

Honeywell

MASTERLINK R515.1



MasterLink Software Application User's Guide

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Honeywell Process Solutions | Mercury Instruments

1280 Kemper Meadow Drive,

Cincinnati, OH 45240

855 251-7065 – United States & Canada | 302 669-4253 – Outside the United States

MI-TAC-Support@Honeywell.com | <https://process.honeywell.com/>

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CONTENTS

1 About MasterLink	1
1.1 Features	1
1.2 Security Considerations	2
1.1 Supported Device Functionality	3
1.2 Supported File formats and extensions	5
2 Installation	7
2.1 Before you install	7
2.2 Interoperability with SuiteSQL	8
2.3 Silent Installation	8
2.4 MasterLink Client Installation with SQL Server	9
2.4.1 Installing MasterLink with remote SQL Server	15
2.5 Installing MasterLink with SQLite	20
2.6 Upgrading MasterLink with SQLite/ SQL Server	26
2.7 Post Installation Steps	27
3 MasterLink User Interface	29
3.1 Getting Started	29
3.1.1 User Creation and Activation Process	29
3.1.1.1 Site Administrator Creation	29
3.1.1.2 Creating Users	30
3.1.1.3 User Registration	30
3.1.1.4 Forgot Password	32
3.2 Sites	33
3.2.1 Add Site	34
3.2.2 Connecting to a Site	37
3.2.3 Direct Connect	39
3.3 Dashboard	40
3.3.1 User Interface	43
3.3.2 Instrument Data	47
3.3.3 Alarms	48
3.3.4 Configuration Check	50
3.3.5 Time Sync	52
3.3.6 Firmware Update	53
3.3.7 Data Transfer	55
3.3.8 Instrument or Modem Power	57
3.3.9 Update User Account	58
3.3.10 Change Password	59
3.4 View and Edit	60
3.4.1 Configure by Group	60
3.4.2 Configure by Item	63
3.4.3 Send Item File	66
3.4.4 Logging Configuration	68
3.4.5 Manage User Table	71
3.4.6 Manage Shortlist	73
3.4.7 Manage AGA-8	74
3.5 Calibrate	75
3.5.1 Pressure Calibration P1	75
3.5.2 Pressure Calibration P2	83
3.5.3 Pressure Calibration P3	83
3.5.4 Temperature Calibration	85

CONTENTS

3.5.5 Calibration Parameter	90
3.6 Read Data	91
3.6.1 Item File	92
3.6.2 Audit Trail	96
3.6.2.1 Audit Trail Graphs	105
Line Graphs	107
Circular Graphs	110
3.6.3 Alarm Logs	113
3.6.4 Event Logs	116
3.6.5 Diagnostic Logs	119
3.6.6 Cellular Logs	121
3.6.7 Shortlist	123
3.6.8 Activity Log	125
3.6.9 Item Reference CSV Export	127
3.7 Live Data	128
3.8 Administer	136
3.8.1 Activity Log - Purge	136
3.8.2 Export Instrument Data	138
3.8.3 Import Instrument Data	142
3.8.4 Item Template Configuration	147
3.8.5 Clear Logs	150
3.9 Settings	151
3.9.1 Communications Setup	151
3.9.2 Time-Sync Properties	154
3.9.3 Auto Download Settings	155
3.9.4 Device Properties	156
3.10 Security and User Management	157
3.10.1 User Configuration	158
3.10.1.1 Passkey Generation	160
3.10.2 User Roles	162
4 Updates and Upgrades	164
4.1 EC 350/ ERX 350 Firmware Update	164
4.2 CloudLink Modem Firmware Update	165
4.3 Upload CloudLink Modem Certificates	166
4.4 Legacy Devices Firmware Upgrades	168
5 Glossary	170
5.1 Troubleshooting scenarios	172

1 About MasterLink

MasterLink application provides a single software package to configure, calibrate and access data from gas volume correctors. The software's intuitive dashboard enables users to quickly determine the overall health status of instruments. Employing standardized terminology, it is now an easy task to configure and calibrate instruments, import data, and generate reports and graphs, thereby eliminating time-consuming manual effort.

This software employs a dashboard based design philosophy enabling users to get a one-shot status of connected devices. A gas industry first, the software can connect to the device using a choice of short-range wireless communication protocols. The dashboard displays information about alarms, battery voltage, audit trail, configuration integrity, firmware status, time sync and live data. This helps the user understand the current condition of the connected device from a holistic point of view.

MasterLink software addresses the increasing adoption of mobile devices for functions like checking the health of field devices, downloading reports, instrument calibration and other activities once performed exclusively on a laptop. It offers versatile wireless connectivity and is compatible with the latest versions of both iOS and Android operating systems.

1.1 Features

MasterLink allows users to:

- Define dashboard data (auto) download settings
- Secure critical site data
- Enable SSL encrypted communication with site Over the Air (OTA)
- View / Edit item parameters of a connected device
- Provides a wizard based calibration approach
- Generate reports such as:
 - Item report - Item Report by Group, Site Report and Calibration Report
 - Audit Trail report (Plot graph over Audit Trail data)
 - Alarm Log report
 - Event Log report
 - Diagnostic Log report
 - Cellular Log report
 - Short List report
 - Activity Log report
 - Item Reference CSV Export
- Capture live data and plot graphs

- Perform Database Administrative tasks such as
 - Activity Log Purge
 - Import/Export site or instrument data
 - Item Template Configuration
 - Clear Logs
- Configure settings
 - Communication Setup
 - Time Sync Properties
 - Auto Download Settings for Dashboard
 - Device Properties
 - Email Options
- Perform role based user administration for MasterLink
- Administer access privileges for device level functions by sending user table
- Perform offline log-in configuration and send to instrument when connected
- Perform instrument and modem firmware updates

1.2 Security Considerations

- It is recommended to use the CloudLink modem in integrated mode with EC 350 for better security during pairing
- For data protection, it is recommended to provide full privileges to the ProgramData\Honeywell\MasterLink folder only to appropriate MasterLink users
- It is recommended to keep the PC used for MasterLink updated with the security patches released by the respective platforms
- It is also recommended to enable SSL for secure communication with MasterLink.
- Its highly recommended to Install latest operating system security patches on the machine where ML is installed.
- Do not share MLK file with any unintended user

1.1 Supported Device Functionality

*CL = CloudLink, PA = Pulse Accumulator, TC = Turbo Corrector

	EC 350	CL*	EC 350 + CL	PA*	CNI4	Mini-Max	ERX	TCI	Mini-AT	TC*	Accutest	ERX 350	ERX 350 + CL	Mini	Turbo Monitor	PT Mod-bus	ER	ECAT
Item Report	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Audit Report	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗	✓	✓
Alarm Report	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✓
Event Report	✓	✓	✓	✗	✓	✓	✗	✗	✓	✓	✓	✓	✓	✗	✗	✗	✗	✓
Diagnostic Report	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗
Cellular Report	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗
Shortlist Report	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Activity Report	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Send Log Configuration	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗
Change Instrument Access Code	✗	✗	✗	✓	✗	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓	✓	✓	✓
Send User Table	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗
Send Item File	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Config Check Template	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
P1 Calibration	✓	✗	✓	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✓	✗	✗	✓	✓
P2 Calibration	✓	✗	✓	✗	✗	✗	✓	✗	✓	✓	✓	✓	✓	✗	✗	✗	✓	✗
P3 Calibration	✓	✗	✓	✗	✗	✗	✓	✗	✗	✗	✗	✓	✓	✗	✗	✗	✗	✗

*CL = CloudLink, PA = Pulse Accumulator, TC = Turbo Corrector

	EC 350	CL*	EC 350 + CL	PA*	CNI4	Mini-Max	ERX	TCI	Mini-AT	TC*	Accutest	ERX 350	ERX 350 + CL	Mini	Turbo Monitor	PT Mod-bus	ER	ECAT
Generate Reports	✓	✓	✓	*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EVC Reset Battery	✓	✓	✓	*	*	*	*	✓	*	*	*	✓	✓	*	*	*	*	*

- P3 Pressure Calibration is applicable for the devices EC350, ERX350 only for the firmware versions 1.4038 and beyond.

1.2 Supported File formats and extensions

	FILE FORMAT EXTENSION											
	Item File	Item Template File	Firmware File	User Table	Shortlist file	Logging Configuration	Audit Graphs	Live Graph Setting	Live Graph Values	Shortlist file with value	Certificate file	
EC 350	IE3	TE3	BIN	UTE	CE3	LC	AGS	LGS	LGV	KE3		
CloudLink Modem	ICL	TCL	BIN	UTE	CCL					KCL	PEM	
EC 350 + CloudLink	ECL	TEL	BIN	UTE	CEL	LC	AGS	LGS	LGV	KEL		
Pulse Accumulator	IPA	TPA	MMX		CPA					KPA		
CNI4	INI4	TNI4	MMX/BIN	UTE	SNI4					KNI4		
Mini-Max	IMX	TMX	MMX		CMX			LGS	LGV	KMX		
ERX	IEX	TEX	MMX		CEX			LGS	LGV	KEX		
TCI	ITC	TTCI	TCA		CTC			LGS	LGV	KTC		
Mini-AT	IMA	TMA	TXT		CMA			LGS	LGV	KMA		

	FILE FORMAT EXTENSION										
	Item File	Item Template File	Firmware File	User Table	Shortlist file	Logging Configuration	Audit Graphs	Live Graph Setting	Live Graph Values	Shortlist file with value	Certificate file
Turbo Corrector	ITT	TTT			CTT			LGS	LGV	KTT	
Accutest	ITA	TTA			CTA			LGS	LGV	KTA	
ERX 350	IER3	TER3	BIN	UTE	CER3	LCER3		LGS	LGV	KER3	
ERX 350 + CloudLink	IER3L	TER3L	BIN	UTE	CER3L	LCER3	AGS	LGS	LGV	KER3L	
Mini	IMN	TMN			CMN			LGV		KMN	
Turbo Monitor	ITB	TTB	TBX/T8X		CTB					KTB	
PT Modbus	IPTC	TPTC	PTX		CPTC					KPTC	
ER	IER	TER			CER			LGS	LGV	KER	
ECAT	IAT	TAT			CAT			LGS	LGV	KAT	

Note: While upgrading R500 to R510, the file format extensions of CloudLink Modem and EC 350 + CloudLink Integrated device are to be changed as below.

	FILE FORMAT EXTENSION			
	Item File	Item Template File	Shortlist file	Shortlist file with value
CloudLink Modem	ICL	TCL	CCL	KCL
EC 350 + CloudLink	ECL	TEL	CEL	KEL

2 Installation

This chapter describes the installation of MasterLink software.

2.1 Before you install

Here are the recommended system specifications:

Database Server Configuration

Component	Requirement
CPU	Quad Core and above
RAM	8 GB and above
Disk Space	80 GB and above
Operating System	Microsoft Windows 2008 Standard Edition 32 bit Microsoft Windows 2008 Standard Edition 64 bit Microsoft Windows 2008 R2 Standard Edition 32 bit Microsoft Windows 2008 R2 Standard Edition 64 bit Windows Server 2012 – SP1 (Standard, Essentials) : 64 bit Windows Server 2012 R2 –SP1 (Standard, Essentials) : 64 bit Windows Server 2016 (Standard, Essentials) : 64 bit
Database Server	SQL Server 2008 R2 (Standard, Enterprise) : 32 bit SQL Server 2012 (Standard, Enterprise) : 32 bit SQL Server 2014 (Standard, Enterprise) : 32 bit SQL Server 2008 R2 (Standard, Enterprise) : 64 bit SQL Server 2012 (Standard, Enterprise) : 64 bit SQL Server 2014 (Standard, Enterprise) : 64 bit SQL Server 2016 (Standard, Enterprise) : 64 bit SQL Server 2017 (Standard, Enterprise) : 64 bit

Note: If you are using a database instance on your network, you need to have domain user permission.

Client Configuration

Component	Requirement
CPU	Dual Core and above
RAM	4 GB and above
Disk Space	40 GB and above
Operating System	Windows 7 – SP2 / Convenience rollup (Professional, Enterprise, Ultimate) : 32bit, 64 bit Windows 8 – (Core, Pro, Enterprise) : 32bit, 64 bit Windows 8.1 – (Core, Pro, Enterprise) : 32bit, 64 bit Windows 10 – (latest build 2 months before release) : 32bit, 64 bit Windows Vista Standard Edition 32 bit

Mobile Recommendations

Android	Android OS 4.3x, 4.4.0-4.4.4, 5.0.0-5.0.2, 5.1.x, 6.0 RAM: 1 GB onwards Memory: 8 GB onwards Processor Speed: Dual-core 1 GHz onwards Communication BLE compatible General availability of Mail Client required
iOS	OS 7.1.x, 8.4.x, 9.1.x, 10.1.x Memory: 8 GB onwards Screen Size: 3.5 inches onwards RAM: 1 GB onwards Communication BLE capability General availability of Mail Client required

2.2 Interoperability with SuiteSQL

MasterLink application can coexist with Suite SQL.

New MasterLink can be used with either SQL database Server or SQLite database.

If a single data source is preferred with an existing MasterLink SQL installation, please choose SQL Server as a database option during installation.

2.3 Silent Installation

TO INSTALL SQL LITE IN SILENT MODE:

Command to Install the exe

```
Msiexec /i "<Path to MasterLink515.1exe>" /S /v"/qn DBTYPE=2 INSTALLDIR= <Path to Install>"
```

Note:

1. INSTALLDIR is an optional argument, if it is not passed, by default it will get installed to "C:\Program Files(x86) \Honeywell\MasterLink"
2. There is no space between /v and "
3. /S is case sensitive and it must be upper case.
4. DBTYPE is passed as empty, then SQLite DB will be installed

Example:

"C:\E569427__tanmay\RMG (\ML\build\MasterLinkR515.1.exe" /S /v"/qn DBTYPE=2
INSTALLDIR="C:\Program Files(x86)\Honeywell\MasterLink\""

Path to Masterlink.exe - C:\E569427__tanmay\RMG (\ML\build\MasterLinkR515.1.exe

Path to Install - "C:\Program Files(x86)\Honeywell\MasterLink\""

TO INSTALL SQL DB SERVER IN SILENT MODE:

Command to Install the exe

1. Msiexec /i "<Path to MasterLink515.1.exe>" /S /v"/qn DBTYPE=1 INSTALLDIR= <Path to Install> IS_DATABASESERVER=< Database Server that you are installing > DATABASEDIR= <Place to Install the Database>"

Note:

1. INSTALLDIR is an optional argument, if it is not passed, by default it will get installed to "C:\Program Files(x86) \Honeywell\MasterLink"
2. There is no space between /v and "
3. /S is case sensitive and it must be upper case.
4. DBTYPE is passed as empty, then SQLite DB will be installed. So DBTYPE=1 is mandatory
5. IS_DATABASESERVER= Database Server that you are installing to
6. DATABASEDIR = C:\Programdata\Honeywell\MasterLink\SQL (default value)

Example:

"C:\E569427__tanmay\RMG (\ML\build\MasterLinkR515.1.exe" /S /v"/qn DBTYPE=1
INSTALLDIR= "C:\Program Files(x86)\Honeywell\MasterLink\" IS_DATABASESERVER=
R=IE1FLT5614GH2 DATABASEDIR="C:\ProgramData\Honeywell \MasterLink\SQL\""

Path to Masterlink.exe - C:\E569427__tanmay\RMG (\ML\build\MasterLinkR515.1.exe

Path to Install - "C:\Program Files(x86)\Honeywell\MasterLink\""

Database Server that you are installing - IE1FLT5614GH2

Place to install the Database - "C:\ProgramData\Honeywell \MasterLink\SQL\""

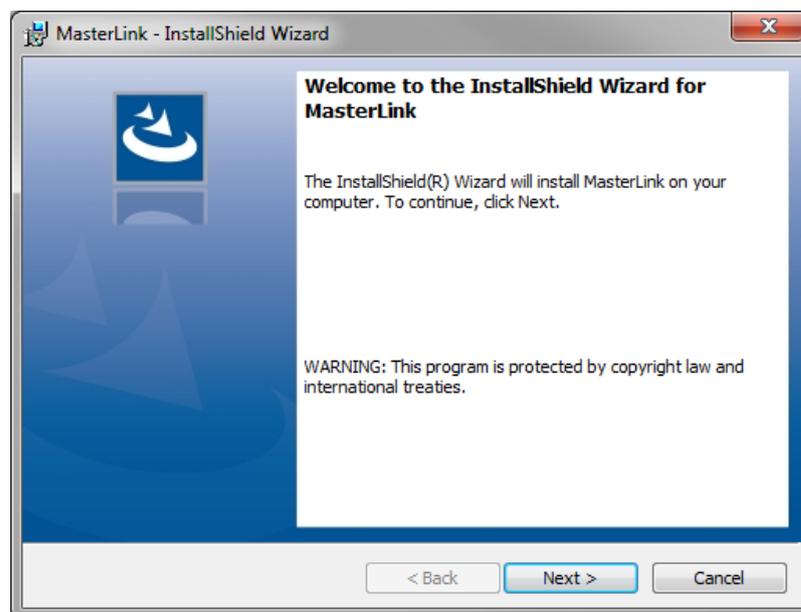
2.4 MasterLink Client Installation with SQL Server

Prerequisites:

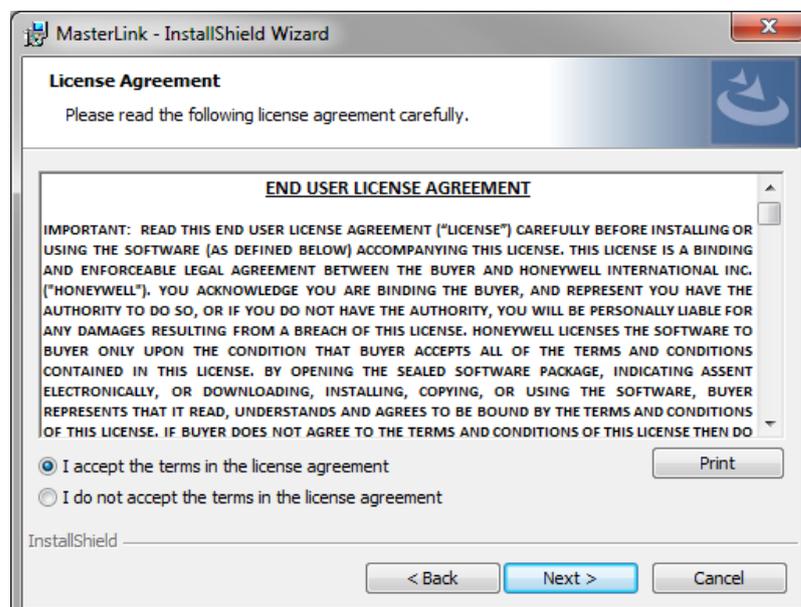
1. If you are using SQL Server, then a SQL Server instance must be installed before installing MasterLink.
2. Administrative Privileges are required to install the application.
3. Ensure Masterlink.exe and Redist folder should be in the same [path](#) to avoid any errors on crystal report.

