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Find the *Measurement Computing / Data Translation DT21-EZ* at our website: *Click HERE*

DT21-EZ Series

General Purpose Multifunction Boards for the ISA Bus

Key Features

- *High-accuracy design preserves data integrity*
- *Channel-gain list for non-sequential channel sampling*
- *Low-level input version for use with thermocouples*
- *Software-compatible with DT2821 Series of data acquisition boards*
- *Extensive Windows software support*

Compatible Windows Software

HP VEE with DT VPI	DTx-EZ	DataAcq SDK	DT-LV Link
✔	✔	✔	✔



M-5772

The Right Data Acquisition Solution

The DT21-EZ Series gives you the right tools for most data acquisition applications: Eight or 16 analog input channels with 12 or 16 bits of resolution and throughputs up to 100 kSamples/second, 16 lines of digital I/O, and optional analog outputs. All four versions include a 16 location channel-gain list that allows scanning of channels with different gains or in non-sequential order. Dual-channel DMA ensures continuous gap-free data acquisition even at maximum board speeds. Extensive software support is available for both Windows and DOS. The DT21-EZ is software compatible with the DT2821, and the DT24-EZ is software compatible with the DT2824, so existing applications can be easily ported to the new products.

High Accuracy Analog Design Assures High Integrity Results

Your results can be no better than the data you start with. The DT21-EZ Series was meticulously designed to deliver your real-world data with accuracy. The DT21-EZ Series reflects our more than twenty years of experience designing accurate, reliable data acquisition products.

Low-Level Inputs, Thermocouple Solution

The DT24-EZ-PGL provides low-level input capabilities, with software-programmable gains up to 500 to measure signals as low as 10 mV with full 12-bit resolution. Combined with the STP-EZ-T screw terminal panel and HP VEE for Windows software, these products provide an accurate, easy-to-use method for measuring up to seven thermocouples.

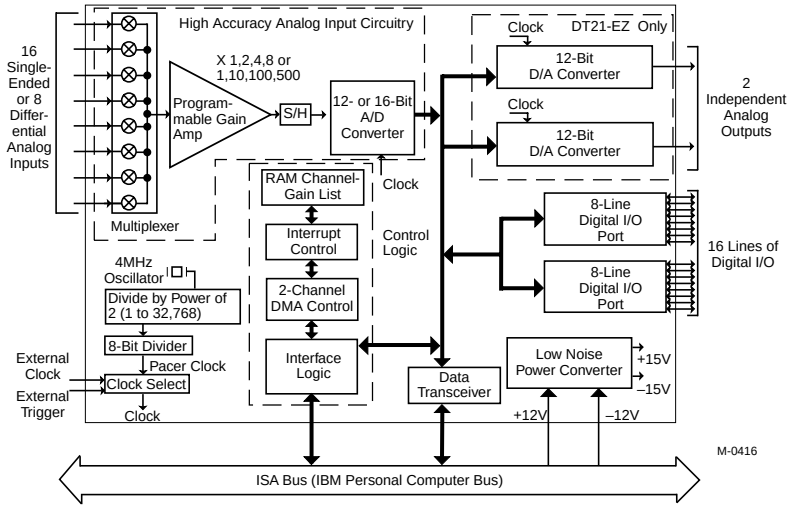
Accessories

The STP-EZ can be used with the DT21-EZ to provide convenient screw terminal connections. The 5B Series backplanes can be connected to the STP-EZ for applications that require isolated signal conditioning. Anti-aliasing filtering is available with the AAF-3 high-performance modular filters with programmable cut-off frequencies.

Comprehensive Windows Software

HP VEE with DT VPI data acquisition interface combines the ease-of-use of a visual programming language with the power of a text-based language. Programmers can choose DTx-EZ ActiveX controls for Visual Basic and Visual C++ or DataAcq SDK™ for C. LabVIEW® programmers can control the DT21-EZ Series through DT-LV Link™.

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DT21-EZ Series Block Diagram

