****

**Soliton Technologies Pvt. Ltd.**

***Setup Instruction***

**Version 1.0**

|  |
| --- |
| **EATON POWER STEERING AIR LEAK TEST SYSTEM** |
| **ALTS - 2015** |

**© Soliton Technologies Pvt. Ltd.**

Contents

[Revision History 3](#_Toc418504596)

[Introduction 3](#_Toc418504597)

[Purpose 3](#_Toc418504598)

[System Configuration 4](#_Toc418504599)

[Software Configuration 4](#_Toc418504600)

[Hardware Configuration 4](#_Toc418504601)

[Installers 4](#_Toc418504602)

[NI-MAX Setup 4](#_Toc418504603)

[Database 4](#_Toc418504604)

[Air Leak Instrument Result Database 4](#_Toc418504605)

[Serial Details Database 4](#_Toc418504606)

[Result Database 4](#_Toc418504607)

[INI Configuration 4](#_Toc418504608)

[Application Configuration 4](#_Toc418504609)

[Database Configuration 5](#_Toc418504610)

[Simulation Configuration 5](#_Toc418504611)

[Barcode Configuration 5](#_Toc418504612)

[Barcode Scanner1 Configuration 5](#_Toc418504613)

[Barcode Scanner2 Configuration 5](#_Toc418504614)

[OPC Configurations 6](#_Toc418504615)

# Revision History

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Ver #** | **Date** | **Created by** | **Reviewed by** | **Approved by** | **Revision Details** |
| 1 | 04-May-2015 | Ajayvignesh |  |  | Initial release |
|  |  |  |  |  |  |

# Introduction

ALTS-2015 software is developed in two modes viz

* ALTS-2015 Auto Mode – For complete automatic air leak testing.
* ALTS-2015 Manual Mode – For human intervened air leak testing. This is more similar to old ALTS with addition of automatic test type selection in the air leak instrument.

## Purpose

This document covers the setup instructions for ALTS-2015.

# System Configuration

## Software Configuration

1. NI LabVIEW 2013
2. NI DAQmx 8.9.5 or later
3. NI Database communication Toolkit

## Hardware Configuration

1. NI PCI - 6514 - Part Number 778836-01

# Installers

ALTS-2015 is provided with two installers, one for manual mode and another for auto mode. Each installer should be installed independently.

# NI-MAX Setup

Install the NI-MAX file “ALTS MAX CONFIGDATA\_12 FEB 2015.NCE” to setup the pin configurations of the ALTS-2015.

# Database

Three database involved in ALTS-2015 are

1. Air Leak Instrument’s Result Database
2. Serial Details Database
3. Result Database

## Air Leak Instrument Result Database

This database is logged by the ALT instrument through LeakTek software. Four instances of the LeakTek software are run with one for each station.

## Serial Details Database

Following serial details are extracted from the EPSN database for the specified serial number and sent to robot for further processing.

1. Adapter Plate Size
2. Air Leak Test Type
3. Displacement Size
4. Flange Size
5. Height
6. Load Decision
7. Cart Insert

## Result Database

This is an EPSN database. After the test result is logged by the ALT instrument in Air Leak Instrument Result Database, the data are extracted, annotated and finally logged in this database.

# INI Configuration

INI file (ALTS-2015.ini) can be found at C:\Program Files (x86)\ALTS-2015\Info\.

## Application Configuration

* Rerun Count – This is the maximum retry count of failed UUT (Default Value is 2)
* Workorder No – This is the work order number which will be used in the result logging (Default Value is 1).