To Install MasterLink Installation with SQL Server:

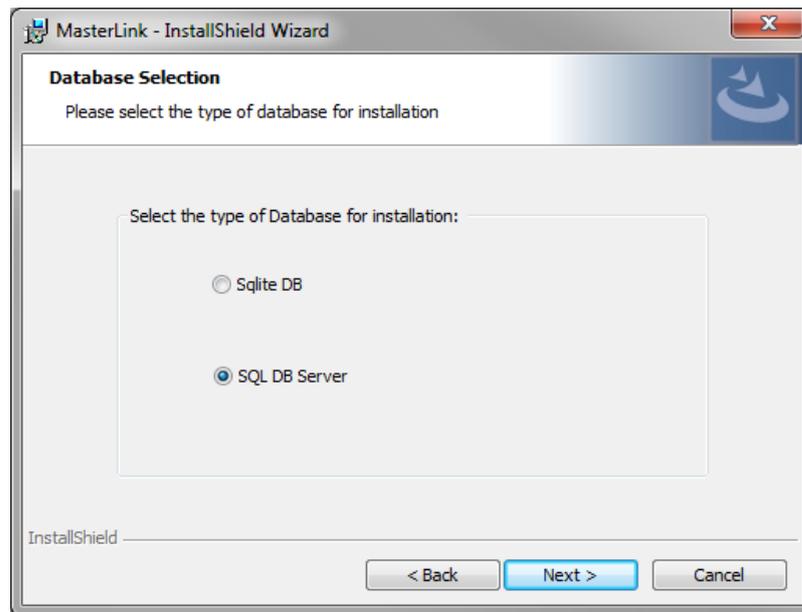
1. Launch the installer. The *MasterLink - InstallShield Wizard* appears. Click **Next**.



2. The *License Agreement* page appears. Click *I accept...* and then click **Next**.



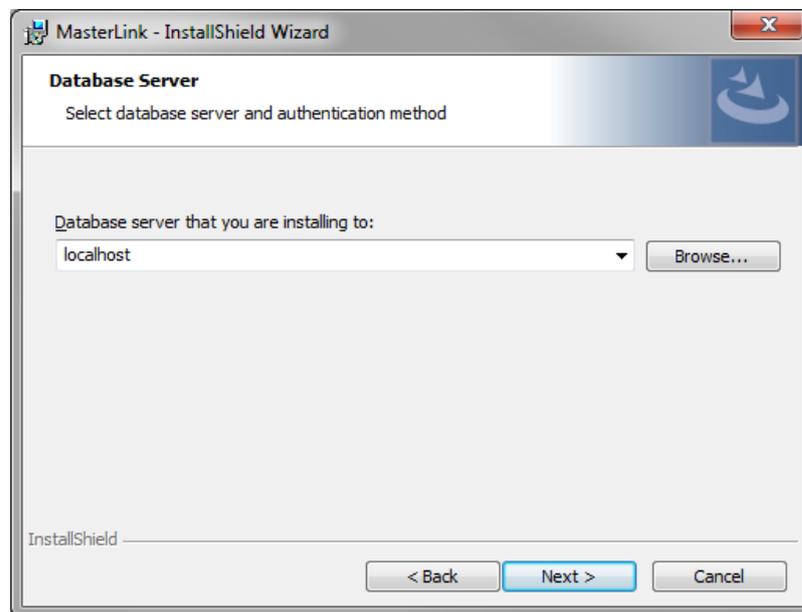
3. The *Database Selection* page appears. By default, *SQL DB Server* is selected.



If you choose to continue with a *SQL DB Server* for installation, then you will see the following page (as shown in step 4), where you need to select the database server instance.

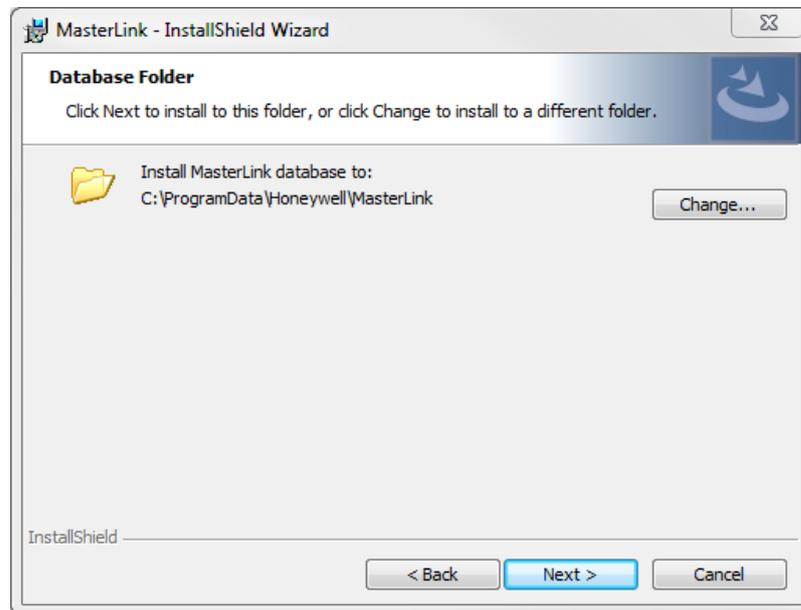
Click **Next** to continue.

4. The *Database Server* page appears. Click **Next**.



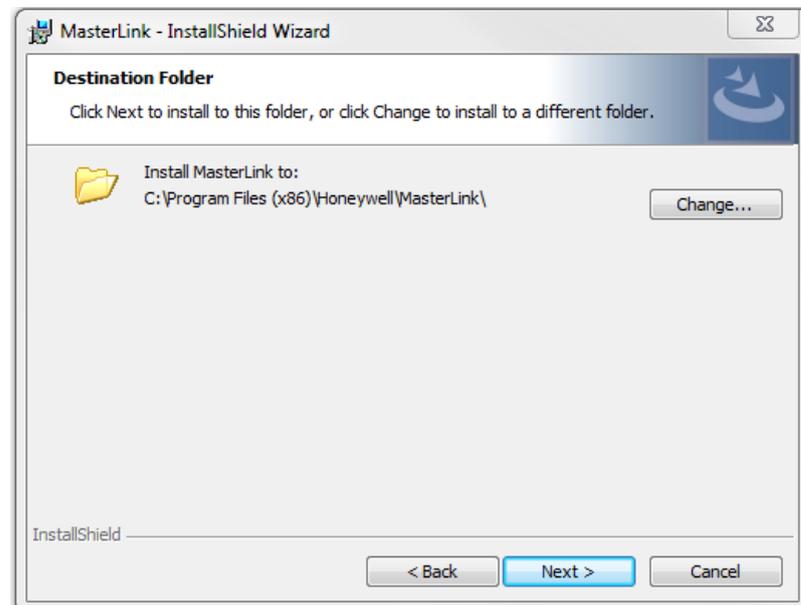
- The *Database Folder* page appears. Browse and select the folder where you need to install MasterLink and database files.

Click **Next**.

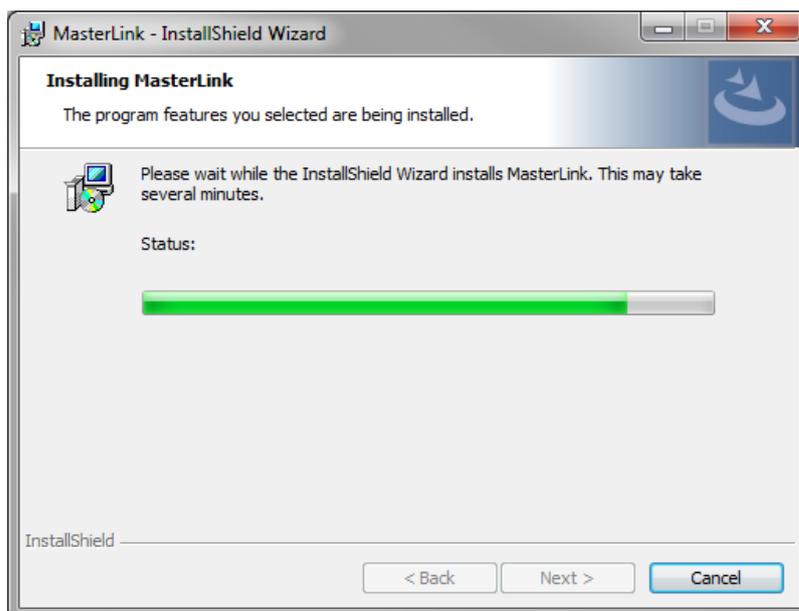
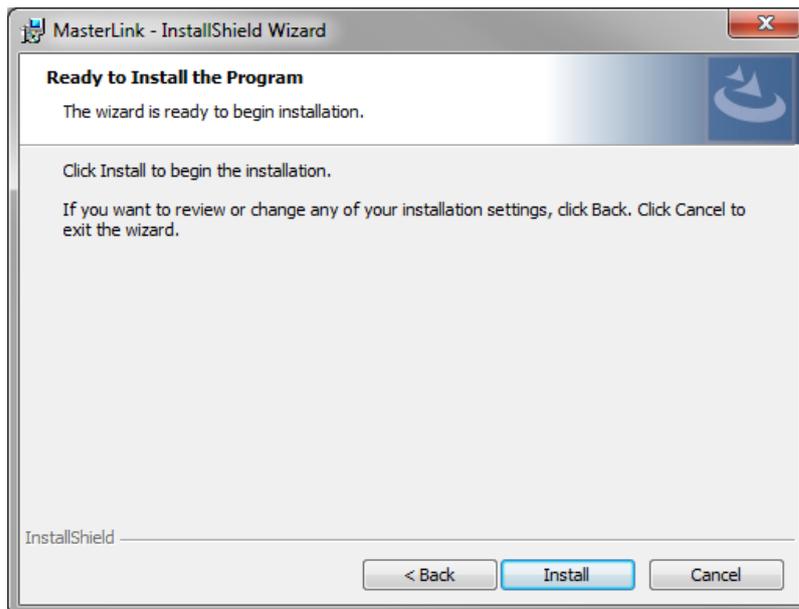


- The *Destination folder* page appears, displaying information about the default destination folder.

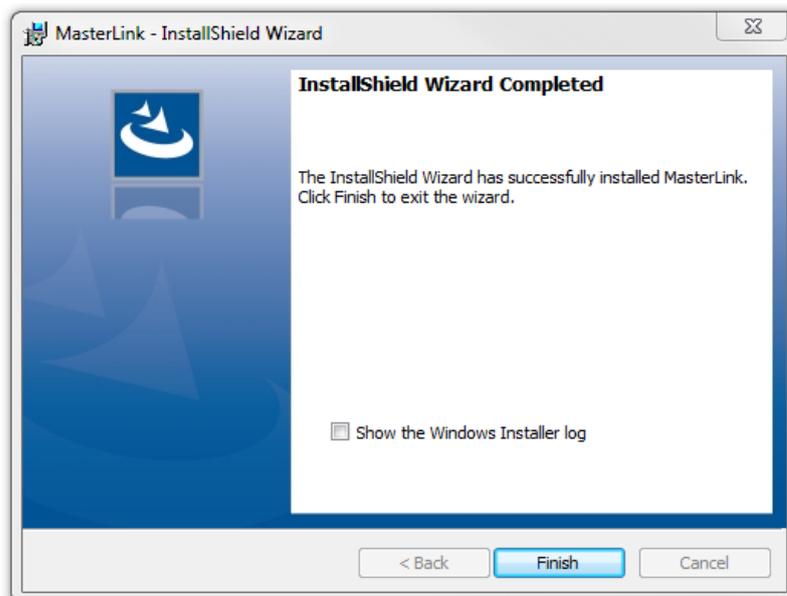
Click **Next**.



7. The *Ready to install the Program* page appears. Click **Install** to continue.



8. Finally, click **Finish** to complete.



Note: Select the check box to view the Installer log.

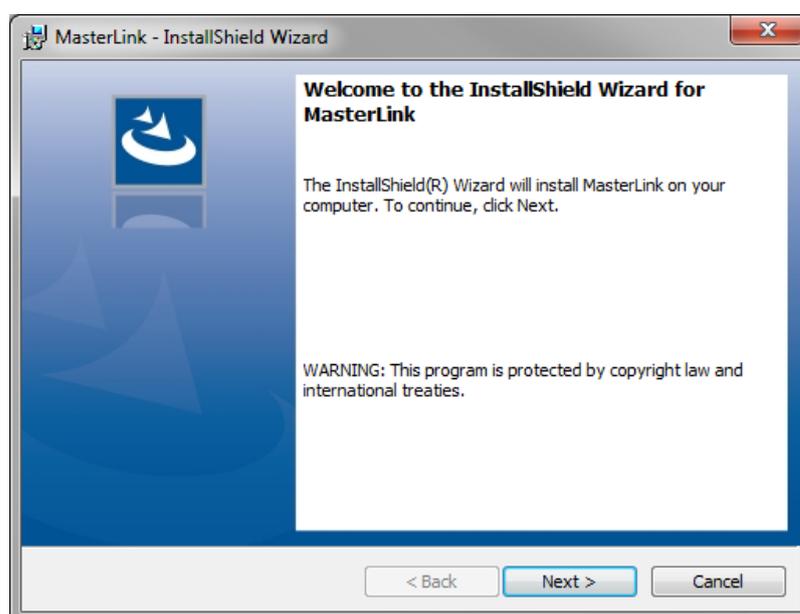
2.4.1 Installing MasterLink with remote SQL Server

Prerequisites:

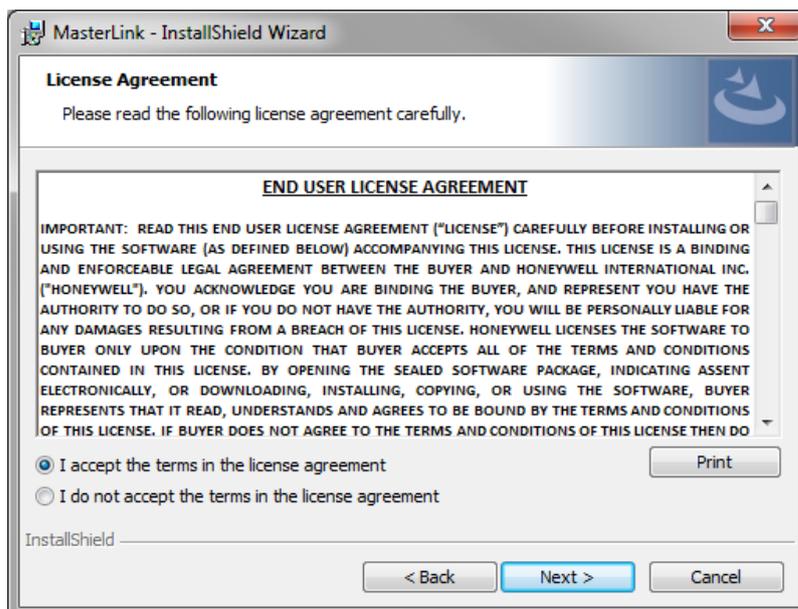
1. If you are using SQL Server, then a SQL Server instance must be installed before installing MasterLink.
2. Administrative Privileges are required to install the application.
3. Ensure Masterlink.exe and Redist folder should be in the same [path](#) to avoid any errors on crystal report.

To Install MasterLink with remote SQL Server

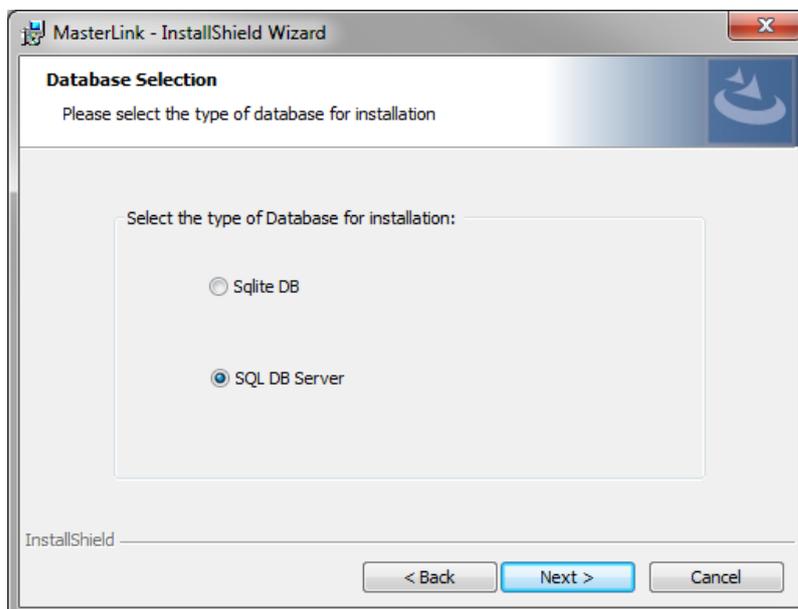
1. Right-click Setup file and then click *Run as administrator*. The *MasterLink - InstallShield Wizard* appears. Click **Next**.



