

415U-X, 925U-2, 215U-2, 115E-2 Logging

Introduction

The Data Logging and Event Log features allow the logging of any register in the device to a file which can then be downloaded via webpage or USB. The Event log stores information about system events including module reboots, user login details and configuration changes including previous configurations.

The Data and Event logging feature requires a “Feature Key” to unlock the process. Speak to your local Distribution Partner or Sales Representative for pricing, etc.

The number of Data Events that can be logged is difficult to estimate as there are a number of variables that affect the size of the data, i.e. Scan Rate, number of records, compression rates, etc.

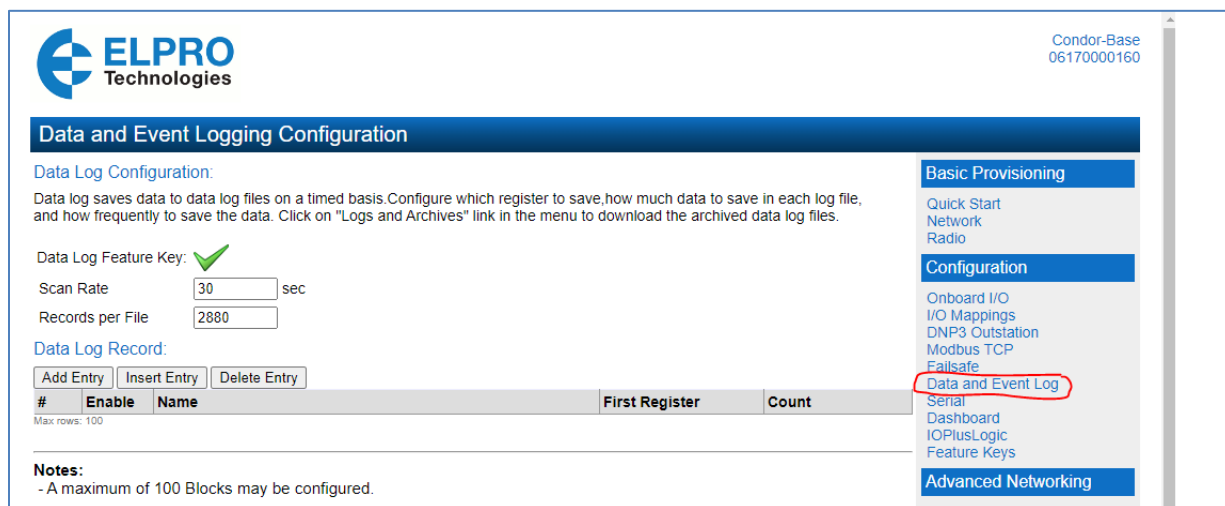
The compression technique uses a table of data signatures that it compares against. Generally, the bigger the file (more rows) the better the compression rate is because there is more data that could match the lookup table and so therefore compresses better.

A rough estimate for logging 10 analog and 10 digital data points with a scan interval of 5 seconds would be approximately 16 hours of logging. To get a more comprehensive estimate you would need to measure the average compressed file size over a short log period time, and then multiply it out.

Data and Event logging configuration

Configuration can only be done via the web page interface; at this stage, the Configuration software does not support this feature.

Connect to the modules IP address and navigate to the “Data and Event Log” option on the right-hand menu.



The screenshot shows the ELPRO Technologies web interface. At the top left is the ELPRO Technologies logo. At the top right, it says "Condor-Base 06170000160". Below the logo is a blue header bar with the text "Data and Event Logging Configuration".

Under the header, there is a section titled "Data Log Configuration:" with a description: "Data log saves data to data log files on a timed basis. Configure which register to save, how much data to save in each log file, and how frequently to save the data. Click on "Logs and Archives" link in the menu to download the archived data log files."

Below this, there are configuration options:

- Data Log Feature Key:
- Scan Rate: sec
- Records per File:

There is a section titled "Data Log Record:" with three buttons: "Add Entry", "Insert Entry", and "Delete Entry".


