



# zLoggConsoleManager for Fluecnce

by Saak Dertadian, 02/19/2024, Rev.002

## Presentation for CLU-150FL:

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Port the existing zLoggConsoleManager software developed in 2023 for the z1FL to the new CLU-150FL.

This software is also compatible with the first generation of z1MuH.

This CLU-150FL seems to be an ECU-1370 from Advantech customized for Fluecnce:

[https://www.advantech.com/en-us/products/74040144-3f21-4a2c-b01e-dcadd0778058/ecu-1370/mod\\_bdd9617a-4e41-4a73-8823-6646d5b780ce](https://www.advantech.com/en-us/products/74040144-3f21-4a2c-b01e-dcadd0778058/ecu-1370/mod_bdd9617a-4e41-4a73-8823-6646d5b780ce)



<https://www.advantech.com/en-us/resources/news/advantechs-new-industrial-communication-gateways-pioneer-in-green-energy>

## System:

CPU: NXP i.MX8M Quad Core Cortex A53 1.3G  
Memory: 4GB LPDDR4  
Storage: 32GB eMMC (64GB Optional)  
SD Slot: 1 x Micro-SD slot  
USB: 2 x USB2.0  
LED: Power, LAN (LINK, ACT), Serial (Tx, Rx), 3 x Programmable LED  
Watch Dog: YES  
RTC: YES  
ConsolePort: 1 x USB Type C, 115200bps

## OS:

Distributor ID: Edgelnux  
Description: EdgeLinux LTS  
Release: 1.0.0  
Codename: jammy  
Linux ecu150fl-9bd830 4.14.98-g1175b5961153-dirty #1 SMP PREEMPT Fri Dec 29 08:32:38 UTC 2023 aarch64 aarch64 aarch64 GNU/Linux

## How to Install on CLU-150FL:

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We assume that the user can open an SSH connection to the CLU-150FL.

- mkdir zLogg
- cd zLogg
- wget https://dataloggermanager.com:/app/Fluecnce/zLoggConsoleManager
- chmod +x zLoggConsoleManager



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## Presentation for EspressoBin-Ultra:

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This project is about porting the existing zLoggConsoleManager software developed in 2020 for the z1MuH to the new EspressoBin-Ultra SBC with the new z1FL logger.

This software is also compatible with the first generation of z1MuH.

The EspressoBin-Ultra OS:

Distributor ID: Ubuntu

Description: Ubuntu 18.04.6 LTS

Release: 18.04

Codename: bionic

Linux ebinx2d49c9 5.10.166-00027-g3b30bc846d8d #1 SMP PREEMPT Wed May 17 16:30:18 CST 2023 aarch64 aarch64 aarch64 GNU/Linux



This hardware has limited part, with Marvell 3720 SoC (2 cores), 1GB RAM and 8GB Flash.

The previous code was not portable due to the hardware and OS limitations:

ldd (Ubuntu GLIBC 2.27-3ubuntu1.6) 2.27.

So we have re-written zLoggConsoleManager from scratch using the C++ Standard Library for aarch64 architecture. Built in static mode.

## How to Install on EspressoBin-Ultra:

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We assume that the user can open an SSH connection to the EspressoBin.

- `mkdir zLogg`
- `cd zLogg`
- `wget https://dataloggermanager.com:/app/Fluece/zLoggConsoleManager`
- `chmod +x zLoggConsoleManager`



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## How to use zLoggConsoleManager demo (common commands):

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From a terminal, connect to the demo EspressoBin-Ultra or CLU-150FL:

ssh [cube@dertadian.com](mailto:cube@dertadian.com) (password: pass28)

cd zLogg

### ./zLoggConsoleManager -h

```
zLoggConsoleManager ver_2_01 08/14/2023
Usage: zLoggConsoleManager <options>
  -d          Detect connected logger
  -s          Show configuration, alarms, statistics...
  -S          Start recording
  -T          Stop recording
  -u          Refresh MSD data
  -U          Refresh MSD data only (no PDF)
  -R          Reset logger
  -r          Show Temperature, Humidity, RTC
  -Y          Sync Date and Time
  -v          Show version
  -b          Show debug informations
  -h          Show this help
```

```
ex: ./zLoggConsoleManager -ds      Detect connected logger and show content.
ex: ./zLoggConsoleManager -dr      Detect connected logger and show current Temperature, Humidity, Date/Time.
ex: ./zLoggConsoleManager -ds      Detect connected logger and Start the logger now.
ex: ./zLoggConsoleManager -dT      Detect connected logger and Stop the logger now.
ex: ./zLoggConsoleManager -dU      Disconnect and Reconnect the logger to refresh the MSD readings.
```

