

DIVA Automation

Innovation in Motion

DA1020Multi-channel Data
Acquisition and Control

Original release, October 3, 2006

Description

The **DA1020** is a single-chip, stand-alone data acquisition and control system with an **on-board command interpreter**.

It is capable of completely **unattended operation** for extended periods, relying only on its internal program and considerable storage capabilities to analyze, condition, modify, store and report both analog and discrete data.

Up to **48 digital I/O channels** of the **DA1020** can be set up individually as inputs or outputs. However, every channel has multi-purpose capability, so they may be assigned to other duties, such as RS-232 or RS-485/422 communications.

Eight of the 48 channels may also be used as analog inputs to an 8-bit conversion circuit. Likewise, two channels may be used as **8-bit analog outputs**.

Available options include 12 and **16-bit analog capability**.

Programs and data are stored in external **non-volatile** memory for ease of modification and retrieval.

Features

- Data acquisition functions are fully integrated, with **individual bit control** and reporting of digital ports.
- Up to **48 I/O** channels.
- **Permanent storage** for programs and data. Up to 2 MB.
- **8 channels** of 8-bit A/D.
- **2 channels** of 8-bit D/A.
- Optional **12 and 16-bit** analog capability.
- Two **16-bit counter**/timers.
- Six **external interrupts**.
- **Virtual instrument** application program included-with source code- written in VisualBasic and LabView.
- Very low power, suitable for **battery or solar cell operation**.
- Many **standard interfaces** pre-defined, such as printers, keyboards, displays, motors, encoders, joysticks, ISA-bus, etc.

- **Multi-drop RS-232** asynchronous communications.
- Second comm channel is synchronous-up to **1 MB/sec**.
- Multiple **SIO and I2C** channels available through use of ports.

Applications

- Multi-axis motion control.
- Programmable power supplies.
- Web tension controller.
- RS-232/485 Protocol converter.
- Keyboard/display MMI
- Remote data collection, analysis and alarm.
- Electro-forming process controller.
- Bench test instrument.
- Ultra high resolution encoder interpolation.
- Arbitrary waveform generator.



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