Below the buttons is a table with the following columns: "#", "Enable", "Name", "First Register", and "Count". The table is currently empty.

At the bottom left, there is a "Notes:" section with the text: "- A maximum of 100 Blocks may be configured."

On the right side of the interface is a vertical sidebar menu with several categories:

- Basic Provisioning (with sub-items: Quick Start, Network, Radio)
- Configuration (with sub-items: Onboard I/O, I/O Mappings, DNP3 Outstation, Modbus TCP, Failsafe)
- Data and Event Log** (highlighted with a red circle)
- Serial
- Dashboard
- IOPlusLogic
- Feature Keys
- Advanced Networking

Note: You will need to have Administrator or Manager Privileges to configure the data and event Logging.

First thing to check is does it have the green tick  on the “Data and Event Log” page? If not, then you will need to unlock this option with a feature key. You can enter this key via the “Feature Keys” web page link also on the right-hand menu.


After entering the supplied “key” into the appropriate box, press the “Save Changes and Reset” button. Wait for the module to reboot and when done check you have the Green tick.

Data Log configuration options

Scan Rate - This is the rate at which the module saves the configured values to the data log. Minimum is 5 Seconds and maximum is 3600 Sec (1 hour) . Note: All blocks/Registers are logged at the same rate.

Records per File - Is the number of records that need to be recorded in the Data log before being saved and compressed to a file for archive or download.

Data Log Record table is where we configure what I/O points we wish to Log to file. There is a maximum of 100 Blocks and each block can have a maximum of 1000 counts.

Data Log Feature Key: 

Scan Rate sec

Records per File

Data Log Record:

#	Enable	Name	First Register	Count
1	<input checked="" type="checkbox"/>	Digitals	10001	8
2	<input checked="" type="checkbox"/>	Analogs	30001	8
3	<input checked="" type="checkbox"/>	Internal	30501	10

Max rows: 100

“**Add Entry**” Adds a new Record, “**Insert Entry**” Inserts before the current selected line and “**Delete Entry**” removes the selected entry.

Enable – Tick box to enable or disable the logging entry. When this box is checked, data logging is enabled for this block of registers. When it is unchecked (disabled) a placeholder symbol “-” is stored to the log file.

Name - Name or Description of the I/O Block to appear in the column heading within the log file to identify data for this entry. If no name is entered, just the register number is used as the column heading.

Register – Starting Register for the log block. Can be any internal register in the module. Consult module User Manual for register location descriptions.

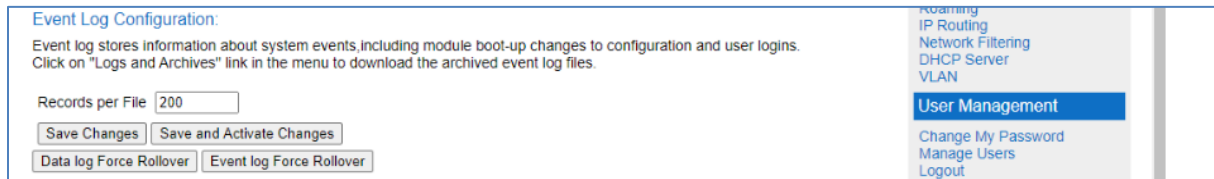
Count – The number of consecutive registers that will be logged, maximum is 100.

When complete press the “Save and Activate Changes” button and it will start logging values.

Note: If the “Scan Rate” time or the “Records per file” count has not been triggered the current data since the last scan time or records per file rollover will not have been saved and compressed to the data log file. To force this to save all current data you need to press the “Data log Force Rollover” button at the bottom of the page.

Note: The Data Logging feature is **not** intended for high speed data acquisition applications but more for diagnostics purposes.

Event logging configuration



The Event log stores information about system events, including module re-boots, changes to configuration and user logins.

