213 Quad Voltage Source

SPECIFICATIONS

QUAD VOLTAGE SOURCE: Sources voltage from four independent, isolated ports. Includes 8-bit digital I/O port.

FUNCTION: Can be used as a constant DC source or as a voltage waveform generator.

INTERNAL BUFFER: An 8192-location internal buffer is used to store values for waveform generation.

CONTROL MODES: Four control modes may be chosen by the user:

Direct: Output changes upon execution of the "V" device dependent command.

Indirect: Output changes after receiving an external trigger.

Stepped: Step through internal buffer, under control of external triggers.

Waveform: Output voltage waveform from buffer, under control of an internal time base.

NUMBER OF WAVEFORM CYCLES: The number of cycles through the buffer in the Waveform Control Mode is user selectable, 1 to 65535 or continuous.

SYNCHRONIZATION OF PORTS: The ports can be forced to execute their voltage waveforms in a synchronized manner.

WAVEFORM STEP INTERVAL: 1ms to 65535ms.

TRIGGER AND SRQ: IEEE-488 bus or rear panel DB-25.

DIGITAL I/O: 8 TTL compatible level sensitive inputs. 8 outputs, internally selectable TTL compatible or open collector with 100mA drive and capable of withstanding 50V (for driving relays or other devices from an external voltage supply).

VOLTAGE

RANGE	MAXIMUM OUTPUT	STEP SIZE	ACCURACY 18°- 28°C I_{OUT} = 1mA
1 V	±1.02375 V	250 µV	±(0.05% + 1 mV)
5 V	±5.11875 V	1.25 mV	±(0.05% + 3 mV)
10 V	±10.2375 V	2.5 mV	±(0.05% + 10 mV)

TEMPERATURE COEFFICIENT OF ACCURACY (0°-18°C & 28°-50°C): ±(0.002% of setting + 100µV)/°C.

RANGING: Autorange or select one of three fixed ranges.

DC OUTPUT CURRENT: 10mA maximum.

OUTPUT RESISTANCE: <500mΩ, typical.

NOISE (p-p, typical):	RANGE	0.1-10Hz
	1 V	<5ppm of range
	5 V	<3ppm of range
	10 V	<3ppm of range

WIDEBAND NOISE (p-p, typical): 0.1 to 20MHz, 8mV.

SETTLING TIME (typical): 750µs to rated accuracy into a 1kΩ load.

EXECUTION SPEED

RESPONSE TO IEEE-488 COMMAND: <10ms typical.

TRIGGER LATENCY: 1-2ms typical (all three types of external triggering), trigger to output voltage change.

IEEE-488 BUS IMPLEMENTATION

MULTILINE COMMANDS: SDC, DCL, GET, UNL, UNT, SPE, SPD, MTA, MLA.

UNILINE COMMANDS: IFC, REN, EOI, SRQ, ATN.

INTERFACE FUNCTIONS: SH1, AH1, T4, TE0, L4, LE0, SR1, RL0, PP0, DC1, DT1, C0 (C28 during calibration), E1.

PROGRAMMABLE FUNCTIONS: Port select, output voltage, control mode, autorange enable, range select, waveform step interval, number of cycles, offset calibration, gain calibration, buffer allocation, buffer data, buffer location pointers, command trigger, trigger masking, SRQ masking, system defaults, digital output, EOI, IEEE-488 output terminator, IEEE-488 output format, system status output, system test, error query.

IEEE-488 address is set manually from the rear panel.

GENERAL

CHANNEL-TO-CHANNEL ISOLATION: 500V or 10^5V·Hz, whichever is less.

CHANNEL TO DIGITAL LOW ISOLATION: 500V or 10^5V·Hz, whichever is less.

CONNECTORS: Outputs: 12-pin quick disconnect.
Digital I/O: DB-25 female.

ENVIRONMENT:

Operating: 0°–50°C; 0–70% relative humidity to 35°C. Linearly derate relative humidity 3%/°C, 35°–50°C.

Storage: –25° to 65°C.

WARM-UP: One hour to rated accuracy.

POWER: 90–125 or 180–250V AC (internally switch selectable); 50–60Hz, 70VA max.

DIMENSIONS, WEIGHT: 425mm wide × 45mm high × 309mm deep (16¾ in × 1¾ in × 12 in). Net weight 3.52kg (7.75 lb).

ACCESSORIES SUPPLIED:
Instruction manual
213-CON Analog Output Connector

ACCESSORIES AVAILABLE:
213-CON Analog Output Connector
213-RBN-2 Card Edge Connector with 2m (6.2 ft) ribbon cable

Specifications are subject to change without notice.