KPCI-3130 Series Boards

Analog Outputs

NUMBER OF CHANNELS: Eight (3130), two (3132).

RESOLUTION: 19.1µV/count per channel.

RANGE: ±10V for each channel.

ACCURACY: ±700µV ± 0.008% setting (VDC), at 25°C ±1°C. To maintain this accuracy, all unused channel sense lines must be terminated (Sense HI to Output and Sense LO to GND/ Return).

TEMPERATURE COEFFICIENT: 150µV/°C ±20ppm setting/°C. (Calibration at the operating temperature can remove this error.)

OUTPUT CURRENT: 20mA per channel, four quadrant (shunt required if current sourcing/-sinking).

SETTLING TIME: 15ms to 600µV (typ.) for transients b/w ± 9.5V.

DIFFERENTIAL REMOTE SENSE:

Differential remote sense eliminates errors due to long return lines.

Enable current sourcing or sinking within voltage range with use of external sense resistor.

Maintain accuracy with up to 82Ω of loop resistance in leads.

PROTECTION: Withstand continuous short circuit of Output + to Output – (GND), 35mA draw from short-circuit (typ.).

Out of Range Alarm – can be detected as interrupt.

CAPACITIVE LOAD: Stable to 1µF or less.

POWER UP: 0V (±15mV) (typ.).

DATA TRANSFER MODES: Target-mode transfers only

D/A CONTROL MODES:

Target Mode: Update one D/A Converter with value by software command.

Approximately 10ms/command execution.

Readback of setting and calibration values.

D/A CALIBRATION: Separate 2 point calibration of each channel using software and a DMM; Calibration through PCI Interface

Auxiliary High-Current Digital I/O (KPCI-3130 only)

NUMBER OF BITS: 32 bits; four 74FCT652 bi-directional 8-bit registers. Each byte register is separately configurable as input or output.

DATA TRANSFER MODE: Target mode.

INPUT LOW: V_{IL} = 0.8 V max.; I_{IL} = –0.2mA max.

INPUT HIGH: V_{IH} = 2.0 V min.; I_{IH} = 20µA max.

OUTPUT LOW: V_{OL} = 0.55 V max.; I_{OL} = 64mA max.

OUTPUT HIGH: V_{OH} = 2.4 V min.; I_{OH} = –8mA max.
V_{OH} = 2.0 V min.; I_{OH} = –15mA max.

POWER ON STATE: Input (High-Z).

GENERAL

POWER INPUT:

+5V: 72mA typ.
+12V: 485mA typ., 500mA max.

POWER OUTPUT:

+5V: 1.0A max. (May also be limited by computer or bus capability.)

ENVIRONMENT:

Temperature, Operating: 0°C to 50°C.

Temperature, Non-Operating: –40°C to 100°C.

Humidity: 0 to 90% Relative (non-condensing), operating or non-operating.

EMC: Conforms to European Union Directive 89/336/EEC.

SAFETY: Meets EN 61010-1/IEC 1010.

DIMENSIONS: 175mm (6.88 in) L × 108mm (4.25 in) H × 20mm (0.75 in) D. Standard-Size PCI Short Card.

WARMUP: 20 minutes to rated accuracy.

ACCESSORIES AVAILABLE:

Termination:

STA-3108-D1 (Provides 50-pin digital connector compatible with KPCI-PIO-96 pinout for Digital I/O connector – 3130 only)

STP-36 (Terminates CAB-1284 into 36 screw terminals)

Cables:

CAB-1284CC (IEEE-1284C standard shielded cable with 18 twisted pairs, used for analog and digital connections to 3130)

Specifications subject to change without notice.