

# Delta Down Time Reporting Software

Delta's DTR Software has been designed to electronically capture the root cause of production stoppages and log it to a database. A number of standard reports are supplied to allow for later analysis.

## Key Features

- Exceptionally fast implementation, small to medium systems (less than 10 PLC's) set up in a matter of hours not days or weeks.
- Minimal Engineering time required for setup
- Not dependant on the SCADA system
- Web browser based user interface
- Uses standard SQL databases
- Easily maintainable
- Capable of automatic emailing of reports
- Able to interface with messaging systems
- A number of standard reports enabling isolation of specific causes of production losses
- Facility for user entry to allow for more detail on the cause of the fault
- Captures and records the PLC address of the fault allowing further investigation at a later date.
- Minimal overheads on communication and data storage
- Accuracy not dependant on frequency of polling
- Able to interface with Allen Bradley PLC as well as other equipment via OPC.

## How does it Work?

DTR has been designed for quick implementation, with no reliance on external software or hardware.

Modular PLC code is added to each PLC to monitor operation, when a fault occurs the address of the root cause of the fault is logged to a register within the PLC and a flag set. The DTR communication software periodically polls all PLC's to look at these flags. Once a trip has been flagged it offending address is retrieved and logged to the database. Resulting in minimal communication bandwidth being used and minimal data being logged.

DTR captures faults on any equipment linked to the software in real time. We provide a familiar user interface to report on down time. Reports are created in the time it takes to click a button making it easier for management to monitor the process faults.

Our web-based solution means that no additional licences or installations are required. Just install the system on a web server and users can access their individual profile from where ever they are, on any machine (given access).

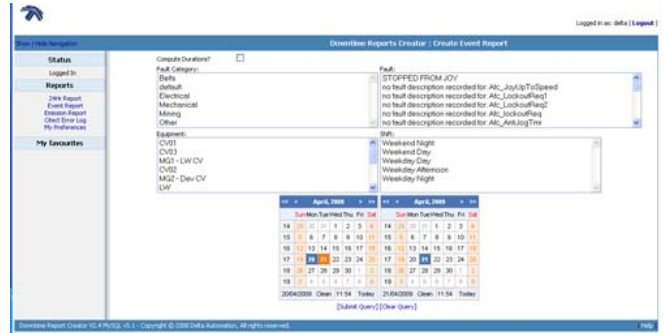


Fig. 2: Create report

Your reports can be fully customised. Just select a date range and any or all of the other variables to produce an accurate, easy to read report. Print it or save it to a PDF file, or just store it in your user profile so you can recall it at a more convenient time.

Set-up has also been made easy; fault descriptions corresponding to PLC addresses are imported right out of your PLC code, which means what you see in DTR reported as a fault will have the identical description to that in your PLC. If a fault description is displayed where the meaning is not clear it needs only be changed in the one place.

Faults are displayed as they occur in the browser window. The control room operator can then add additional information such as a fault category (Mechanical, Electrical, Mining etc.), the reason and sub-reason for the fault, selected using the handy drop down menu's, which saves time and improves accuracy.

Fault category, reason and sub reason can be exported directly to a third party production reporting system (eg. Pulse) and once the correct codes have been selected, saving time and effort as there is no cross checking required.

Once the shift has finished, the Control Room Operator can save their Shift report to PDF or as Microsoft Excel document and then print or email it to whomever they wish.

All information is kept indefinitely, meaning that a snap shot of how the process was operating at any point in time is just a few clicks away.



Fig. 3: Duration report

Even faults which have yet to be added to your PLC installation are captured and displayed along with their

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address meaning they can be easily and quickly added to the PLC documentation.

Status	Shift	Date	Equipment Location	Fault Description	Activity	Reason	Sub-reason	Comment
Logged In								
24hr Report								
Export Report								
Export Report								
Clear Error Log								
My Favorites								
Report Actions								
Save Report To PDF								
Save Report To CSV								
Save Query As Favorite								

Fig. 1: 24hr report

## How is it Set Up?

There are several steps involved in setting up the system:

1. Run the PLC code for each process through the Delta PLC Code Generator, input the bit which will cause the process to stop (i.e. Plant\_OK\_To\_Run). The code is analysed by the software and a new PLC file is created to be loaded back into the PLC. Execution of this code is event driven so it will only scan when the stop bit changes to a faulted condition.
2. Extract the descriptions from the PLC code, again an automated process.
3. Setup the DTR application define which PLC's are present, IP addresses etc.
4. Begin monitoring for faults

## Need something specific?

- Our software was designed to ensure that any custom enhancements can be made in minimal amount of time. If you would like any features added which we don't currently supply, talk to us and we can make it happen.