2. The *License Agreement* page appears.
Click *I accept the terms in the license agreement* and then click **Next**.

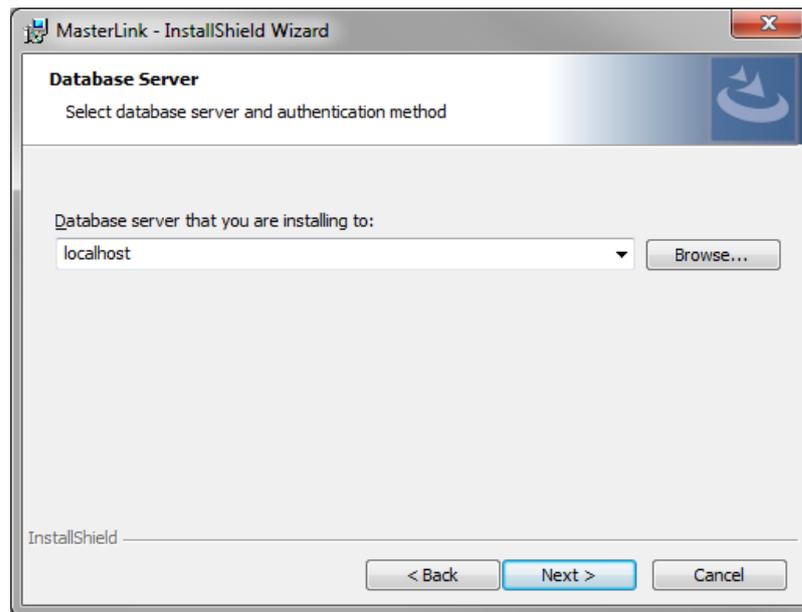


3. The *Database Selection* page appears.

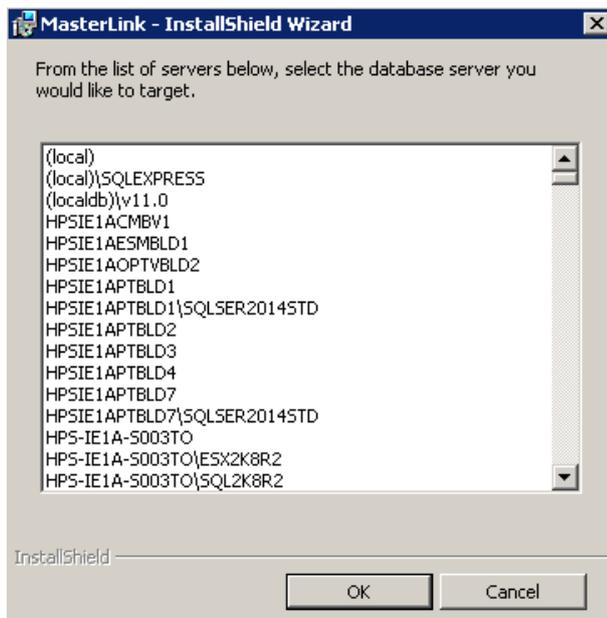


By default, *SQL DB Server* is selected. If you choose to continue with a *SQL DB Server* for installation, then you will see the following page (as shown in step 4), where you need to select the database server instance. Click **Next**.

4. The *Database Server* page appears.



You can browse and select a database on your network. Click **OK**.

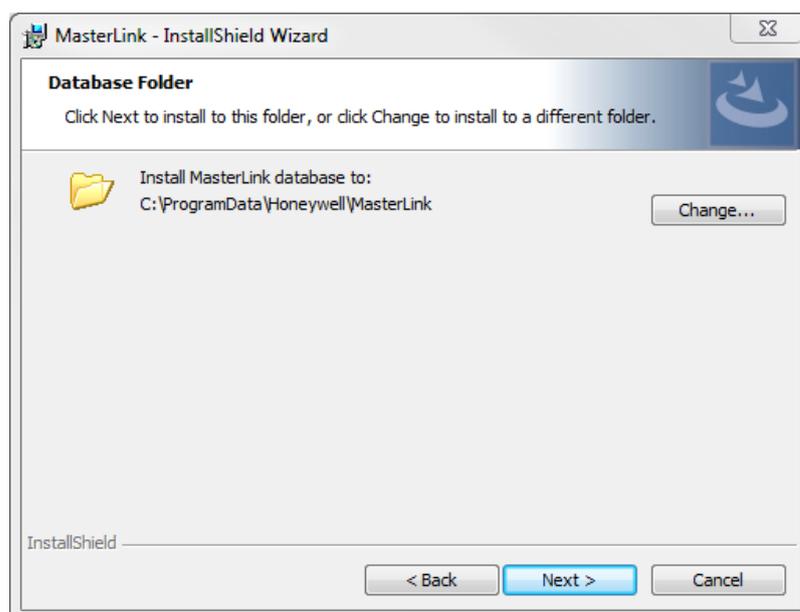


Click **Next** after selecting the required database.

Note: If you are using a database instance on your network, you need to have domain user permission.

5. The *Database Folder* page appears. Click on **Change** and enter the path on the remote machine where user intends to create the Database files. The path selected on remote machine should not exist on the machine where the installer is running.

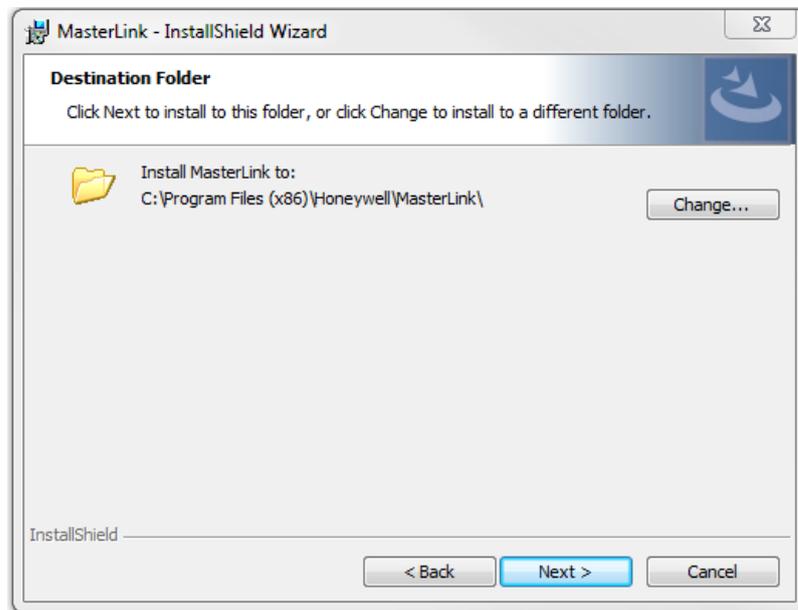
Click **Next**.



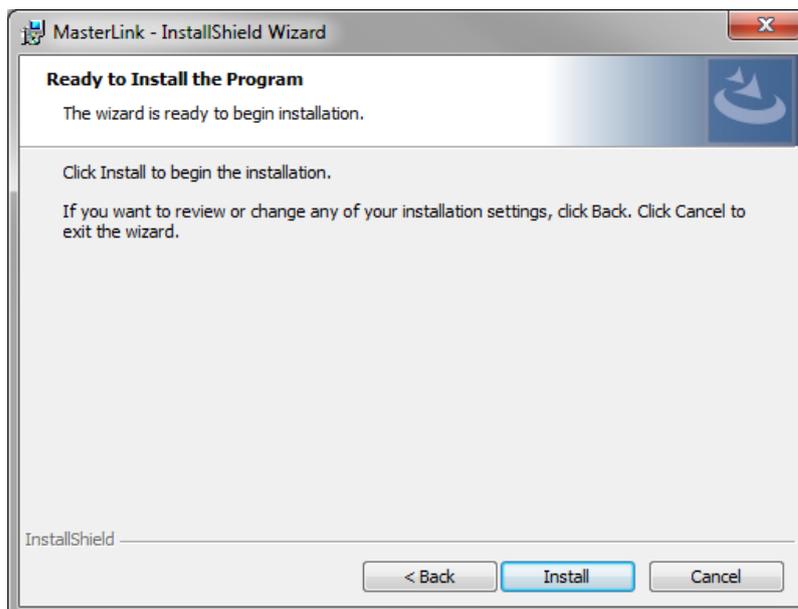
Note: The path selected on remote machine should exist on remote machine.

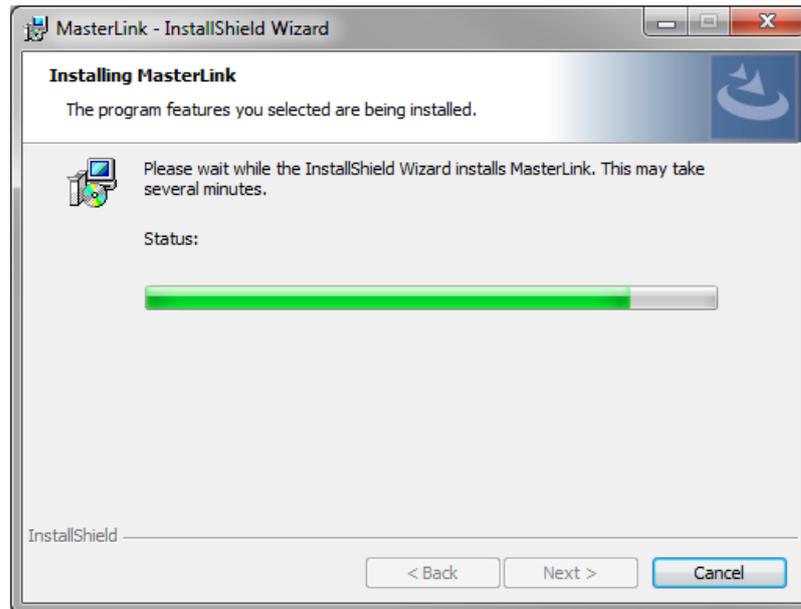
- The *Destination folder* page appears, displaying information about the default destination folder. The path selected on remote machine should not exist on current machine where installer is running.

Click **Next**.

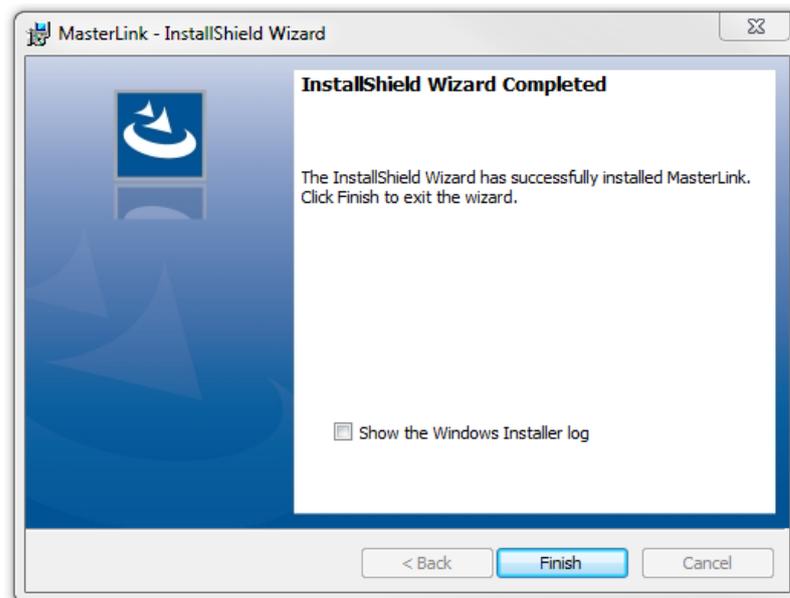


- The *Ready to install the Program* page appears. Click **Install** to continue.





8. Click **Finish** to complete.



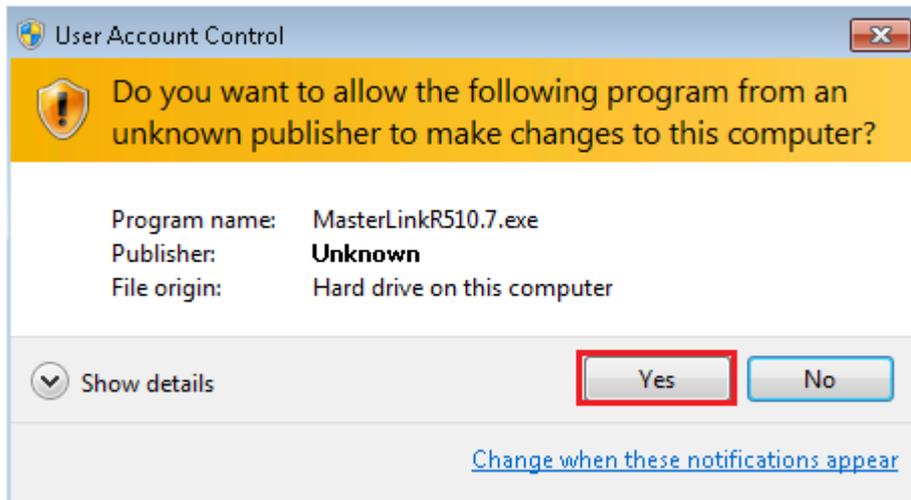
Note: Select the check box to view the Installer log.

2.5 Installing MasterLink with SQLite

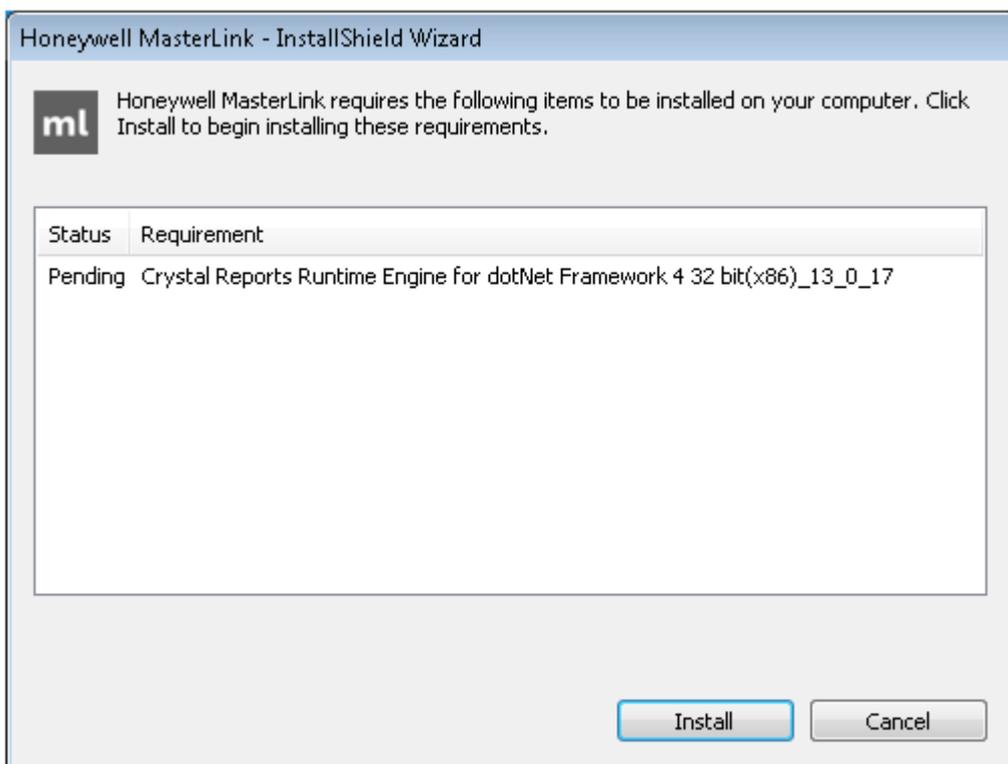
Prerequisites:

1. Administrative Privileges are required to install the application.
2. Ensure Masterlink.exe and Redist folder should be in the same [path](#) to avoid any errors on crystal report.

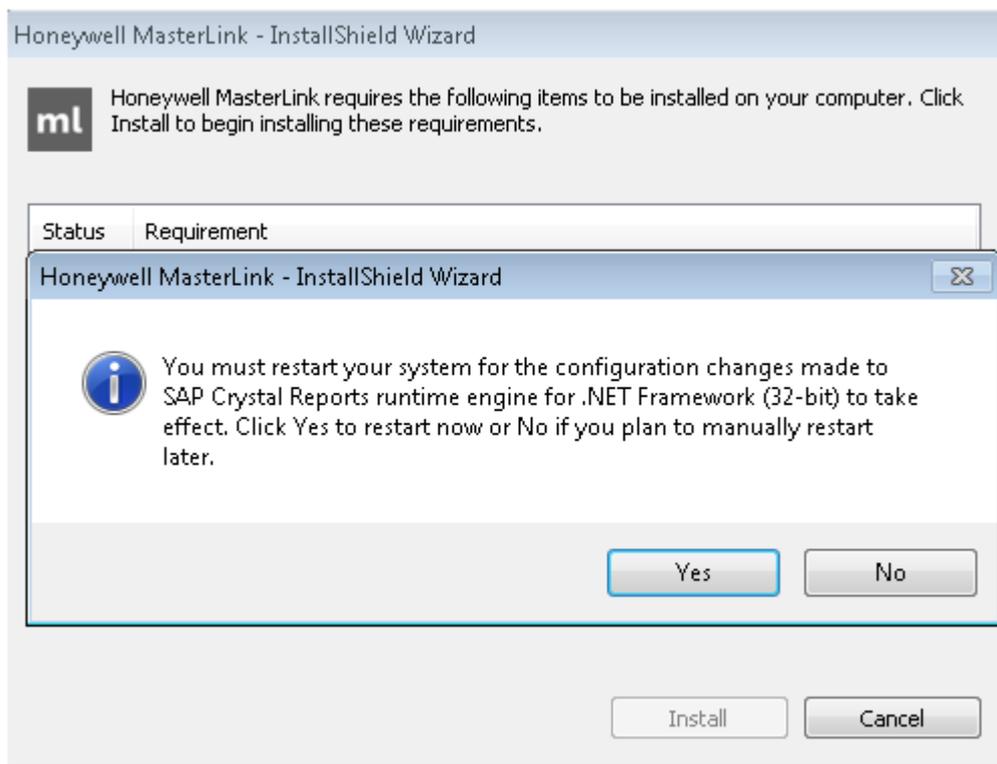
1. Right-click Setup file and then click *Run as administrator*. Allow the program to make changes to your computer by clicking Yes.



