

System Q

Data Logger Module QD81DL96

Don't Miss A Thing

Capture, record and share system events



Capture even the briefest events, down to 1ms



Easily analyze machine events to raise performance



Quickly see machine problems and correct them



Log data from up to 64 systems

Capture, analyze and act



Know what is happening, and when

Nothing is missed

The QD81DL96 can log events that occur as little as 1ms apart. Hence even the most rapid process operations can be captured. This makes the module suitable for a wide range of applications, including high speed motion. Up to 8 GB of data can be stored on a standard Compact Flash card, meaning that even the fastest events can be followed for long periods if necessary. However, to insure efficient memory use, logging can be activated by trigger conditions, meaning that only the relevant events are captured.



Capture even the fastest events

Process optimization

Keeping a line running is not enough in today's competitive climate. Not only does a factory manager need to insure a line is running as efficiently as possible, but there is always the pressure to improve performance. Hence the ability to understand what machinery is doing and how well it is doing it is essential. But with most processes hidden from sight, or occurring too rapidly to see, this can be a challenge. The System Q QD81DL96 module addresses this by capturing process data and allowing comprehensive analysis. Hence processes can be more easily understood and process optimization becomes simplified.

Even record the events before and after a trigger condition to allow further insight of the process. For OEMs troubleshooting machines in the field, the module can also begin logging on insertion of a Compact Flash card to gain a complete machine operation history. Finally, all forms of controller data can be recorded for complete flexibility.

Data Analysis

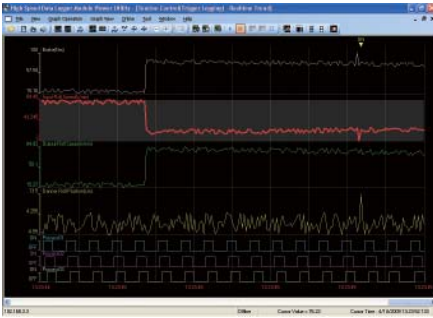
While being able to capture and store data is obviously essential, it's equally essential to make sense of it. The data logger module contains software that allows the recording conditions to be easily determined with a "wizard" type method. Hence configuration can be achieved simply with a web browser connected to the module via the built-in Ethernet port. The software is also available in an off-line format for system development when hardware is not available.



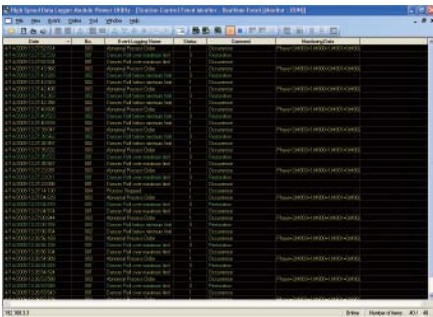
Understand even the most complex processes

Once the data is stored, the available Viewer Utility provides a comprehensive set of tools to analyze it and turn it into useful information. Data can be viewed as intuitive graphs and separate traces can be compared by superimposing them.

Finally, the data can be stored in a variety of standard formats including Microsoft® Excel®, CSV and binary data, for compatibility with most systems.



Display of data sampled by the data logging function in graph form

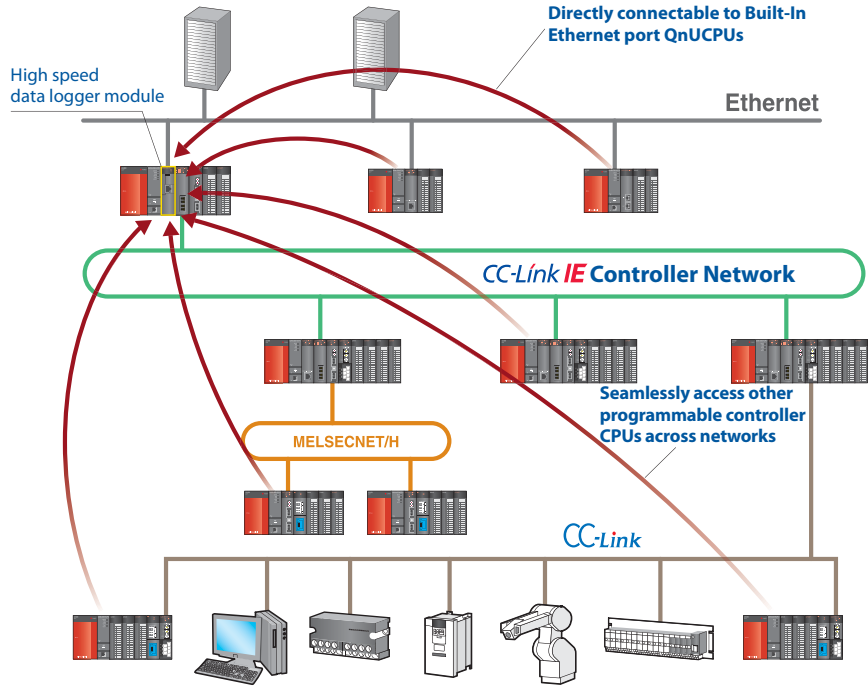


Display of event data sampled by the event logging function in list form

Logging of multiple systems

One of the most powerful features of the data logger module is its network connectivity. Rather than having to face the expense of adding a module to each system that needs it, the module can monitor the activities of up to 64 different systems over a variety of network connections. The unit supports the full Mitsubishi network architecture, meaning that all key network systems, including the CC-Link family and MELSECNET/H are supported. Hence one module can easily monitor the activities of a complete shop floor, providing huge cost savings and simplified data management.