Records per file: This is the number of records that needs to have happened before the event log is saved and compressed to a file.

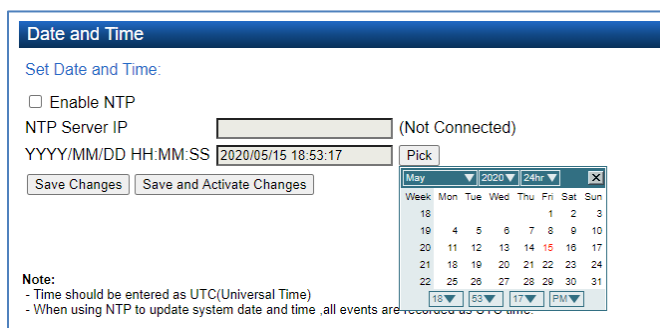
Note: Before downloading the Event logs it is a good idea to manually save the data by pressing the “Event Log Force Rollover” button at the bottom of the page. This will save any resent events that may not have yet been saved and compressed to the Event log file.

When this has been done navigate to the “Logs and Archives” web page link to view and download the events.

Set Data & Time

The Data Log Date and Time **must** be configured as per below as the Real Time Clock on the module does not have an internal battery and will just start counting from the startup values.

Navigate to “System Tools/Set Data and Time” web link.