2. Click 'Install' to allow the Crystal Reports installation on your machine.

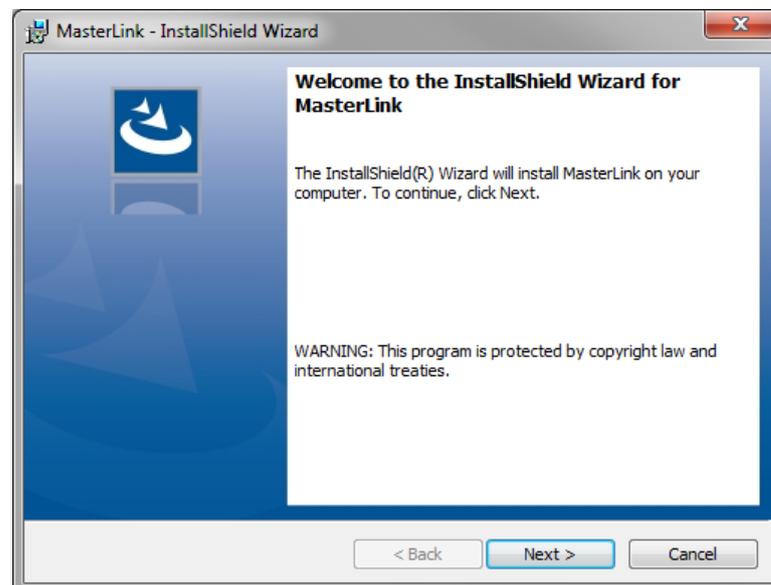


3. For smooth installation, click 'Yes' to allow the changes to be effective immediately.



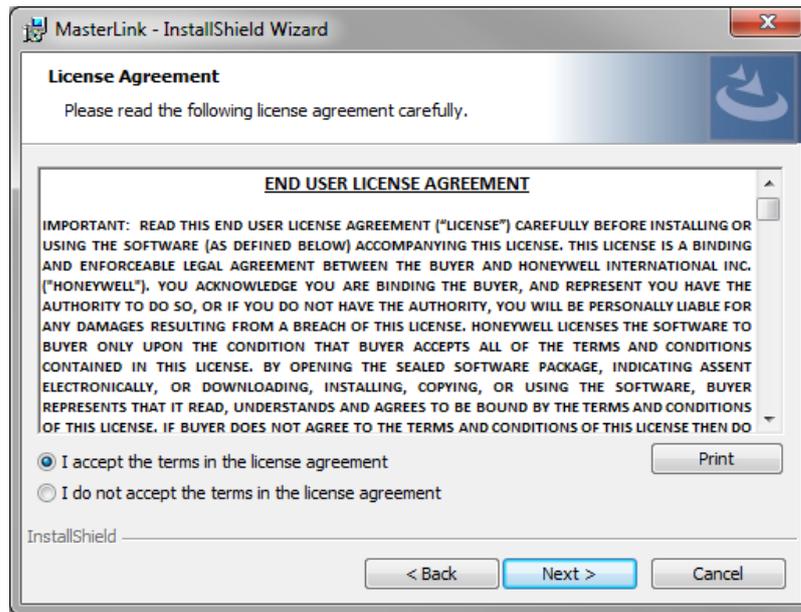
4. The *MasterLink - InstallShield Wizard* appears.

Click **Next**.



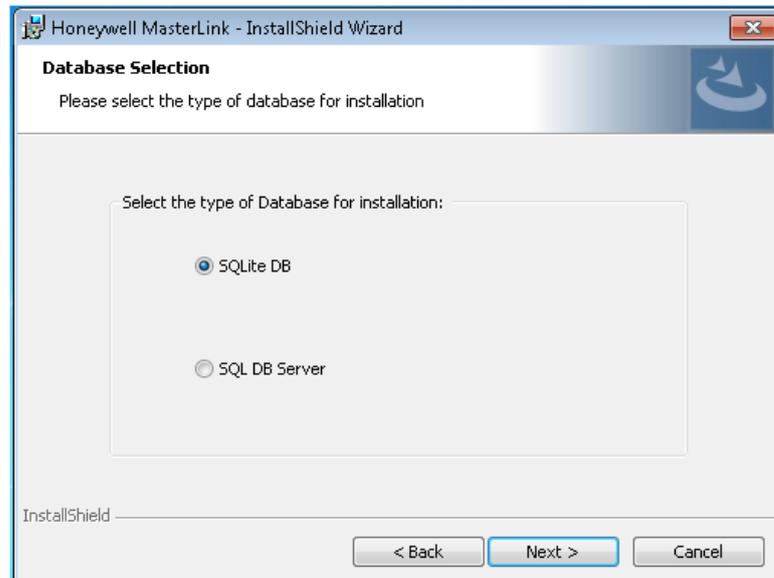
5. The *License Agreement* page appears.

Click *I accept the terms in the license agreement* and then click **Next**.



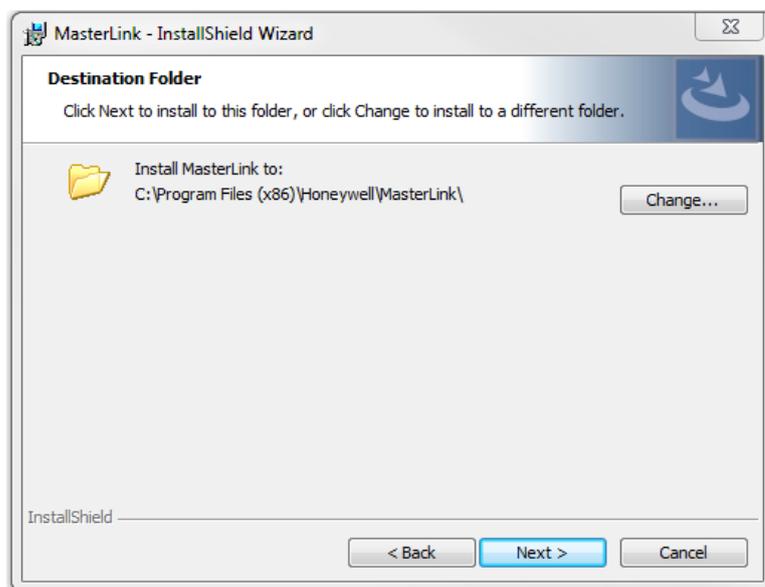
6. The *Database Selection* page appears. By default, SQL DB Server is selected. User is required to select SQLite DB.

Click **Next**.

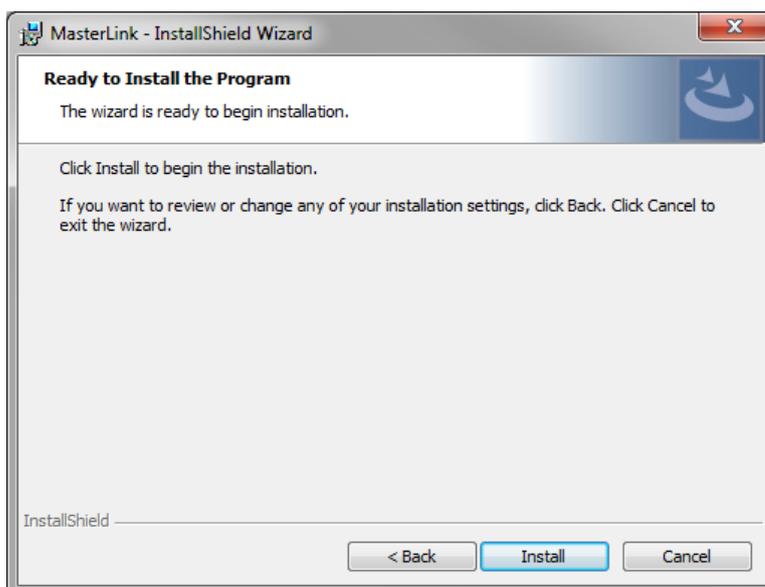


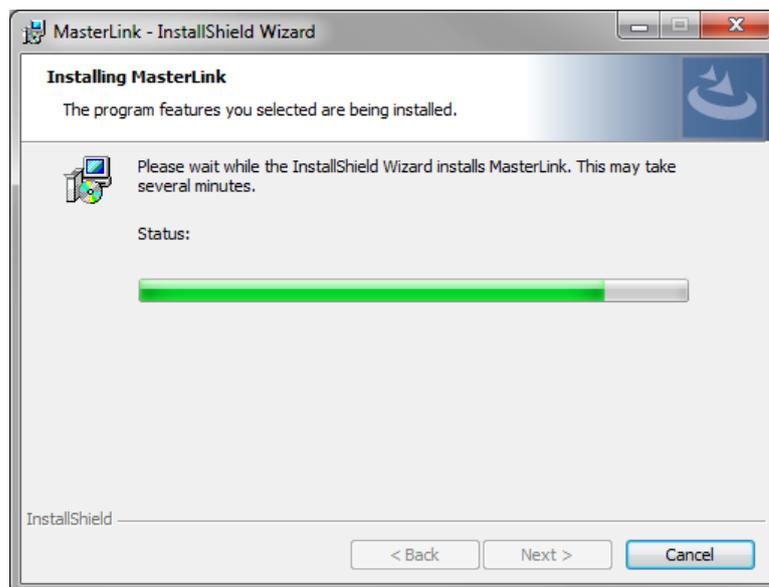
- The *Destination folder* page appears, displaying information about the default destination folder.

Click **Next**.

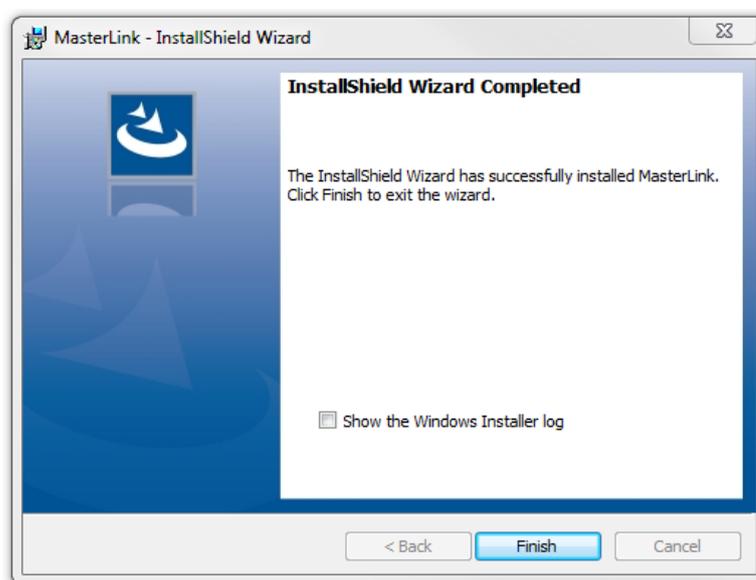


- The *Ready to install the Program* page appears. Click **Install** to continue.





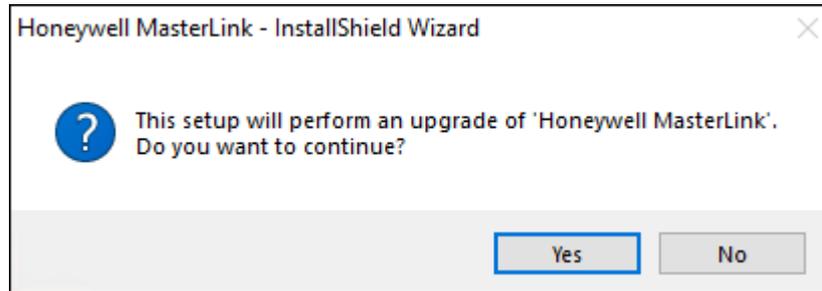
9. Click **Finish** to complete.



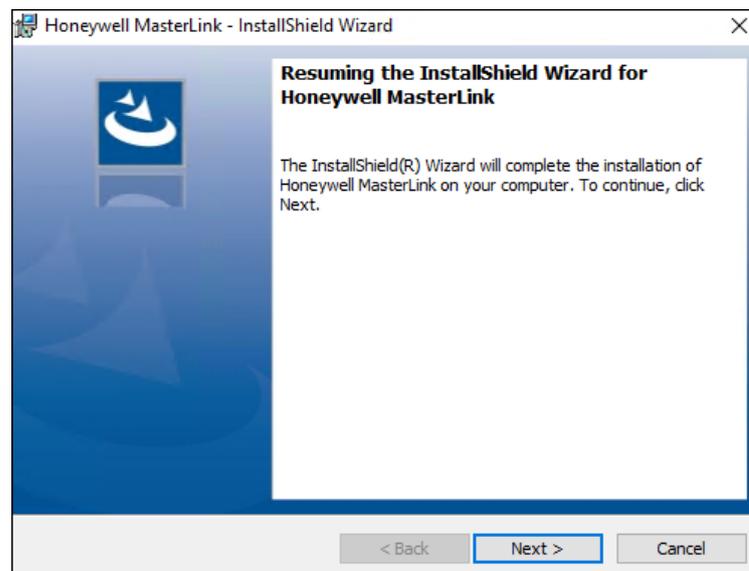
Note: Select the check box to view the Installer log.

2.6 Upgrading MasterLink with SQLite/ SQL Server

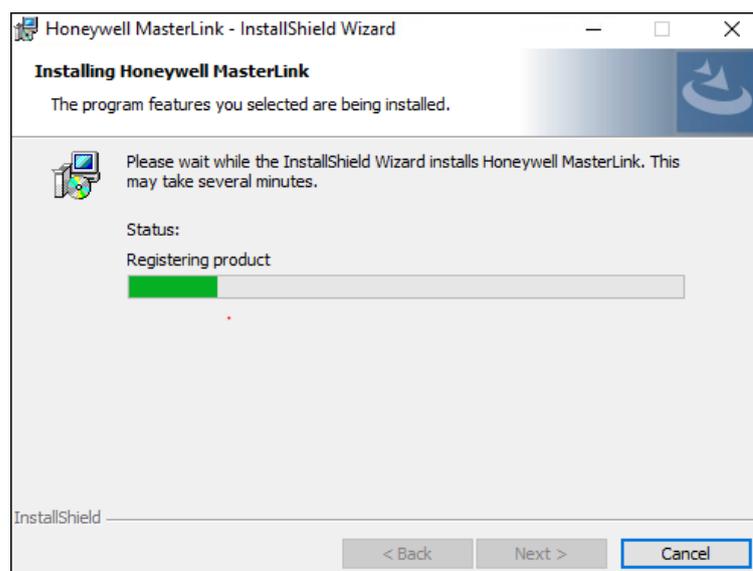
1. Right-click Setup file and then click *Run as administrator*. Allow the wizard to perform an upgrade to your computer by clicking Yes.



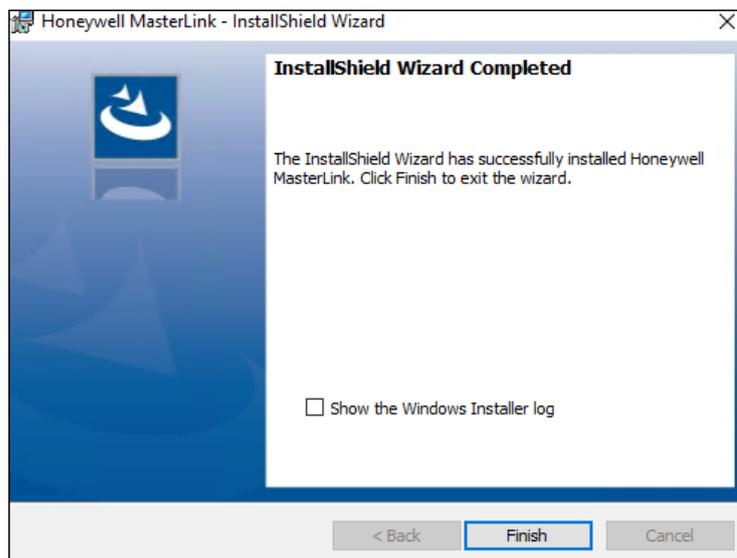
2. The *MasterLink - InstallShield Wizard* appears. Click **Next**.



View the download process in the progress bar.



