN 61000-3-2 and EN 61000-3-3. FCC part 15 class B.
ACCESSORIES SUPPLIED: User manual, calibration manual, output connector mating terminal (part no. CS-846).
ACCESSORIES AVAILABLE: Model 2304-DISP Remote Display/Keypad (4.6 in × 2.7 in × 1.5 in). Includes 2.7m (9 ft) cable and rack mount kit.

[1] PLC = 1.00.

[2] Following 15 minute warm-up, the change in output over 8 hours under ambient temperature, constant load, and line operating conditions.

[3] Remote sense, at output terminals, 1000% load change; typical.

[4] Remote sense, with 4.5m (15 ft) of 16 gauge wire and 1Ω resistance in each lead to simulate typical test environment, up to 1.5A load change.

[5] Minimum current in constant current mode is 6mA.

[6] 15W typical, 0°–35°C; derate 1W/°C up to 50°C..

[7] PLC = Power Line Cycle. 1PLC = 16.7ms for 60Hz operation, 20ms for 50Hz operation.

[8] Display off.

[9] Speed includes measurement and binary data transfer out of GPIB.

[10] Max. continuous.

Specifications subject to change without notice.