



LSI LASTEM S.r.l.
Via Ex S.P. 161 Dosso, n.9 - 20090 Settala Premenugo (MI) - Italia

Tel.: (+39) 02 95 41 41
Fax: (+39) 02 95 77 05 94
e-mail: info@lsi-lastem.it

WEB: <http://www.lsi-lastem.it>
CF./P. Iva: (VAT) IT-04407090150
REA: 1009921 **Reg.Imprese:** 04407090150



MQTTCommNet

User's manual

Update 8/01/2020

Summary

Contents

1. Introduction.....	3
2. System requirements	3
3. Program work.....	4
3.1. User’s interface	4
3.2. Log File.....	5
3.3. Automatic start-up.....	5
3.4. Internal configuration file	6
4. Configuration	7
4.1. Instruments configuration	8

1. Introduction

MQTTCommNet is the LSI LASTEM program for saving on file instant values produced by Alpha-Log instruments and transmitted via MQTT protocol.

2. System requirements

The program requires the following hardware and software requirements:

Personal computer

- *Processor with operating frequency 600 MHz or higher, 1 GHz recommended;*
- *Video card: SVGA resolution 1024x768 or higher;*
- *Operating system (*): or Microsoft Windows 7/2003/2008/8/10*
- *Microsoft .NET Framework 3.5 (**);*
- *LSI LASTEM 3DOM program, updated to the latest version and already installed, to create the instrument configuration;*

(*) The operating systems must be updated with the latest updates released by Microsoft and available through the Windows Update features; the correct and complete functioning of the programs is not guaranteed for operating systems not listed.

(**) the Microsoft .NET Framework 3.5 installation program is present in the USB key of LSI Lastem products and if necessary is automatically installed during the installation procedure. Alternatively, you can download the Microsoft .NET Framework 3.5 installation program directly from the Microsoft installation center at <http://www.microsoft.com/downloads/it-it/default.aspx> by entering the term ".NET".

On systems with Windows 8 and higher, .NET Framework 3.5 can also be enabled manually from the Control Panel. In Control Panel, choose Programs and Features, then Turn Windows features on or off, and then select the Microsoft .NET Framework 3.5.1 check box. An Internet connection is required to enable this feature.

3. Program work

The program self-registers itself with the MQTT broker programmed with the AlphaLog devices and saves the instant data sent by the configured devices to a file.

The program is designed for its use with the XPanel system so the data is saved in the folder

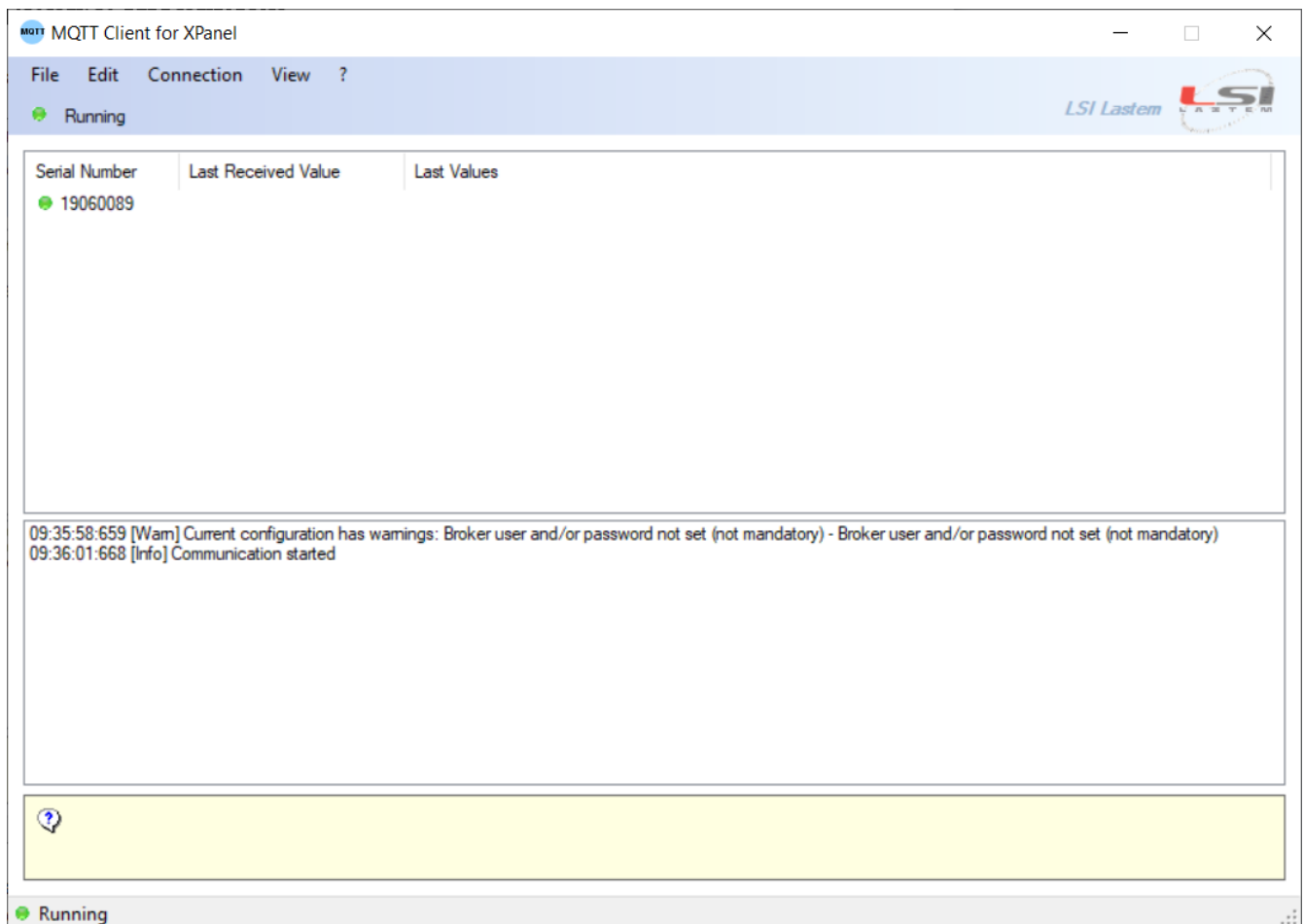
```
{CommonApplicationData} LSI-Lastem\XPanelCommunicator\CommNetEGInstFiles
```