3. Click **Finish** to complete.

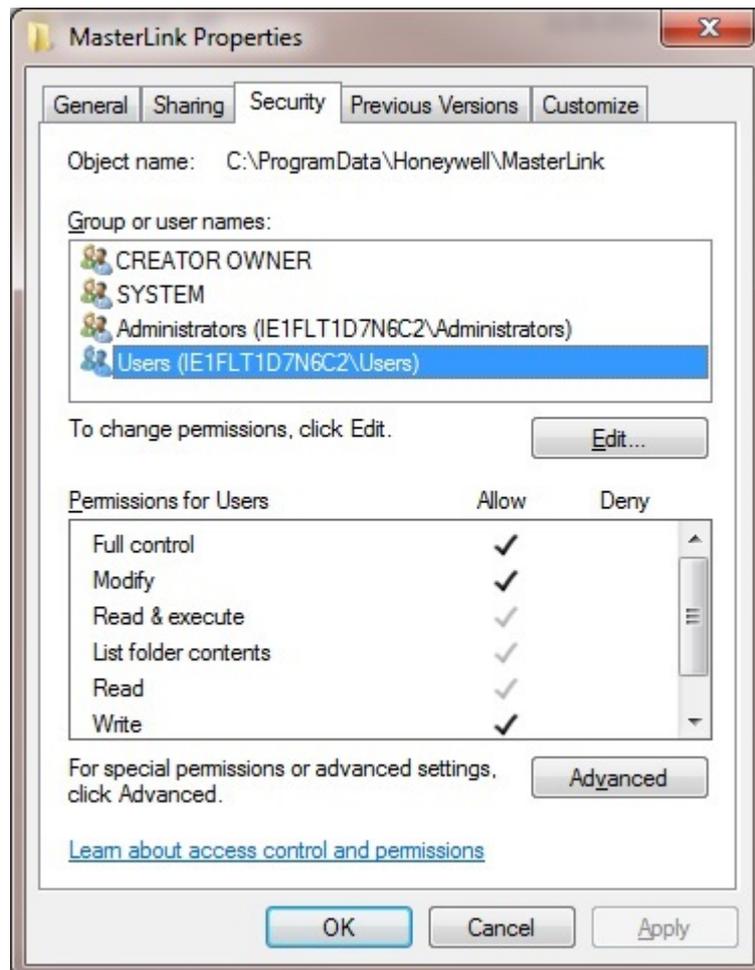


Note: Select the check box to view the Installer log.

2.7 Post Installation Steps

1. To log on to MasterLink application, users need access to C:\ProgramData\Honeywell\Masterlink. By default, all users under Users group has the required privileges.

If a user falls under any other user group, then administrator should give "Full Control" privileges on folder "C:\ProgramData\Honeywell\Masterlink" for that particular user group.



If SQL server is used as a database while installing the MasterLink application, then all users who will use the application must be provided DBO access on SUITE32 database.

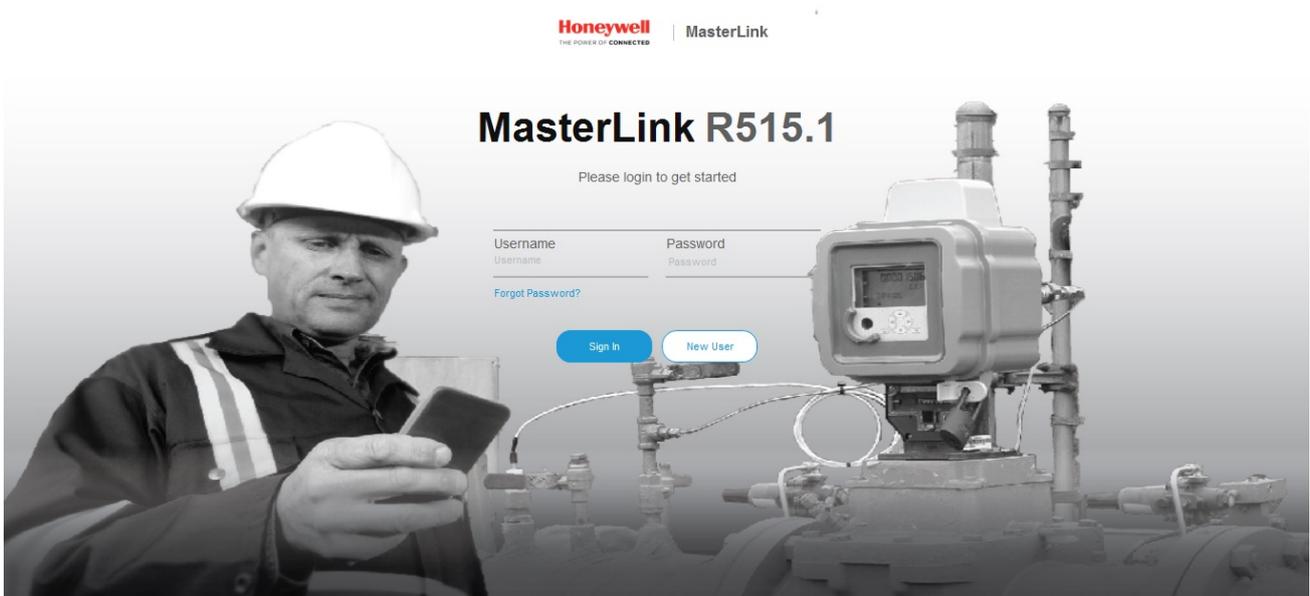
3 MasterLink User Interface

This chapter describes the steps of getting started with MasterLink. This chapter also explains the user interface along with the different features that are available in separate tabs.

DISCLAIMER: Please DO NOT compare or verify the software build number shown in this manual with the build that you are using. Special demonstration builds were used specifically to capture screenshots for this manual, and so the build number may differ from the version that you are using.

3.1 Getting Started

On launching the MasterLink, you will see a screen to log on.



3.1.1 User Creation and Activation Process

To start using MasterLink Application, one must create a Site Administrator user who can in turn create multiple users with different privileges based on the business requirements.

3.1.1.1 Site Administrator Creation

The Site Administrator must initially get a MasterLink license from Honeywell Process Solutions. This license key can be used to register a Site Administrator in the MasterLink Application. Contact [TAC team](#) to get your license key.

3.1.1.2 Creating Users

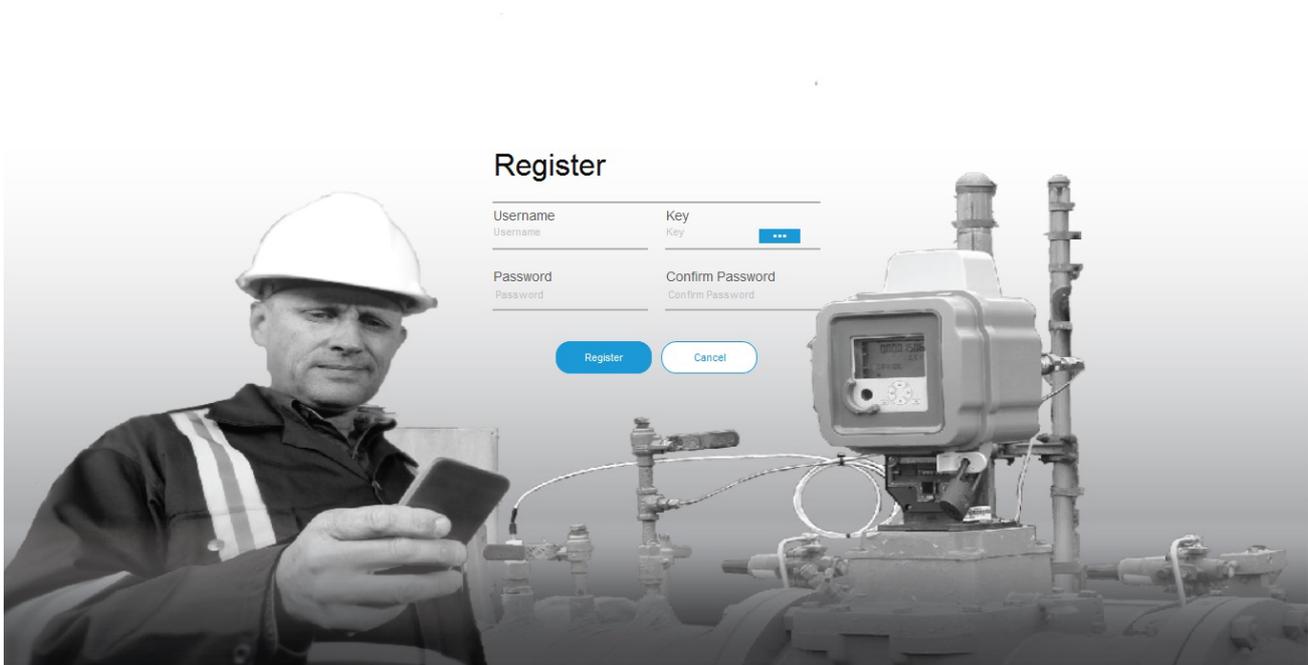
After the site administrator is registered, they can create new users using [Security](#) feature. To know more on passkey generation refer to [User Configuration](#).

For individual user, the generated license key must be emailed to the respective users allowing them to register and start using MasterLink application.

3.1.1.3 User Registration

For a first time user, click **New User** and register. User is required to register with license key provided by the site Administrators. The **User name** you enter while registering must match with the user name used while creating the license key.

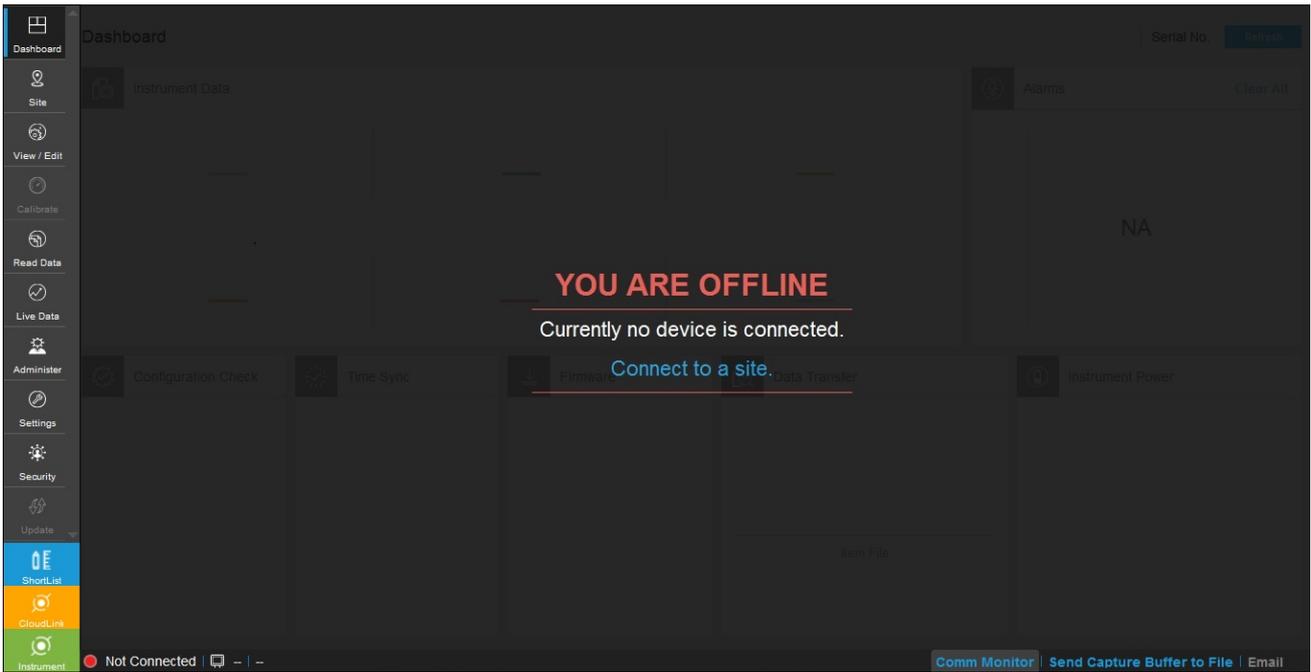
Enter the log-in details, browse and select the license key, and then click **Register**.



The Login screen appears.

Log on with your credentials. Click [Sign In](#).

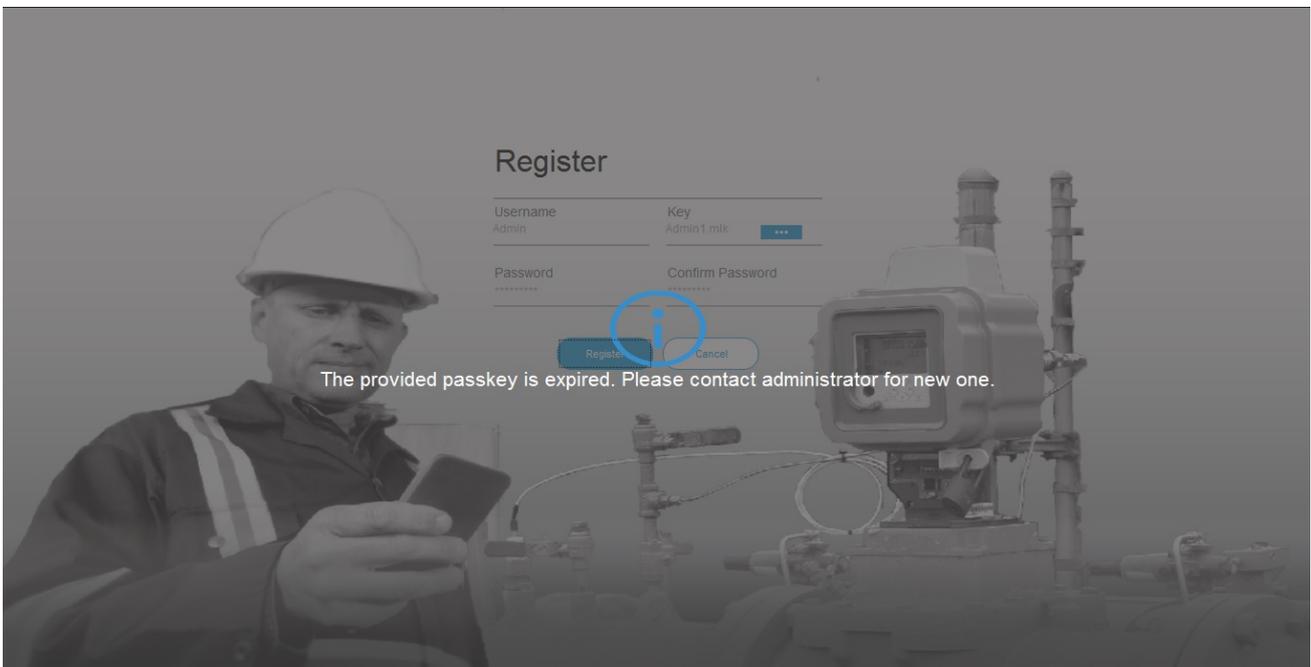
The following screen is displayed:



Refer **MasterLink Installation Guide** for understanding the prerequisites and installation instructions.

MLK files (license key) generated with MasterLink Old Release (R510.1, R510.2, R510.4 till Build 11.1.39) will not work with Release R510.4 Build 11.1.41 onwards.

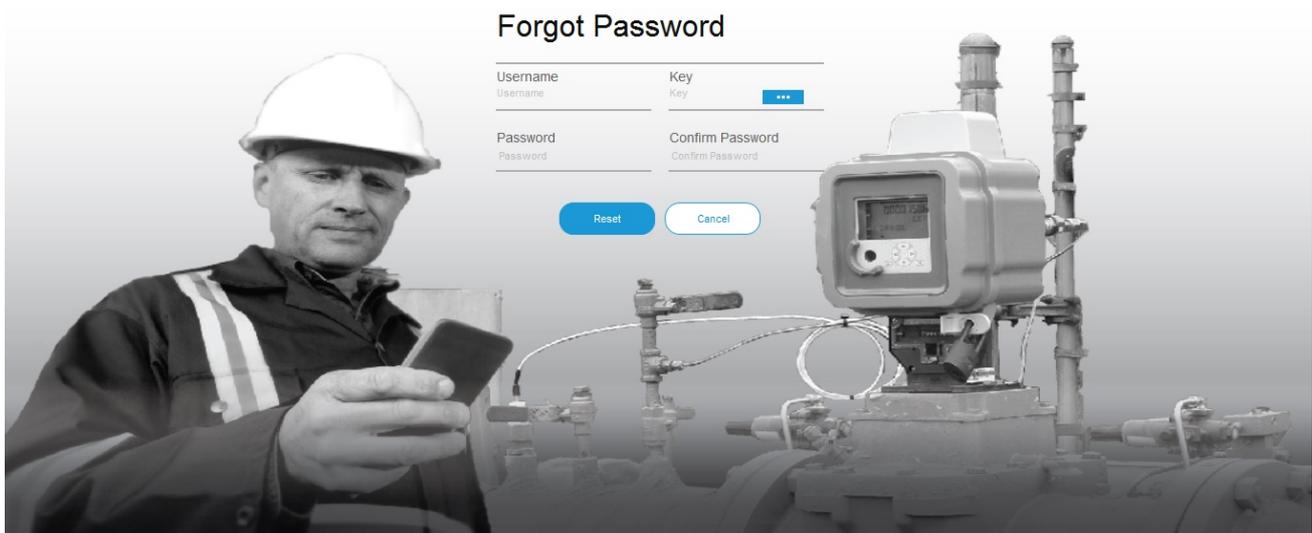
The following error appears if you are using the old license key.



3.1.1.4 Forgot Password

If users forget their password they can reach out to the site Administrator for a new passkey. Once the key is received, users can reset their passwords by clicking the [Forgot Password](#) link. The Forgot Password screen appears.

Enter your user-name, browse and select the license key, and finally enter your new password. Click **Reset** to log-in with the new password.