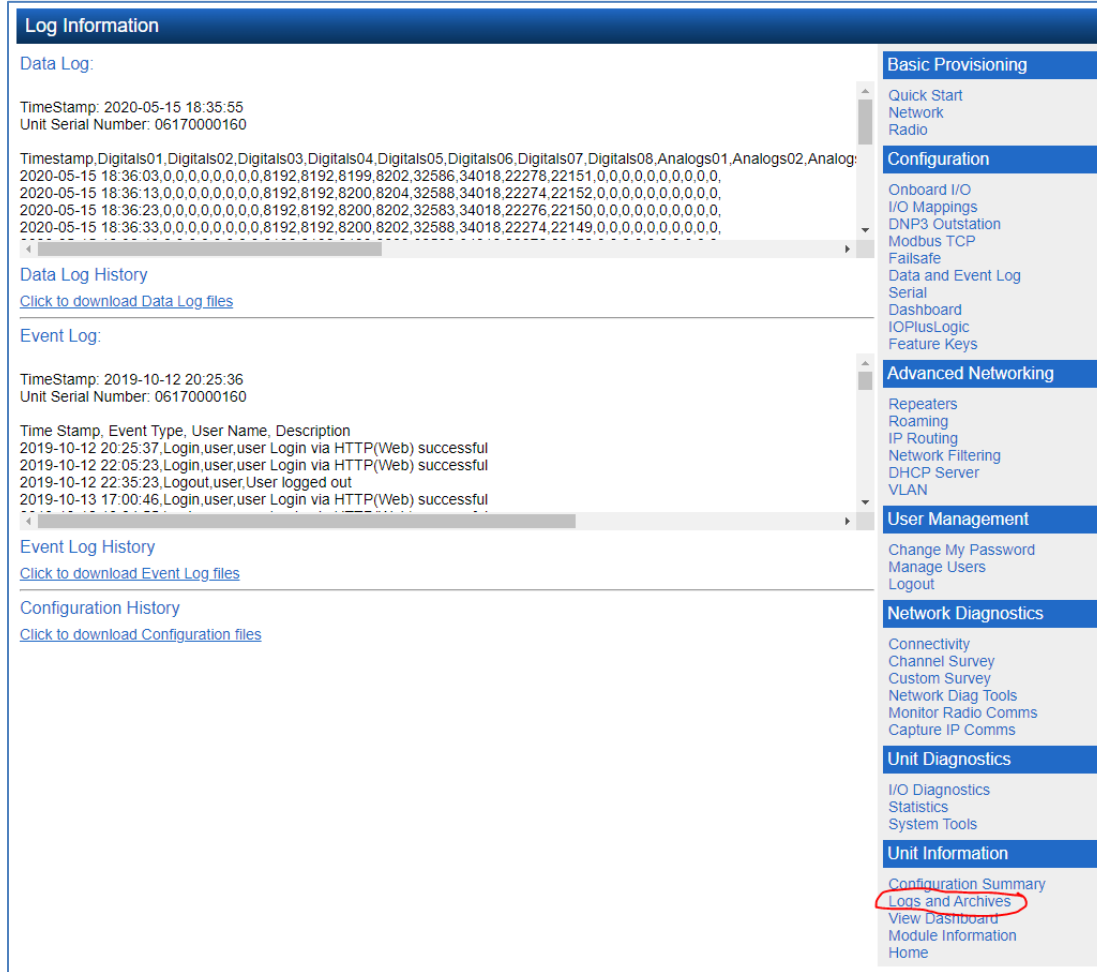


To set the Data and Time select the “Pick” button, select the appropriate date and time and press the “Save Changes and Activate” button.

Or if the module has an internet connection you can select “Enable NTP” and configure the “NTP Server IP” and it will automatically keep itself in sync with the time server.

Logs and Archives


To view the saved Data log files, navigate to the “Logs and Archives” link on the right-hand webpage menu under “Unit Information”.



The screenshot displays the 'Log Information' section of the ELPRO web interface. It is divided into three main areas: Data Log, Event Log, and Configuration History. Each area includes a 'Timestamp' and a 'Unit Serial Number' (06170000160). The Data Log section shows a list of timestamped data points. The Event Log section shows a list of events with columns for 'Time Stamp', 'Event Type', 'User Name', and 'Description'. The Configuration History section is currently empty. On the right side, there is a vertical navigation menu with several categories: Basic Provisioning, Configuration, Advanced Networking, User Management, Network Diagnostics, Unit Diagnostics, and Unit Information. The 'Unit Information' category is expanded, and the 'Logs and Archives' link is circled in red.

The Top “Data Log: area shows the current values that have been saved and the time stamp.

To download the data files, select the “click to download data log files” link which will take you to another page where you can select the latest Log file.



The screenshot shows a web browser window with two tabs open, both displaying the 'Index of /operator/Datalogs/'. The address bar shows the URL '192.168.17.80/operator/Datalogs/'. The main content area displays a list of log files with blue hyperlinks:

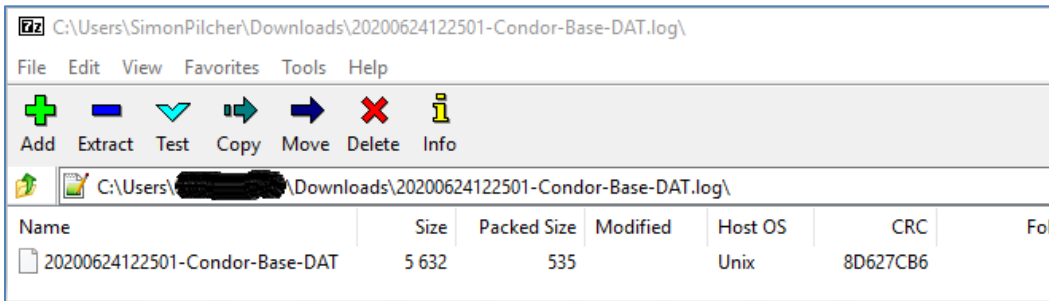
- [Parent Directory](#)
- [20200515184004-Condor-Base-DAT.log](#)
- [20200515183554-Condor-Base-DAT.log](#)
- [20200515183144-Condor-Base-DAT.log](#)
- [20200515182735-Condor-Base-DAT.log](#)
- [20200515182331-Condor-Base-DAT.log](#)
- [20200515182302-Condor-Base-DAT.log](#)
- [20200515182107-Condor-Base-DAT.log](#)

Log file are named <Saved Date & Time>-<Module Device Name>-Dat.log and the top file is the latest saved log.