Analog Inputs

	DT21-EZ	DT23-EZ	DT24-EZ	DT24-EZ-PGL
Resolution	12 bits	16 bits	12 bits	12 bits
Throughput				
Single Channel	100 kS/s	100 kS/s	100 kS/s	100 kS/s
Channel Scan	80 kS/s	50 kS/s	80 kS/s	80 kS/s, Gain=1, 10 2.5 kS/s, Gain=100, 500
Input Channels	16SE/8DI	16SE/8DI	16SE/8DI	16SE/8DI
Channel Selection				
Any Channel Singly	4	4	4	4
Random Channel Scan	4	4	4	4
Input Ranges				
Software-Programmable Gains	1,2,4,8	1,2,4,8	1,2,4,8	1,10,100,500
Per-Channel Gain Selection	16-element channel-gain list	16-element channel-gain list	16-element channel-gain list	16-element channel-gain list
Ranges (including gain)	0–1.25,2.5,5,10 V ±1.25,2.5,5,10 V	— ±1.25,2.5,5,10 V	0–1.25,2.5,5,10 V ±1.25,2.5,5,10 V	0–0.01,0.02,0.05, 0.1,0.5,1,5,10 V ±0.01,0.02,0.05, 0.1,0.5,1,5,10 V
Overvoltage Protection	±35 V on, ±20 V off	±35 V on, ±20 V off	±35 V on, ±20 V off	±35 V on, ±20 V off
ESD Protection	to 1.5 kV	to 1.5 kV	to 1.5 kV	to 1.5 kV
Accuracy				
System Error (Gain=1) Max **(Gain=500)**	±0.05% FSR	±0.01% FSR	±0.05% FSR	±0.05% ±0.10%
Effective Number of Bits	11	13	11	11

Analog Outputs (DT21-EZ only)

Resolution	12 bits	**Ranges**	0–5 V, 0–10 V; ±2.5 V, ±5 V, ±10 V
Output Channels	2 independent DACs	**Accuracy**	.03%
Throughput	130 kS/s/DAC, 260 kS/s aggregate		

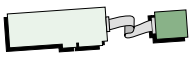
DT21-EZ Series (DataAcq-EZ™)

BUS: ISA

Type: General Purpose, Multifunction

Ordering Summary

All Data Translation products are covered by a 1-year warranty. For pricing information, see a current price list, visit our web site, or contact your local reseller.

The Software	The Hardware	Screw Terminal Panel
		
HP VEE DTx-EZ DataAcq SDK DT-LV Link	**DT21-EZ DT23-EZ DT24-EZ DT24-EZ-PGL**	**STP-EZ STP-EZ-T**

Hardware

All boards are shipped with a comprehensive user manual, software diagnostics, and a Microsoft Windows and DT-Open Layers compliant software driver.

- DT21-EZ—80 kS/s, 12-bit A/D; two 12-bit DACs
- DT23-EZ—50 kS/s, 16-bit A/D; no DACs
- DT24-EZ—80 kS/s, 12-bit A/D; no DACs
- DT24-EZ-PGL—Low-level 12-bit A/D, gains of 1,10,100, 500; no DACs

Software

The following products include a copy of the software, a single-user license, and a user manual. All software is supplied on CD-ROM, except as noted.

- HP VEE with DT VPI visual programming software Version 5.0 for Windows 95/98 SP1950-CD
- DTx-EZ visual programming tools for Visual Basic and Visual C++ for Windows 95/98 SP0970-CD
- DataAcq SDK Software Development Kit for Windows 95/98 SP0945-CD
- DT-LV Link data acquisition connection to LabVIEW for Windows 95/98, on 3.5 in. 1.4 MB disk SP0810-CL

Accessories

- STP-EZ (DT780)—Screw terminal panel and cable; use with any DT21-EZ Series model
- STP-EZ-T (DT780-T)—Screw terminal panel and cable for thermocouple measurement; use with DT24-EZ-PGL
- STP50-DIN—50-pin DIN-rail mountable screw terminal panel
- 5B Series—Modular signal conditioning
- AAF-3—Anti-aliasing filters

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Specifications

Typical at +25° C and rated power, unless otherwise stated.

DIGITAL I/O

Number of Lines
16, organized as two groups of 8 that can be set for input or output

Fanout
30 LSTTL loads

Input Load
One LSTTL load

OPERATION

Triggers and Clocks
One programmable clock; onboard or external oscillator; software or external hardware trigger

Data Transfer
Programmed I/O, single-channel DMA, and dual-channel DMA; both DMA modes support Continuous Performance gap-free operation; simultaneous A/D & D/A operation supported (DT21-EZ only)

GENERAL

Interface
ISA Bus; I/O-mapped, 10-bit I/O address; 16-bit data path; 1 or 2 DMA channels; interrupt

Power Requirements*
+5 V @ 1.1 A [.8A], +12 V @ 170 mA [54 mA], –12 V @ 75 mA [19 mA]; low-noise ±15 V generated onboard to power analog circuits

Physical/ Environmental
Dimensions—ISA board mechanically EISA-compatible for any available system slot; DT21-EZ: 11.43 x 33.66 x 2.54 cm
Other models: 11.43 x 21.59 x 2.54 cm
Temperature—operating: 0 to 55° C; storage: –25 to 85° C
Relative Humidity—to 90%, non-condensing

*Values in [braces] apply to DT23-EZ, DT24-EZ, and DT24-EZ-PGL only.

Fully Software Compatible with—DT21-EZ compatible with DT2821; DT24-EZ compatible with DT2824-PGH; DT24-EZ-PGL with DT2824-PGL

EMI Compliance—all models are FCC Class A verified; will not compromise FCC compliance of host

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