

IEEE-488 BUS IMPLEMENTATION (220 and 230)

Multiline Commands: DCL, LLO, SDC, GET, GTL, UNT, UNL, SPE, SPD.

Unline Commands: IFC, REN, EOI, SRQ, ATN.

Interface Functions: SH1, AH1, T6, TE0, L4, LE0, SR1, RL1, PPO, DC1, DT1, CO, E1.

Internal Programmable Parameters: DISPLAY MODE, OUTPUT, Prefix (Data Format), EOI, SRQ (including mask for over I-LIMIT), PROGRAM MODE, Range, Trigger Mode, Terminator Character, Inputs (SOURCE, I-LIMIT, DWELL TIME, 100-Point Memory Locations), Output Status, Digital Self Test.

Digital I/O Port: A separate I/O port consisting of four input and four output lines as well as common (IEEE-488) and +5VDC. Outputs will drive one TTL load. Inputs represent one TTL load. The 220 and 230 can be programmed to generate an "SRQ" upon any change in the four bit input data. *MATING CONNECTOR SUPPLIED.*

GENERAL

DISPLAY: 0.5" LED digits, 4 1/2-digit signed mantissa, 1-digit signed exponent.

SYSTEMS COMPATIBILITY: IEEE-488-1978.

OVER LIMIT INDICATION: "I-LIMIT" LED will blink.

SELF TEST: Digital RAM, ROM, and front panel LEDs upon power ON.

WARMUP: 1 hour to rated accuracy.

POWER: 105-125 or 210-250VAC (internal switch selected), 50 or 60Hz, 60 watts maximum (80VA maximum). 90-105 or 180-210VAC operation available.

COOLING: Internal fan for forced air cooling.

ENVIRONMENTAL LIMITS: Operating: 0°-50°C; up to 35°C at 70% non-condensing relative humidity. Storage: -25° to 70°C.

DIMENSIONS, WEIGHT: 127mm high x 216mm wide x 359mm deep (5" x 8 1/2" x 14 1/8"). Net weight 4.39kg (9 lbs. 11 oz.).

MAXIMUM ALLOWABLE COMMON MODE VOLTAGE (OUTPUT or OUTPUT COMMON to CHASSIS): 250V rms, DC to 60 Hz.

ACCESSORIES AVAILABLE:

Model 1019A: Universal Rack Mounting Kit

Model 1019S: Universal Rack Mounting Kit (slides)

Model 7008-3: IEEE-488 Cable (3 ft.)

Model 7008-6: IEEE-488 Cable (6 ft.)

ACCURACY (1 YEAR)

TEMPERATURE COEFFICIENT/°C

RANGE	MAXIMUM OUTPUT	18°-28°C	STEP SIZE	0°-18°C & 28°-50°C
100 V	± 101.00 V	0.05 % + 50mV	50mV	0.005% + 0.5mV
10 V	± 19.995 V	0.05 % + 10mV	5mV	0.005% + 100µV
1 V	± 1.9995 V	0.05 % + 1mV	500 µV	0.005% + 25 µV
100mV	± 199.9 mV	0.075% + 300 µV	50 µV	0.01 % + 25 µV

MAXIMUM CURRENT LIMIT: ± 100mA (-0, +20%).

SELECTABLE CURRENT LIMIT:

± 100mA (-0, +20%), ± 20mA (-5, +20%), ± 2mA (± 20%)

up to ± 50V on output. At higher voltages subtract 15% from 2mA range lower limit.

LINE REGULATION: Less than 0.01% for AC power line changes within specified limits.

NOISE: 150µV + 50ppm (range) p-p, 0.1Hz to 300Hz; 5mV p-p, 0.1Hz to 300kHz. Specification applies for local sensing only, TYPICAL.

RESPONSE TIME: Less than 3ms to within 0.1% of programmed change for Current Limit of at least 20mA.

TRANSIENT RECOVERY TIME: Less than 3ms to rated accuracy for Current Limit of at least 20mA.

OUTPUT IMPEDANCE:

SELECTED CURRENT LIMIT	OUTPUT IMPEDANCE
2mA	1mΩ + 10mH
20mA	1mΩ + 2mH
100mA	1mΩ + 1mH

~~OUTPUT LOAD: Output load must provide INDUCTIVE LOAD PROTECTION SENSING: Rear panel switch selectable REMOTE and LOCAL SENSING.~~

REMOTE SENSING: Maximum Lead Drop: 0.5V. Maximum Sense Lead Resistance: 5Ω. SPECIFICATIONS ARE PER LEAD.

PROGRAM MEMORY: Number of Locations: 100. Range of Dwell Times: 3ms to 999.9s. Accuracy of dwell times: ± 0.05% + 200µs.

EXTERNAL TRIGGER: TTL-compatible EXTERNAL TRIGGER INPUT and OUTPUT.

OUTPUT CONNECTIONS: Five-way binding posts for OUTPUT, OUTPUT SENSE, COMMON, COMMON SENSE, CHASSIS and BNC (chassis isolated) connectors for EXTERNAL TRIGGER INPUT and OUTPUT. All connections on rear panel.