3.2 Sites

The 'Sites' screen lists all sites configured in the MasterLink application. A Site refers to a field instrument such as:

1. Accutest	10. ERX 350 + CloudLink Modem
2. CloudLink Modem	11. Mini
3. CNI4	12. Mini-AT
4. EC 350	13. Mini-Max
5. EC 350 + CloudLink Modem	14. PT Modbus
6. ECAT	15. Pulse Accumulator
7. ER	16. TCI
8. ERX	17. Turbo Corrector
9. ERX 350	18. Turbo Monitor

The user can also add a new Site, as well as edit or remove an existing Site. From the 'Sites' screen, users can connect to a device deployed on the field.

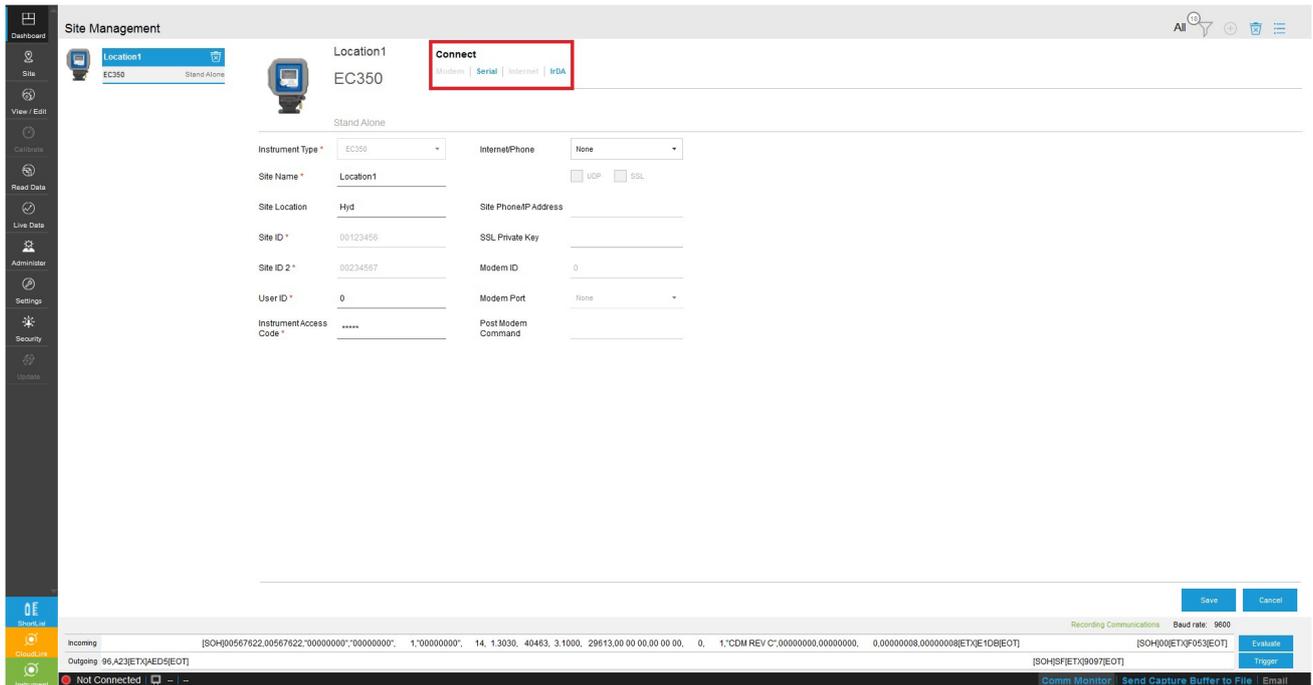
This section describes the steps to configure and add a site to MasterLink. It also explains how to connect and communicate with existing sites.

Note: In Coexistence scenario, any CloudLink related sites that are added using New Master link will be displayed as “Unknown” sites in MasterLink.

Note: By Default, EC 350 will be selected in Instrument Type drop-down.

3.2.1 Add Site

In the 'Site Management' screen, you can configure and connect to site.



Site can be connected and configured over the following interfaces based on deployment (device type):

	Serial	IrDA	Modem	Internet*
Accutest	✓	✗	✓	✓
CloudLink	✓	✗	✗	✓
CNI4	✓	✗	✗	✓
EC 350	✓	✓	✓	✓
EC 350 + CloudLink	✓	✓	✗	✓
ECAT	✓	✗	✓	✓
ER	✓	✗	✓	✓
ERX	✓	✗	✓	✓
ERX 350	✓	✗	✓	✓
ERX 350 + CloudLink	✓	✓	✗	✓
Mini	✓	✗	✓	✓
Mini-AT	✓	✗	✓	✓
Mini-Max	✓	✗	✓	✓
PT Modbus	✓	✗	✓	✗
Pulse Accumulator	✓	✗	✓	✓

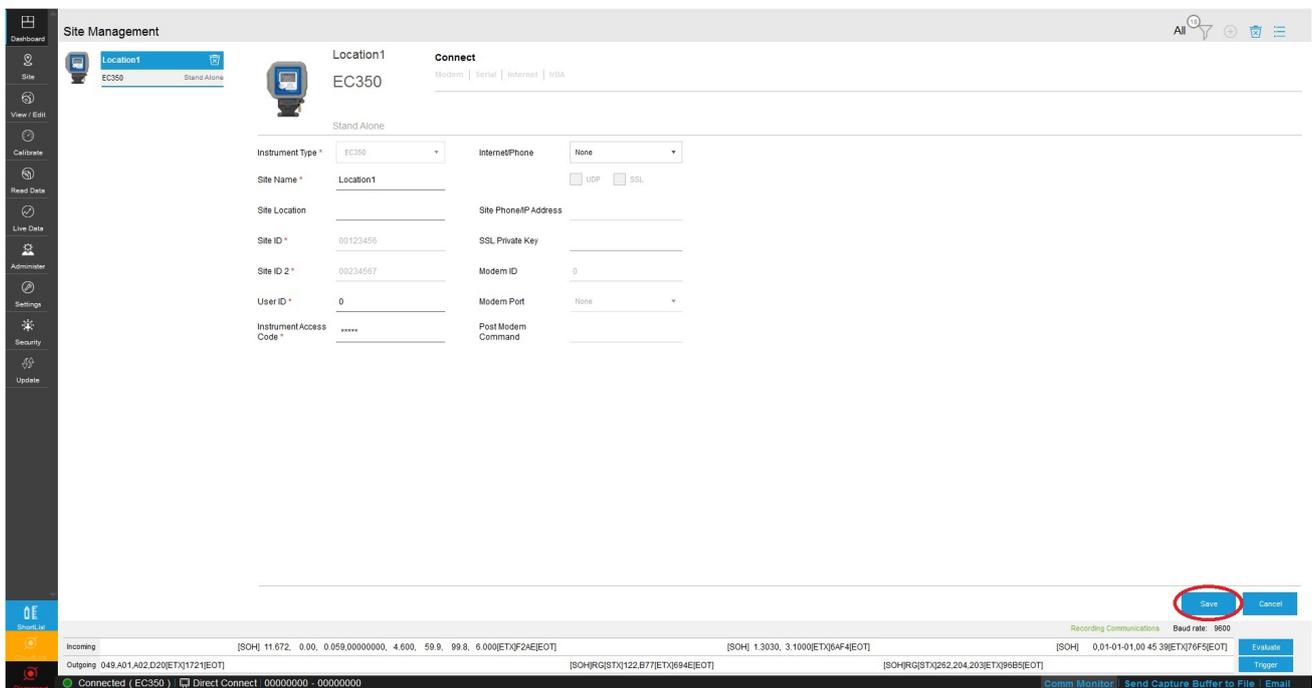
	Serial	IrDA	Modem	Internet*
TCI	x	✓	x	x
Turbo Corrector	✓	x	✓	✓
Turbo Monitor	✓	x	✓	✓

* Assuming that a cellular modem is being used.

Note: Before adding a new site, ensure that you have configured your communication settings under [Settings > Communications Setup](#).

Click the '+' icon  on the top-right corner of the screen to create a new site or a field device. This function is used to add site information to the Site List.

Configure the site details and click **Save**.



Attention: In integrated mode, Site IDs must be identical for device and modem. (If you are using EVC or Recorder's Site ID with 8 digits, then Modem ID should be Last 6 digits).

Also, an integrated site must be added in 'Integrated' mode only. Otherwise only the CloudLink modem will be added as a site followed by a sync with the central server. A Site once created and synced with the central server cannot be deleted from the server. However, the site can be deleted from Technician's mobile app.

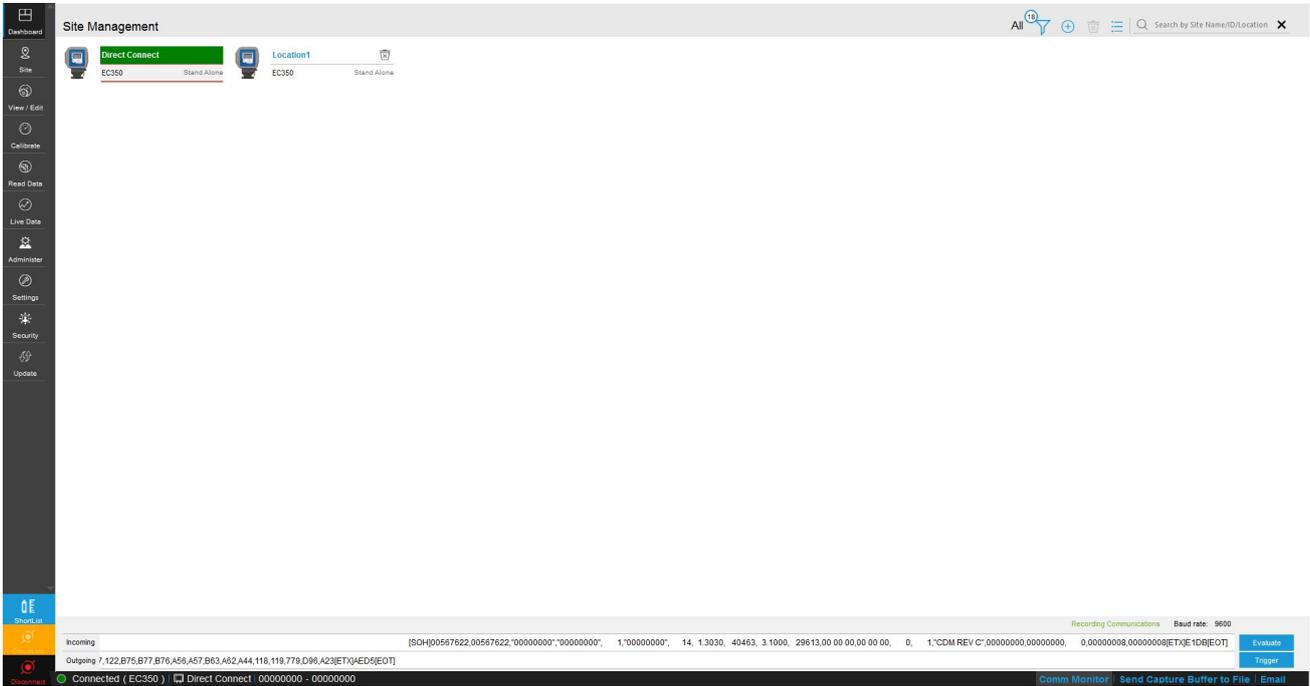
Attention: Site IDs must not be changed after it is synced with the central server. If the Site ID is changed after the sync, then the mobile iOS app may not work as expected.

While adding an integrated site, the EVC or Recorder's site IDs will be shown as Site IDs of integrated sites. The CloudLink modem's Site ID will not be displayed as the Site ID of the integrated

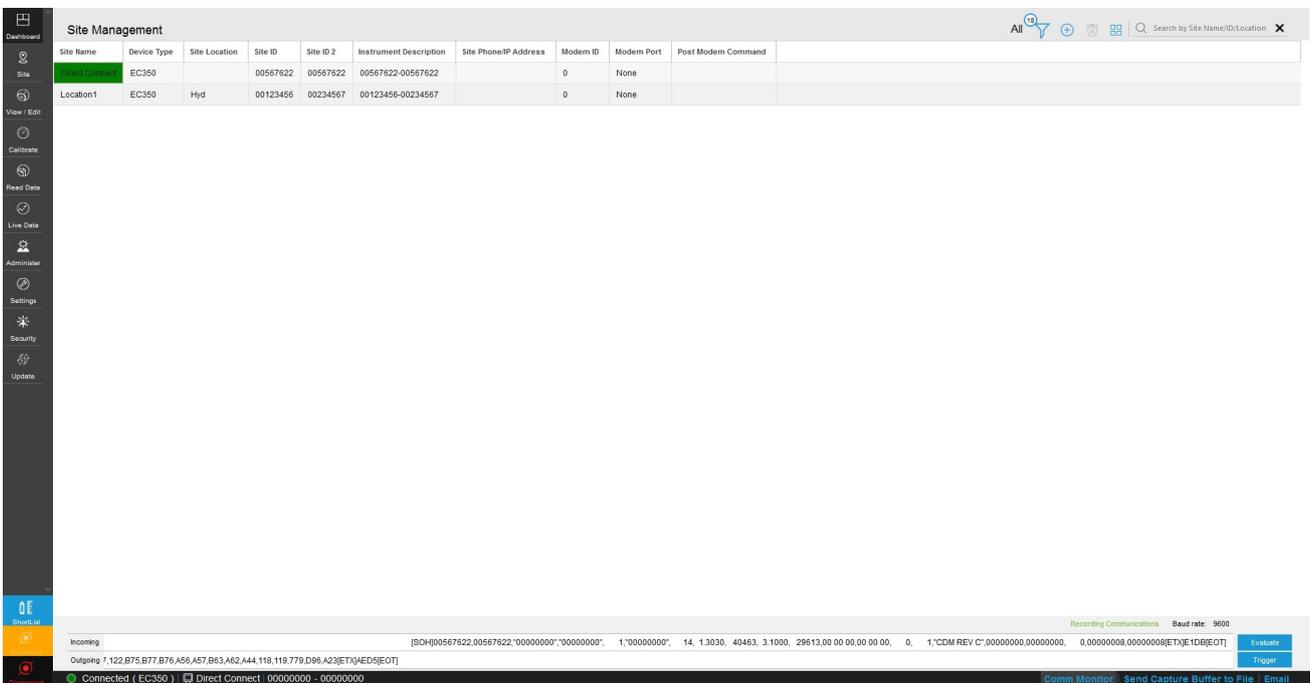
site. However, the Site ID of the CloudLink modem will still be used to scan and detect the integrated site.

The 'Site Management' screen has 2 views:

1. Tile View:

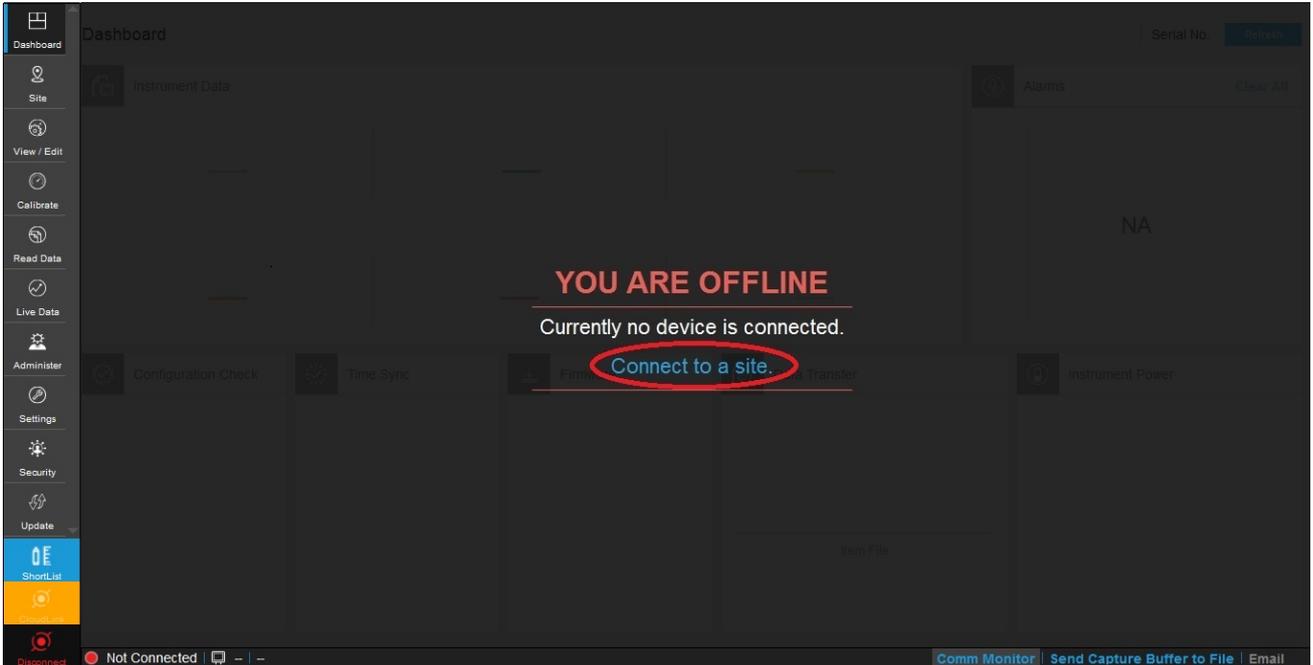


2. List View:



3.2.2 Connecting to a Site

When you log on to MasterLink and if you are NOT connected to a site or a device, you will see the following screen.



Click on the **Site** tab or the **Connect to a site** link to get started.

Configured sites can be connected using the **Site/Site Management** screen of MasterLink.

Note: To connect an instrument through serial interface or modem configure the communication settings in the [Settings tab](#).

After successfully connecting to the device, the dashboard starts downloading the data.

Note: It is recommended that the user waits till the dashboard data is loaded.