## Database Configuration

* Station 1 LT Result DB DSN Path – This is the first station ALT instrument’s result database location (Default is C:\\Program Files (x86)\\Common Files\\ODBC\\DataSources\\ALTS Station1.dsn)
* Station 2 LT Result DB DSN Path – This is the second station ALT instrument’s result database location (Default is C:\\Program Files (x86)\\Common Files\\ODBC\\DataSources\\ALTS Station2.dsn)
* Station 3 LT Result DB DSN Path – This is the third station ALT instrument’s result database location (Default is C:\\Program Files (x86)\\Common Files\\ODBC\\DataSources\\ALTS Station3.dsn)
* Station 4 LT Result DB DSN Path – This is the fourth station ALT instrument’s result database location (Default is C:\\Program Files (x86)\\Common Files\\ODBC\\DataSources\\ALTS Station4.dsn)
* Database Connection Link – This is the EPSN connection link from where the serial details are fetched and to which the final result is written (Default value is C:\Program Files (x86)\Common Files\ODBC\DataSources\EPSN\_NEW.dsn)
* Result Procedure – This is the result store procedure used to write the final result in the EPSN database (Default value is {call sp\_AIR\_LEAK\_RESULTS(?,?,?,?,?,?,?,?,?,?,?)})
* AirLeakTestResult Procedure – This is the store procedure used to detect the validity of the serial number (Default value is {call sp\_AirLeak\_Detection\_SN\_Validate (?)})
* Serial Details Procedure – This is the store procedure used to extract the serial details from the EPSN database (Default value is {call sp\_ALL\_GET\_AirLeakLookup\_from\_SN(?)})

## Simulation Configuration

External components can be simulated by setting “TRUE” in the below fields. Ideally all fields should be set to “FALSE” in a production run.

* Simulate DAQ Hardware – This allows to simulate the DAQ Hardware
* Simulate OPC – This allows simulating the robot communication. When this is TRUE, DATASOCKET Server should be running in the PC. Else, relevant errors will be thrown.
* Simulate Result DB Write – This simulates the final result writing database.
* Simulate Scanner – This simulates the serial scanner.
* Simulate Serial Details DB – This simulates the serial details database from which flange size / plate size etc.., are extracted.
* Simulate Result DB – This simulates the ALTS LeakTek.MDB database.

## Barcode Configuration

ALTS-2015 can detect the seral number from either of the two scanners connected to the PC. Primary serial scanner can be configured under [Barcode Scanner1] and secondary serial scanner can be configured under [Barcode Scanner2]

### Barcode Scanner1 Configuration

* Scanner IP – This is the IP address of the primary serial scanner.
* Scanner Port – This is the port number of the primary serial scanner. (Default value is “9004”)
* #Bytes to Read – Number of bytes/characters to read from primary serial scanner (Default value is 27. An example of read characters is 158-3663-001;140815MOT0142)

### Barcode Scanner2 Configuration

* Scanner IP – This is the IP address of the secondary serial scanner.
* Scanner Port – This is the port number of the secondary serial scanner. (Default value is “9004”)
* #Bytes to Read – Number of bytes/characters to read from secondary serial scanner (Default value is 27. An example of read characters is 158-3663-001;140815MOT0142)

## OPC Configurations

ALTS-2015 communicates with robot through OPC communication. OPC Tags used to write and read are below. There is no need to change these INI settings unless the OPC tags are modified. If modified, change the OPC tags accordingly.

**[OPC Read Registers]**

Robot\_Available=[AIR\_LEAK]Robot\_Available

Start\_Test=[AIR\_LEAK]Start\_Test

Stop\_Test=[AIR\_LEAK]Stop\_Test

Scan\_Trigger=[AIR\_LEAK]Scan\_Trigger

Station\_No\_Start\_Stop\_Test=[AIR\_LEAK]Station\_No\_Start\_Stop\_Test

**[OPC Write Registers]**

Task\_Available\_for\_Robot=[AIR\_LEAK]Task\_Available\_for\_Robot

New\_Serial=[AIR\_LEAK]New\_Serial

Serial\_Adapter\_Size=[AIR\_LEAK]Serial\_Adapter\_Plate\_Size

Serial\_Displacement\_Size=[AIR\_LEAK]Serial\_Displacement\_Size

Serial\_Flange\_Size=[AIR\_LEAK]Serial\_Flange\_Size

Serial\_Height=[AIR\_LEAK]Serial\_Height

Serial\_LoadDecision=[AIR\_LEAK]Serial\_LoadDecision

Serial\_CartInsert=[AIR\_LEAK]Serial\_CartInsert

Test\_Result=[AIR\_LEAK]Test\_Result

Station\_Number=[AIR\_LEAK]Station\_Number

Rerun=[AIR\_LEAK]Rerun

Invalid\_SNo=[AIR\_LEAK]Invalid\_SNo

PC\_ACK\_Read\_Tags=[AIR\_LEAK]PC\_ACK\_Read\_Tags