### ./zLoggConsoleManager -d

Return the detected logger name as serial. (if connected)

```
Found connected logger: z1FL 1M881234
```

### ./zLoggConsoleManager -dr

Detect and return the current Temperature, Humidity and Time from the logger.

```
Found connected logger: z1FL 1M881234
```

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Temp.	Hum.	Date/Time
27.97°C	40.94	14/08/23 13:41:21

---

### ./zLoggConsoleManager -ds

Detect and show the configuration, statistics and current status of the logger

```
Found connected logger: z1FL 1M881234
```

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```
Specification & Configuration
Device Name:      z1FL          Firmware Ver.:  5.03D
Serial Number:   1M881234      Current Trip:   1      Max Trip:       65535
Description:     Fluence EspressoBin-Ultra Tests
Time Zone:       GMT:-5:00 Daylight
Temp/Hum Unit:   Celsius       %R.H.
Temp/Hum Range: -40 to +80°C   0 to 100%R.H.
Battery:         3.00V - 100%
Total Records:  240
Sampling Rate:  00:01:00
Start Delay:    0s
Start Time:     Parameter not set
Stop Time:      Parameter not set
Rec. Duration:  000d 04h00m00s
Summary / Statistics
Maximum:        +28.69 °C      +44.03%
Minimum:        +26.73 °C      +39.97%
Average:        +27.73 °C      +41.15%
MKT:           +28.69 °C
#Bookmarks:    0
Started by:    Manual
Stopped by:    ...
Status:        Recording
```



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```

Trip Duration: 01:59:00
Time in Spec.: 01:59:00
Started Time: 14/08/2023 12:02:42
Stopped Time: ...
Memory Used: 0% 240/45568
Downloaded at: 14/08/2023 18:02:10

```

Alarms (Time above / below Alarms)

Type	Temp.	Consecutive	Total	Out of spec.
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EH

H

L

EL

Humidity Alarms

Type	Temp.	Consecutive	Total	Out of spec.
------	-------	-------------	-------	--------------

EH

H

L

EL

sudo ./zLoggConsoleManager -dU (password: pass28)

Disconnect and Reconnect the logger to refresh the files.

This command needs the sudo privilege to write to the logger.

The files generated by the loggers are located in /media/disk0/

These files are cloned into the EspressoBin buffer memory, to get the current data, it might need to be necessary to disconnect and reconnect the logger.

This can be done automatically using the -U command.

Found connected logger: z1FL 1M881234

sudo ./zLoggConsoleManager -dS (password: pass28)

This command starts the logger.

The whole logger's memory is erased and the record start from the beginning.

All previous data will be lost.

sudo ./zLoggConsoleManager -dT (password: pass28)

This command stops the logger. The logger will not record anymore until is received the Start command.

## How to download the data from the logger:

The logger is automatically mounted here: /media/disk0

ll /media/disk0

```

total 202
drwxr-xr-x 2 root root 16384 Jan 1 1970 ./
drwxr-xr-x 10 root root 4096 Jun 22 00:56 ../
-rwxr-xr-x 1 root root 5354 Aug 14 14:05 1M881234.CSV*
-rwxr-xr-x 1 root root 35150 Aug 14 14:05 1M881234.PDF*
-rwxr-xr-x 1 root root 5354 Aug 14 14:05 1M881234.TXT*
-rwxr-xr-x 1 root root 135168 Aug 14 14:05 1M881234.ZLG*
-rwxr-xr-x 1 root root 2048 Sep 12 2016 CMD.TXT*

```

Here is an example command:

scp /media/disk0/\* <user>@<address>:<local path>



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## zLogg's suggestions

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When the Cube is powered and connected to the Internet, (or to a local network) the connected logger's data could be automatically uploaded to a server. This could also be automatically be done every hour or every day...

This solution allows the user to get all the data centralized into the same server and use zLoggManager to open the files (remotely) giving all the functionalities of the software.

See z1FL flyer:

<http://dataloggermanager.com/doc/z1FL.pdf>