In addition to this powerful capability, the module also supports FTP transfer to make data transfer over a network simple. This also avoids maintenance issues when a Compact Flash card is filled. This is complemented by an email capability that provides the option to send direct notification of selected events for immediate action.



Log data from up to 64 systems for significant cost savings

An SNTP (Simple Network Time Protocol) function insures that logging across multiple controllers remains synchronized, allowing events that happen in different parts of the factory to also be easily compared.



The e-F@ctory solution

Mitsubishi offers a comprehensive set of solutions to increase process visibility and optimization. As well as the QD81DL96, we can offer solutions such as our MES Interface IT that allows shop floor systems to also connect directly to MES systems at the IT level. This is all part of our e-F@ctory solution, developed from our own expertise as a global manufacturing enterprise.

Specifications ///

| Data logging | | Specification |
|-----------------------|---------------------------------------|--|
| Number of settings | | Maximum 64 ^{*1} |
| Logging type | | Continuous logging, trigger logging |
| File format | | CSV file (extension: CSV), binary file (extension: BIN) ^{*2} |
| Period of time | | Specify the target period or elimination period. <ul style="list-style-type: none"> • Data condition: Bit ON/OFF, Data - Constant value comparison, Data - Data comparison • Date range: Specify month and day of start and end. • Time range: Specify hour, minute, and second of start and end. • Day-of-the-week/week-of-the-month conditions: Specify day-of -the-week and week-of-the-month. • "And"/"Or" operations of above-listed conditions: Maximum 8 conditions ^{*3} |
| Trigger logging | Trigger condition | <ul style="list-style-type: none"> • Data condition: Bit ON/OFF, Data - Constant value comparison, Data - Data comparison • Change of data value • Fixed cycle: 1 to 86400 seconds • Specifying time of day: Specify month, day, hour, minute, and second. • At startup of module • "And"/"Or" operations of above-listed conditions: Maximum 8 conditions ^{*3} • Number of conditions hold true: 3 ^{*3} • Order of conditions hold true (Order and time condition): Maximum 4 ^{*3} |
| | Number of logging lines ^{*4} | Before trigger occurrence: 0 to 32767, after trigger occurrence: 1 to 32767 |
| File switching timing | | <ul style="list-style-type: none"> • Number of line (number of records) specification: 100 to 65535 lines • File size specification: 10 to 16384 Kbytes • Fixed cycle: 1 to 86400 seconds • Specifying time of day: Specify month, day, hour, minute, and second. • At startup of module • At every trigger logging |
| Number of saved files | | 1 to 65535 |

| Event logging | | Specification |
|-----------------------|--|--|
| Number of settings | | Maximum 64 ^{*1} |
| Number of events | | Maximum 64 per event logging setting |
| File format | | CSV file (extension: CSV), binary file (extension: BIN) |
| Event condition | | <ul style="list-style-type: none"> • Data condition: Bit ON/OFF, Data - Constant value comparison, Data - Data comparison • Change of data value • "And"/"Or" operations of above-listed conditions: Maximum 4 conditions • Number of conditions hold true: 3 • Order of conditions hold true (Order and time condition): Maximum 4 |
| Period of time | | Specify the target period or elimination period. <ul style="list-style-type: none"> • Data condition: Bit ON/OFF, Data - Constant value comparison, Data - Data comparison • Date range: Specify month and day of start and end. • Time range: Specify hour, minute, and second of start and end. • Day-of-the-week/week-of-the-month conditions: Specify day-of -the-week and week-of-the-month. • "And"/"Or" operations of above-listed conditions: Maximum 8 conditions ^{*5} |
| File switching timing | | <ul style="list-style-type: none"> • Number of line (number of records) specification: 100 to 65535 lines • File size specification: 10 to 16384 Kbytes • Fixed cycle: 1 to 86400 seconds • Specifying time of day: Specify month, day, hour, minute, and second. • At startup of module |
| Number of saved files | | 1 to 65535 |

*1: Up to 64 settings in total of the data logging, event logging, and report.

*2: Can be re-output in Excel by the report function.

*3: For the high speed data sampling, up to four conditions in total of the period of time conditions and the trigger conditions.
 For the general data sampling, up to eight conditions in total of the period of time conditions and the trigger conditions.

*4: Capacity of the memory (trigger buffer) to which sampled data are temporarily stored affects the setting of the number of logging lines.

Because of the capacity limit of the trigger buffer, the number of logging lines stated above may not be configured. For details, refer to the manual.

*5: For the high speed data sampling, up to four conditions.

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