in single files named {serial} .txt; each device is therefore associated with a file that contains only the latest values sent in the following format (format used by CommNetEg to save instant data):

```
UpdateTime=2019-12-18T11:22:37.0000000
SerialNr=18110116
Ch1=14.7
Ch2=1010.56
Ch3=24.3
```

3.1. User's interface

The main program window looks like this:



In the upper part the operating statistics are displayed and in the lower part the log messages generated by the program are displayed

The operating status is displayed in the status bar which can be:

- **Running (green):** Indicates that the program is in communication reception mode.
- **Waiting to start communications (red):** indicates that the program has stopped subscribing to the MQTT broker.
- **An error has occurred (error icon):** Indicates that the program did not start correctly or a fatal error has occurred that must be resolved.
- **Not configured (warning icon):** indicates that the program is not configured and therefore cannot start receiving communication.

Menu items

- **File**
 - **Exit:** exits the program.
- **Edit:**
 - **Edit current configuration**
 - **Check current configuration**
- **Connection**
 - **Start Receiving Data:** starts the connection to the MQTT broker.
 - **Stop Receiving Data - break the connection to the MQTT broker**
 - **Stop automatic attempt**
- **View**
 - **Clear Log List:** clears the log messages displayed in the window (not the log files stored in the computer)
 - **Go to Log Folder:** opens the folder where the log files are stored
- **?:** View the user manual and program information

When the program is started, the configuration is loaded and, if no errors were found, the connection to the MQTT broker will start.

In the event of an error when connecting to the MQTT broker, if the appropriate option is set (§ 3.4), the program makes automatic reconnection attempts.

3.2. Log File

The program generates a daily log file in the folder

`C:\ProgramData\LSI-Lastem\LSI.MQTTCommNet\Log`

3.3. Automatic start-up

To start the program when Windows starts, set the program as automatic start.

ATTENTION

The program is NOT a service and therefore still requires the user login to start

3.4. Internal configuration file

The program configuration file is called LSI.MQTTCommNet.exe.config and is located in the program installation folder. It is an xml format file that contains some application operating settings.

```
<applicationSettings>
  <LSI.MQTTCommNet.Properties.Settings>
    <setting name="UserDefinedCulture" serializeAs="String">
      <value />
    </setting>
    <setting name="SupportedInstruments" serializeAs="String">
      <value>ALP</value>
    </setting>
    <setting name="MaxOpenRetry" serializeAs="String">
      <value>5</value>
    </setting>
    <setting name="HideWarningsOnStart" serializeAs="String">
      <value>False</value>
    </setting>
    <setting name="KeepAliveSeconds" serializeAs="String">
      <value>15</value>
    </setting>
    <setting name="AutoRetrySeconds" serializeAs="String">
      <value>15</value>
    </setting>
  </LSI.MQTTCommNet.Properties.Settings>
</applicationSettings>
```

- UserDefinedCulture: to force the use in English on an Italian computer, enter the value `<value> en-us </value>` in the UserDefinedCulture entry; for use in Italian on a computer in another language, enter the value `<value> it-it </value>`; no other localizations are available.
- SupportedInstruments: Do not change the value of this setting
- MaxOpenRetry: number of attempts to write the received data to the file
- HideWarningOnStart: hides the warning signals during startup; set true to manage the automatic start of the application.
- KeepAliveSeconds: time interval for checking the status of the connection to identify the interruption of the same and initiate attempts to reconnect
- AutoRetrySeconds: time interval between one reconnection attempt and the next