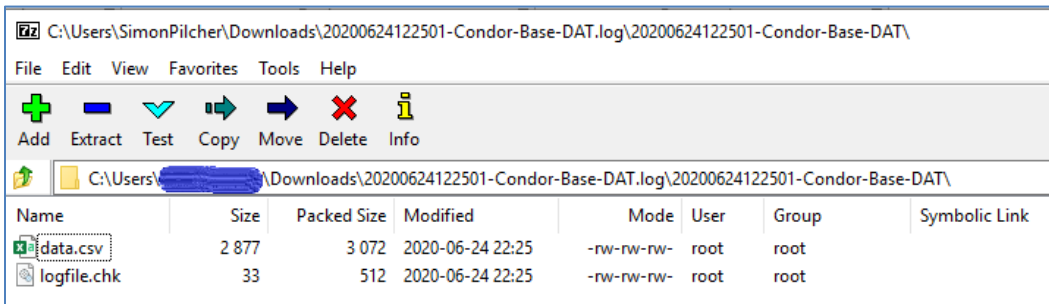
Date & time Format is YYYYMMDDHHmmss where YYYY = Year, MM = Month, DD = Day, HH = Hour, mm = Minutes, ss = Seconds.

Download the log file rather than try to open it, if you do try to open the file you will get an error or the file will have random characters as it is a double compressed file (zipped) even though it may appear as a “log” text file.

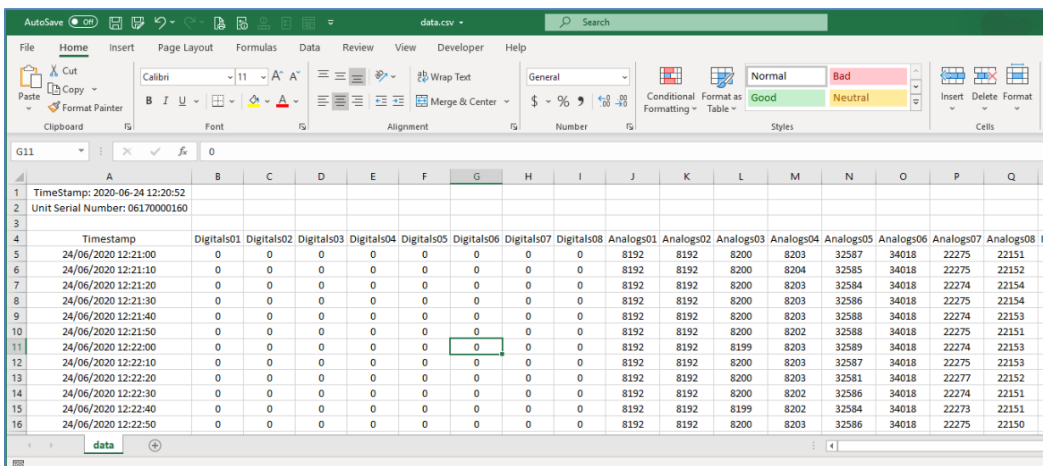
After download, open the file using a decompression application (WinZip, etc). Right click the file and select “open with WinZip” or rename the file extension from “.zip” to a “.tar.gz” and then open and you will see something like the screenshot below.



Then double click this imbedded “Dat” file to un-compressed again.



From here you will see the actual data log file “data.csv” which you can open or unzip. Being a CSV file, this can import into Microsoft Excel. Below is a screenshot of the Excel CSV data and you will notice the Time & Date Stamp for each scan period and the data value for each of the configured I/O points.



Event Log download

Still at the “Logs and Archive” web page under Event Logs you will see a list of the current events that have recently occurred, select “Click to Download Event Log files” will display a list of the current Event logs files which you can then download by clicking on them.

As per the Data Log download procedure, to download the Event file, select the file which again is a double compressed (zipped) file even though it may appear as a “log” text file.