EC 350 Dashboard:

ERX 350 Dashboard:

Note: Panels with red icons indicate that user attention is required.

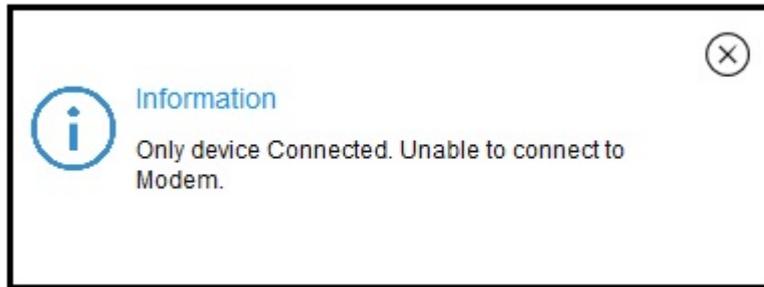
3.2.3 Direct Connect

The 'Direct Connect' feature lets the MasterLink connect to a site which is physically connected to a computer. The Direct Connect functionality works based on the serial port or IrDA settings configured under [Settings > Communications Setup](#).

To connect a device:

1. Physically connect the instrument using a serial or IrDA interface.
2. Configure the required communication settings, go to [Settings > Communications Setup](#).
3. Configure the user specific User ID and Access Code, go to [Settings > Device Properties](#)
4. Click **Connect** located at the bottom left. The device will be connected and the dashboard starts loading.

In case of integrated device, for example CNI4 (Pulse Accumulator + CloudLink Modem). If MasterLink is able to connect to Pulse Accumulator only and not the CloudLink Modem, then the dashboard loads only the with the Pulse Accumulator data and notifies users that it could not connect to CNI4. This scenario arises if the site is already added as CNI4, but only the Pulse Accumulator is connected. In this case, If the site is not already added, MasterLink will just treat the connected device as standalone Pulse Accumulator.



3.3 Dashboard

On successful site connection, dashboard data gets loaded automatically based on the 'Auto Download Settings'.

Dashboard has various panels that show current data from the connected site. User can further drill down to see relevant data by clicking on respective panels. The dashboard automatically reads and displays the following data:

1. [Critical instrument data](#)
2. [Active alarms](#)
3. [Configuration checks based on the item template file](#)
4. [Time Sync](#)
5. [Firmware](#)
6. [Audit Trail data](#)
7. [Instrument/Modem Power](#)

Using Data Download Settings, you can configure the dashboard data and as per your requirement.

Note: The instrument data can vary based on the connected device type.

EC 350 + CloudLink Modem Dashboard:

The dashboard interface for EC 350 + CloudLink Modem includes the following sections:

- Header:** Dashboard, Integrated EC350 + CloudLink, Serial No. 00000000, Refresh
- Instrument / Modem Data:** Instrument and Modem critical parameters, Signal strength, IP and port details.

00000025 MCF Corrected Volume	0.286 PSI P1 Gas Pressure	0.0 CF/Hr Dial Rate (Unc Vol)	-96 dBm Last Known Signal Strength
00004204 CCF Uncorrected Volume	70.18 F Gas Temperature	0.00 MCF/Hr Flow Rate (Cor Vol)	63.40.56.168 CloudLink IP Address
			0000040000 CloudLink Port Number
- Alarms:** Five alarms generated wrt the device type are displayed. Clear All.

144 - Temperature Low Alarm	⊗
1025 - Supercompress Alarm	⊗
1058 - P1 Transducer Alarm	⊗
1335 - Temp Probe Alarms	⊗
107 - Tamper Detected Alarm	⊗
- Configuration Check:** Corrected item values check status can be seen here. All the item values are within range. No error found!
- Time Sync:** Dynamic DST or Standard Time and Date. Standard. 12:16:34. Dec 10 2019.
- Firmware:** Device and Modem Firmware versions. EC350: 1.3308. CloudLink: 1.9994.
- Data Transfer:** Audit Trail Logs and Item File downloaded status is recorded. Download Completed. Log 1.24 Records. Item File Download Completed.
- Device, Modem External and Battery voltages Instrument / Modem Power alongwith Low Alarm limits are mentioned:**

EC350 - External	
External	Low Alarm Limit
12.16V	6.00V
Battery	Low Alarm Limit
0.05V	4.60V
CloudLink - External	
External	Low Alarm Limit
12.43V	NA
Battery	Low Alarm Limit
3.49V	NA
- Communication Log:** Recording Communications. Baud rate:

Incoming	[SOH] 0,01-01-15,01 45 04,0441769505[ETX]5BB5[EOT]	[SOH] 0,01-01-01,01 44 41[ETX]974E[EOT]	Evaluate
Outgoing	g[STX]V02,V08,V09,V01[ETX]5CF9[EOT]	[SOH]RG[STX]282,204,203[ETX]96B5[EOT]	Trigger
- Status Bar:** Connected (EC350 + CloudLink) | Direct Connect | 00000000 - 00000000 | Comm Monitor | Send Capture Buffer to File | Email

EC 350 Dashboard:

Dashboard EC350 | Serial No. 12367 | Refresh

Instrument Data

00000000 MCF Corrected Volume	0.000 PSI P1 Gas Pressure	0.0 CF/Hr Dial Rate (Unc Vol)
00000012 CCF Uncorrected Volume	-135.57 F Gas Temperature	0.00 MCF/Hr Flow Rate (Cor Vol)

Alarms Clear All

- 144 - Temperature Low Alarm
- 1025 - Supercompress Alarm
- 6** 1058 - P1 Transducer Alarm
- 1059 - P2 Transducer Alarm
- 1335 - Temp Probe Alarms

Configuration Check Time Sync Firmware Data Transfer Instrument Power

Configuration Check: All the item values are within range. No error found!

Time Sync: Standard **17:30:03** Dec 05 2019

Firmware: EC350 **1.3226**

Data Transfer: Audit Trail **Download Completed** Log1:31 Records
Item File **Download Completed**

Instrument Power: EC350 - External
External **9.16 V** Low Alarm Limit **6.00 V**
Battery **0.05 V** Low Alarm Limit **4.60 V**

Connected (EC350) | Direct Connect | 00000000 - 00000000 Comm Monitor | Send Capture Buffer to File | Email

Mini-Max Dashboard:

Dashboard Mini-Max | Serial No. 00000000 | Refresh

Instrument Data

00000000 m3x0.1 Corrected Volume	0.0000 Bar Gas Pressure	0 CF/Hr Dial Rate
00436529 CFx10 Uncorrected Volume	60.00 C Gas Temperature	0.00 m3x0.1Hr Flow Rate (Cor Vol)

Alarms Clear All

- 108 - Master Alarm Status
- 107 - Tamper Alarm
- 6** 102 - Vol Sensor 1 Alarm
- 145 - Pressure High Alarm
- 143 - Pressure Low Alarm

Configuration Check Time Sync Firmware Data Transfer Instrument Power

Configuration Check: All the item values are within range. No error found!

Time Sync: Standard **18:07:21** Dec 05 2019

Firmware: Mini-Max **2.9701**

Data Transfer: Audit Trail **Download Completed** Log1:3 Records
Item File **Download Completed**

Instrument Power: Mini-Max - Battery
External **NA** Low Alarm Limit **NA**
Battery **8.51 V** Low Alarm Limit **4.20 V**

Connected (Mini-Max) | MiniMax | 00151515 - 00151515 Comm Monitor | Send Capture Buffer to File | Email

ERX 350 + CloudLink Modem Dashboard when the device is externally powered:

Dashboard
Integrated ERX350 + CloudLink
Serial No. 00000000
Refresh

Instrument / ModemData

0.000
PSI
P1 Gas Pressure

60.00
F
Gas Temperature

NA

0 dBm
SignalStrength

0.0.0.0
CloudLink IP Address

0000040000
CloudLink Port Number

Alarms Clear All

4

- 1058 - P1 Transducer Alarm
- 107 - Tamper Detected Alarm
- 3120 - CloudLink Low Battery Alarm
- 3189 - Sim Card Error

Configuration Check

✗

Item templates does not exist.

Time Sync

Standard
01:30:43
Jan 01 2001

Proposed Time 12:57:26 | Date: Jun 26 2020

Firmware

ERX350
1.4022

CloudLink
1.02.02

Data Transfer

Audit Trail
Download Disabled

Item File
Download Disabled

Instrument / Modem Power

ERX350 - None	
External	Low Alarm Limit
12.04V	-1.00V
Battery	Low Alarm Limit
0.38V	4.60V
CloudLink - External	
External	Low Alarm Limit
12.06V	NA
Battery	Low Alarm Limit
0.00V	NA

Recording Communications Baud rate:

Incoming 1.4022[ETX]D983[EOT]	[SOH] 0,01-01-15,01 56 37,0441770197[ETX]3EC2[EOT]	[SOH] 0,01-01-01,01 30 33[ETX]35FB[EOT]	Evaluate
Outgoing	[SOH]g[STX]V02,V08,V09,V01[ETX]5CF9[EOT]	[SOH]R[G[STX]584,583,582[ETX]E972[EOT]	Trigger

Connected (ERX350 + CloudLink) Direct Connect: 00000001 - 00000002 Comm Monitor Send Capture Buffer to File Email

ERX 350 + CloudLink Modem Dashboard when the device is battery powered:

Dashboard
Integrated ERX350 + CloudLink
Serial No. 00000000
Refresh

Instrument / ModemData

0.000
PSI
P1 Gas Pressure

60.00
F
Gas Temperature

NA

0 dBm
SignalStrength

0.0.0.0
CloudLink IP Address

0000040000
CloudLink Port Number

Alarms Clear All

4

- 1058 - P1 Transducer Alarm
- 107 - Tamper Detected Alarm
- 3120 - CloudLink Low Battery Alarm
- 3189 - Sim Card Error

Configuration Check

✗

Item templates does not exist.

Time Sync

Standard
01:31:31
Jan 01 2001

Proposed Time 12:58:14 | Date: Jun 26 2020

Firmware

ERX350
1.4022

CloudLink
1.02.02

Data Transfer

Audit Trail
Download Disabled

Item File
Download Disabled

Instrument / Modem Power

ERX350 - SLA Battery 7AH	
External	Low Alarm Limit
12.04V	11.70V
Battery	Low Alarm Limit
0.38V	4.60V
CloudLink - External	
External	Low Alarm Limit
12.08V	NA
Battery	Low Alarm Limit
0.00V	NA

Recording Communications Baud rate:

Incoming 1.4022[ETX]D983[EOT]	[SOH] 0,01-01-15,01 57 31,0441770252[ETX]08C5[EOT]	[SOH] 0,01-01-01,01 31 28[ETX]7460[EOT]	Evaluate
Outgoing	[SOH]g[STX]V02,V08,V09,V01[ETX]5CF9[EOT]	[SOH]R[G[STX]584,583,582[ETX]E972[EOT]	Trigger

Connected (ERX350 + CloudLink) Direct Connect: 00000001 - 00000002 Comm Monitor Send Capture Buffer to File Email

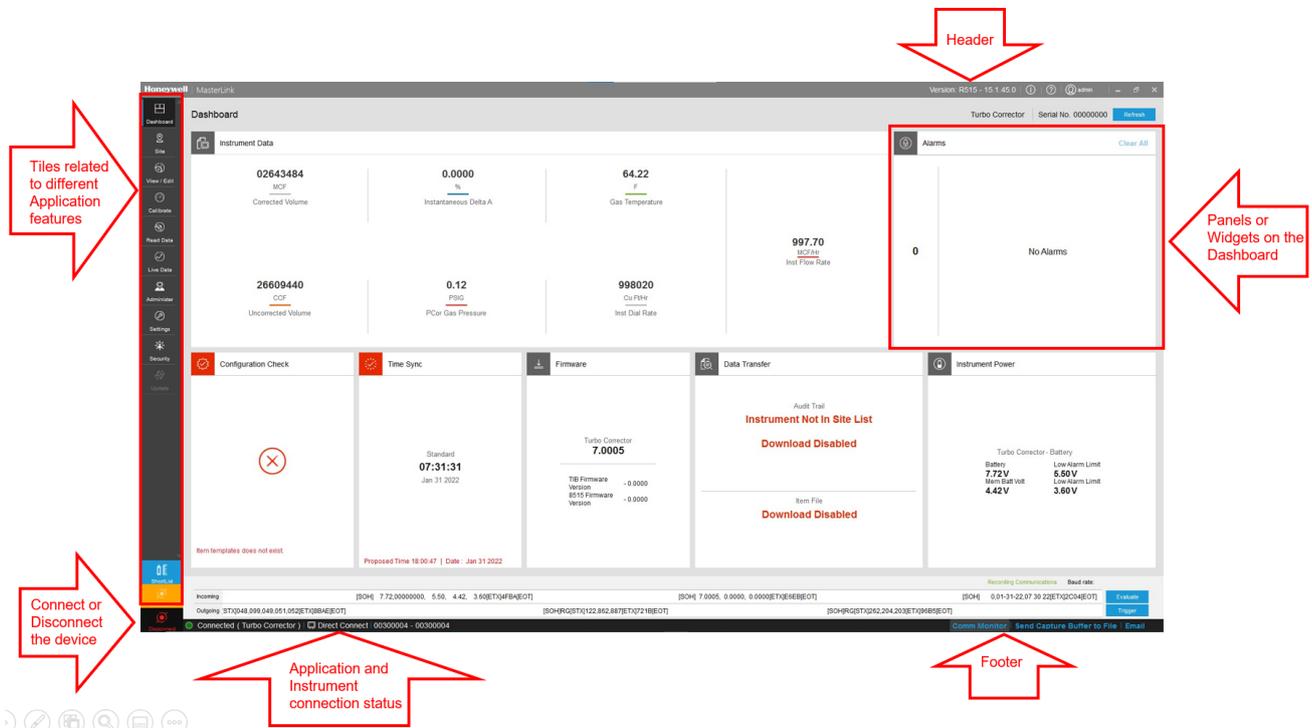
3.3.1 User Interface

User Interface consists of the following sections:

Note: You can now connect to an Instrument and Modem with dedicated settings via Instrument and CloudLink buttons on the left pane of the dashboard.

 - You can connect to CloudLink Modem directly by setting the necessary configurations in Settings -> [Communications Setup](#) option.

 - You can connect to an Instrument i.e., EC 350, ERX 350, Mini-AT, Integrated (EC 350+CL) etc.. directly by setting the necessary configurations in Settings -> [Communications Setup](#) option.



Tiles related to the application features include:

Header contains:

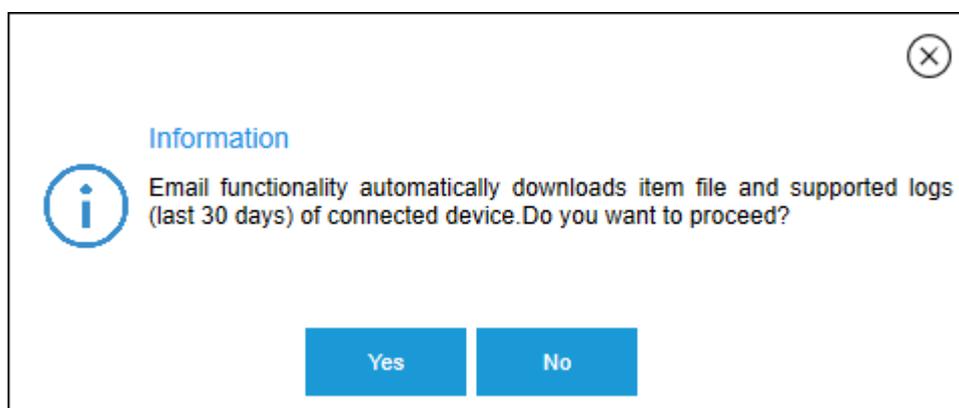
- MasterLink application number
- About MasterLink button 
- MasterLink Application help button 
- User account button 

Footer contains the following information:

Icons The icons displayed on the footer are used to illustrate the following:

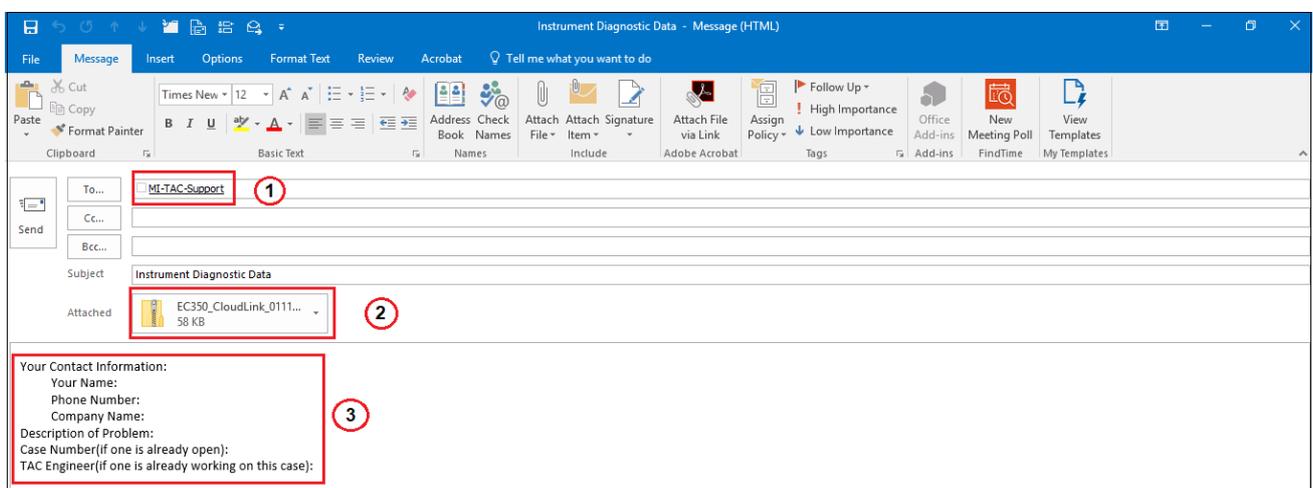
	 - Not connected to any site,  - Connecting to a site,  - Connected to a site
Comm Monitor	Displays all the communications (command/responses) between Master-Link application and the connected site.
Send Capture Buffer to File	Allows the user to save all the communication into a file for analysis.
Email	This is ONLY available in online mode or connected mode. Allows you to email a set of files to the TAC support team MI-TAC-Support@Honeywell.com .