4. Configuration

To configure the program, stop the communication and select the <Edit> -> <Edit Current Configuration> button to open the configuration window:

Broker Configuration

Address: Port:

User:

Password:

Instrument Configuration

Serial	Device Type	Topic
19060089	ALP	device/ALP002/19060089/metrics/inst

Buttons: Add, Enable/Disable, Remove

Buttons: Ok, Cancel

In this window you can set:

- MQTT Broker Configuration: set the address, port and any access credentials (user and password) if requested by the Broker
- Instrument Configuration: select the Add, Enable / Disable, Remove buttons to update the list of configured instruments

ATTENTION

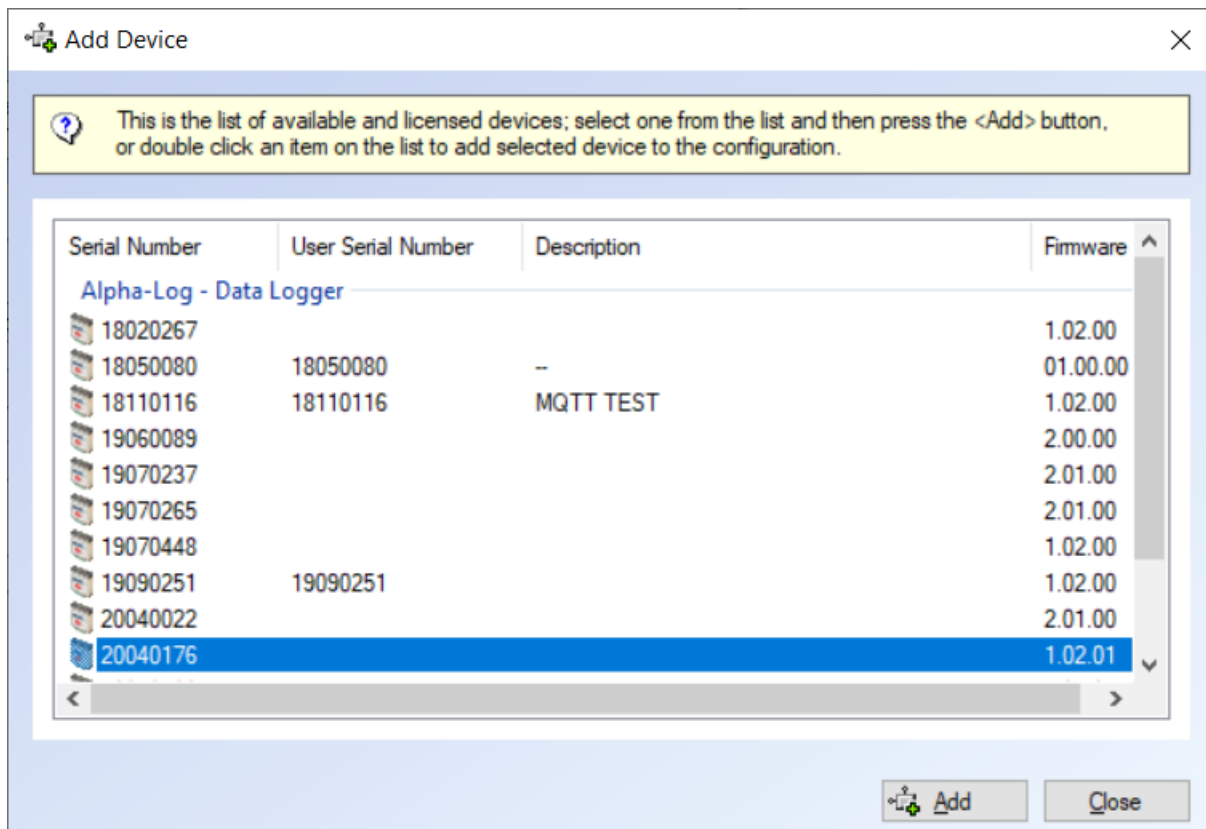
It is possible to configure ONLY instruments whose configuration has been downloaded to the local computer via the 3DOM program and which are set to send instant data via the MQTT protocol

Closing the window the configuration is saved in the file "C:\ProgramData\LSI-Lastem\LSI.MQTTCommNet\CurrentConfig.xml" and, if no errors are found, the program automatically starts the connection with the MQTT Broker.

4.1. Instruments configuration

The Instrument Configuration section shows the list of instrument configured for data download; you can add, remove or disable instruments.

To add an existing instrument, press the Add button; the list of instruments configured in 3DOM and therefore available for insertion will be displayed:



When a device is selected before adding it to the list, the program checks that it is configured to send instant data via the MQTT protocol and that the broker set is the same set in the configuration.