Because it is a compressed Event file you will need to save the file and open using a decompression application (WinZip, etc). Trying to open these files directly will result in an error or the file opening in a text editor and seeing random characters

After saving the File, right click and select “open with WinZip” or rename the file extension from “.zip” to a “.tar.gz” and open.

The file contents will be similar to the screenshot below and will display the Time Stamp, Event Type, Username and a description.

	A	B	C	D
1	TimeStamp: 2019-10-12 20:25:36			
2	Unit Serial Number: 06170000160			
3				
4	Time Stamp	Event Type	User Name	Description
5	19/10/2019 17:14	Login	user	user Login via HTTP(Web) successful
6	19/10/2019 17:44	Logout	user	User logged out
7	19/10/2019 19:19	Login	user	user Login via HTTP(Web) successful
8	25/10/2019 21:51	Login	user	user Login via HTTP(Web) successful
9	30/10/2019 18:37	Login	user	user Login via HTTP(Web) successful
10	1/11/2019 0:00	Health Check	UNKNOWN	Periodic Application Checksum: OK
11	2/11/2019 19:20	Login	user	user Login via HTTP(Web) successful
12	7/11/2019 18:52	Login	user	user Login via HTTP(Web) successful
13	9/11/2019 21:00	Login	user	user Login via HTTP(Web) successful
14	9/11/2019 21:30	Logout	user	User logged out
15	9/11/2019 21:34	Unit Boot-Up	UNKNOWN	System rebooted.
16	9/11/2019 21:34	Configuration Change	UNKNOWN	The unit configuration has changed. The previous configuration file has been archived as: 20191109213404-Condor-Base-CFG.log
17	9/11/2019 21:34	Health Check	UNKNOWN	Periodic Application Checksum: OK
18	24/11/2019 21:16	Login	user	user Login via HTTP(Web) successful
19	24/11/2019 21:31	Login	user	user Login via HTTP(Web) successful
20	24/11/2019 21:33	Unit Boot-Up	UNKNOWN	System rebooted.
21	24/11/2019 21:33	Configuration Change	UNKNOWN	The unit configuration has changed. The previous configuration file has been archived as: 20191124213346-Condor-Base-CFG.log
22	24/11/2019 21:33	Health Check	UNKNOWN	Periodic Application Checksum: OK
23	24/11/2019 21:47	Logout	user	User logged out
24	24/11/2019 22:04	Logout	user	User logged out
25	29/11/2019 15:44	Login	user	user Login via HTTP(Web) successful

Configuration History

Clicking on the “Click to download Configuration files” link will display a list of previous saved configurations.

Each configuration has a Time & Date stamp at the front of the file.

Index of /operator/Configlogs/

- [Parent Directory](#)
- [20200503151646-Condor-Base-CFG.log](#)
- [20200503145330-Condor-Base-CFG.log](#)
- [20200424183656-Condor-Base-CFG.log](#)
- [20200424182403-Condor-Base-CFG.log](#)
- [20191212214044-Condor-Base-CFG.log](#)
- [20191212212538-Condor-Base-CFG.log](#)
- [20191206180832-Condor-Base-CFG.log](#)
- [20191124213346-Condor-Base-CFG.log](#)
- [20191109213404-Condor-Base-CFG.log](#)

Data Download.

Data log and Event log data files can be retrieved by the following methods.

- Webpage – “Logs & Archive” web link then, click “Click to download Data Log files” to download.
- USB flash drive – Insert USB drive, wait for led to finish flashing (indicating copy is done), this could be a number of minutes depending on the amount of data, and then unplug, No laptop is needed and can do several units on one flash drive, logs will be saved to a directory named after the Device Name.

Note: USB stick must have a directory called “Logs”

Amendment Register:

Issue No.	Date	Details of Amendment
1.0	25/06/20	Draft Issue
1.1	23/7/24	Added 925U-2