After an active connection is established and once the dashboard is downloaded click on **Email** option, a pop-up window appears as below:



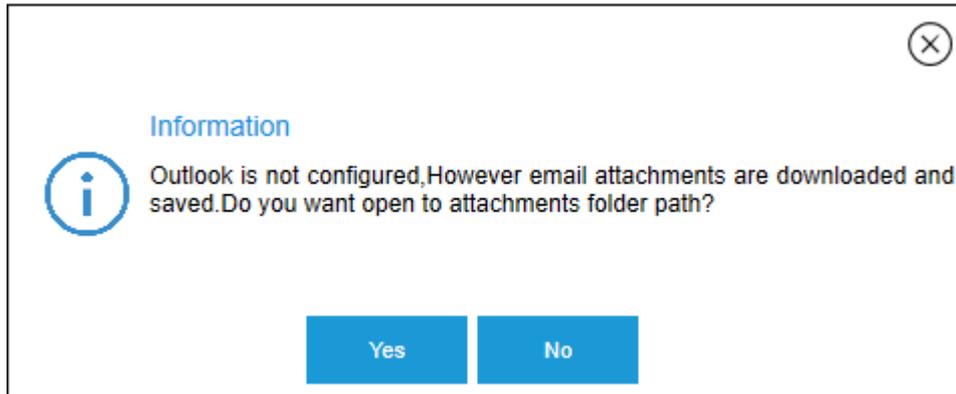
Note: This Email option is an Outlook functionality. User should be outlook configured before proceeding with this option.

Click 'Yes' if you wish to proceed else 'No'. Once you proceed further, you will be redirected to Microsoft Outlook message window. This email will be sent to TAC Support team with minimal sender details which is a mandatory fill before sending to the TAC Support.



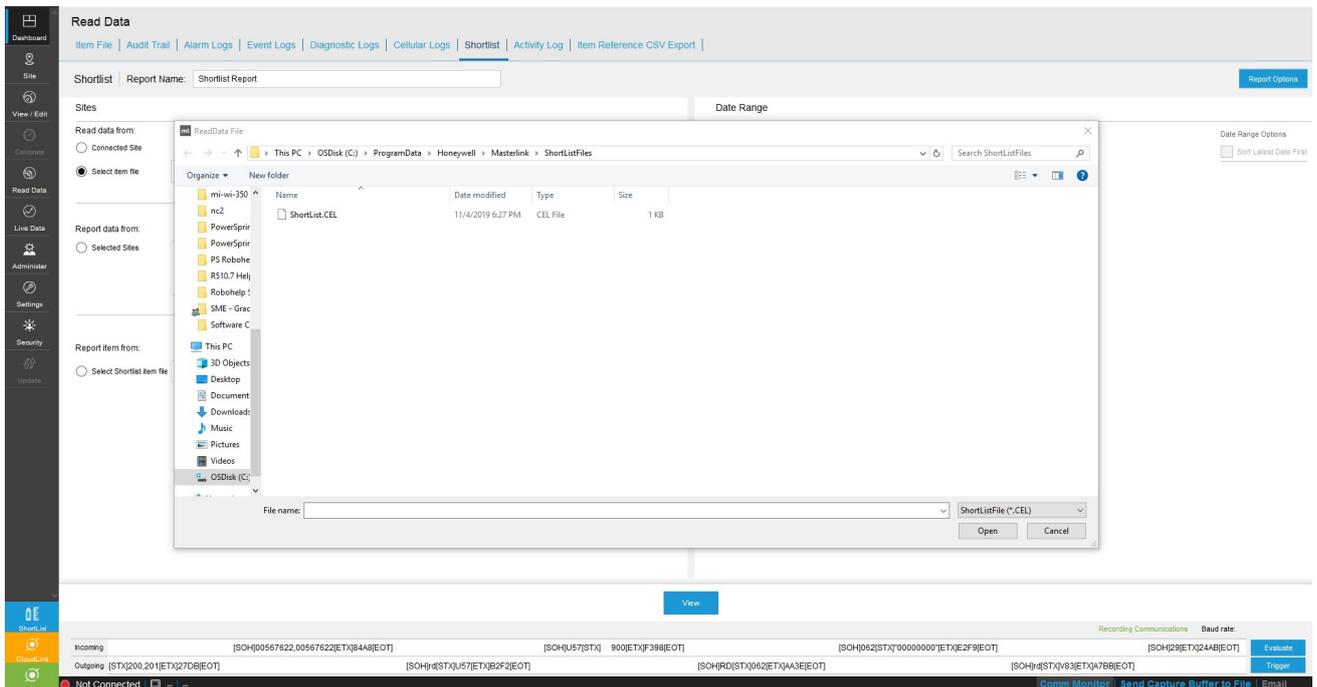
1. Email is auto directed to TAC support email communication address.
2. Set of files (Item, alarm, event, diagnostic and audit logs) zipped to be sent as an attachment.
3. Mandatory minimal contact details to be filled by the sender before sending the Email.

When outlook is not pre-configured in your machine, the below pop-up screen appears.

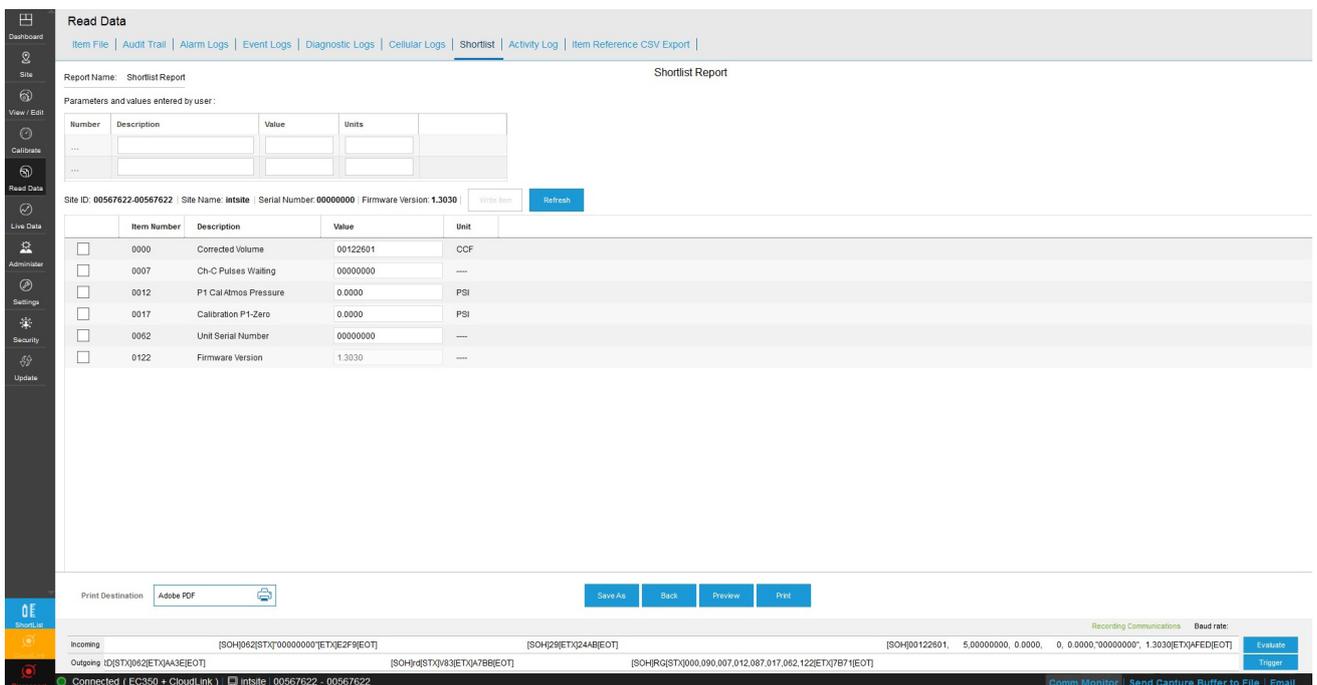


You can save all the file attachments in the pre-defined folder path : C:\ProgramData\Honeywell\Masterlink\Email. As the outlook is not configured, you can only save the documents but, not send them.

When you click the **ShortList** button, MasterLink will automatically connect to the site and opens the **Shortlist** tab. Also, a **ReadData File** window opens, where you can select the Shortlist file based on which a Shortlist report is generated.



After opening the shortlist file, the following screen appears.



3.3.2 Instrument Data

The Dashboard shows current instrument data from the connected site. This data is read from the instrument and displayed under the **Instrument Data** widget.

The dashboard displays the following data in the Instrument / ModemData section:

- 0000012** MCF Corrected Volume
- 0.000** PSI P1 Gas Pressure
- 0.0** CFHr Dial Rate (Unc Vol)
- 00000123** CCF Uncorrected Volume
- 138.14** F Gas Temperature
- 0.00** MCFHr Flow Rate (Cor Vol)
- 0 dBm** Last Known Signal Strength
- 0.0.0.0** CloudLink IP Address
- 0000040000** CloudLink Port Number

Other dashboard widgets include:

- Alarms:** 5 active alarms (e.g., 144 - Temperature Low Alarm, 1025 - Supercompress Alarm).
- Configuration Check:** Item templates does not exist.
- Time Sync:** DST 18:17:01 Feb 06 2020.
- Firmware:** EC350 1.3030, CloudLink 1.0004.
- Data Transfer:** Download Completed (Audit Trail, Lag 1:15 Records, Log 2:1 Records). Item File Download Disabled.
- Instrument / Modem Power:**
 - EC350 - External: 15.15V (Low Alarm Limit 6.00V), 0.15V (Low Alarm Limit 4.60V)
 - CloudLink - External: 15.21V (Low Alarm Limit NA), 3.45V (Low Alarm Limit NA)

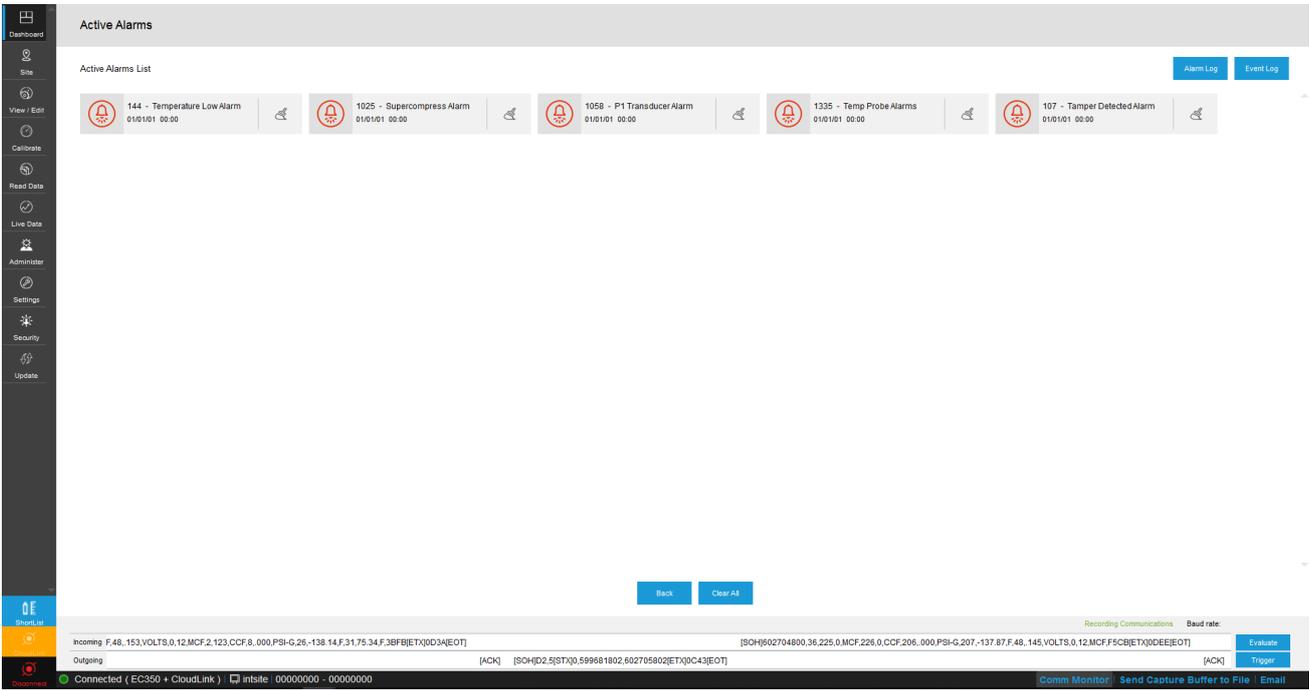
On clicking any value, further details are displayed.

The 'Gas Temperature' popup window displays the following details:

Item Code	Description	Value	Units
26	Gas Temperature	-138.14	F
207	Interval Avg Gas Temp	-137.91	F
34	Base Temperature	60.00	F
45	Temp Correction Factor	1.6164	----
28	Gas Temp Hi Alarm Limit	165.00	F
27	Gas Temp Lo Alarm Limit	-35.00	F
31	Case Temperature	75.43	F

3.3.3 Alarms

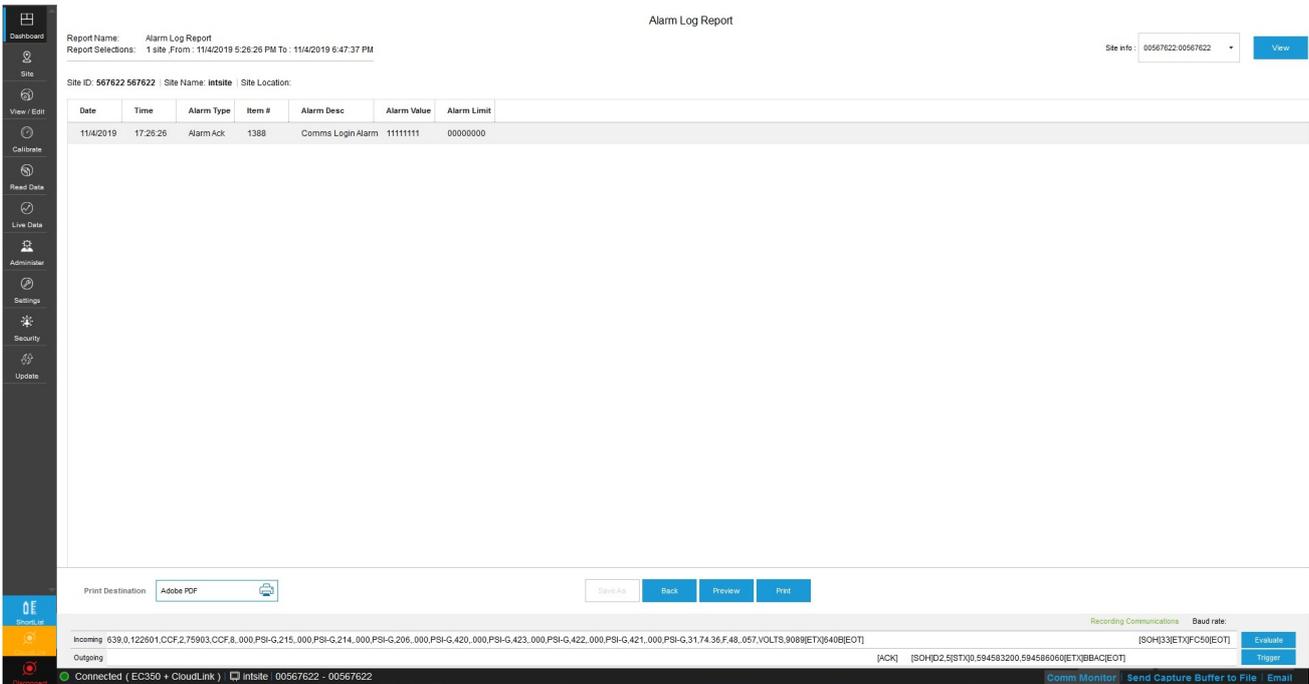
User can drill down to alarm and event history by clicking on the number of active alarms displayed on the dashboard.



Individual alarms can be cleared by clicking 

All active alarms can be cleared at once, by clicking **Clear All**

User can access alarm log and event log reports from the Dashboard.



3 MasterLink User Interface

- Dashboard
- Site
- View / Edit
- Calibrate
- Read Data
- Live Data
- Administer
- Settings
- Security
- Update

Event Log Report

Report Name: Event Log Report
 Report Selections: 1 site From: 1/2/2020 6:16:39 PM To: 2/6/2020 6:16:39 PM

Site Info: 00000000-00000000 View

Site ID: 0 0 Site Name: Intsite Site Location:

Date	Time	Event #	Item #	Item/Event Description	UserID	Type	As Found	As Left	CallUnit	Comm CRC	Calc CRC
2/6/2020	07:00:25	7938	204	Date	0	Item Chg NC	01-01-01	02-06-20	0	---	---
2/6/2020	17:16:27	7939	203	Time	0	Item Chg NC	07 00 25	17 16 27	0	---	---
2/6/2020	17:17:03	83	3115	CloudLink Configuration Saved	0	Item Chg NC	Clear	Set	0	---	---

Print Destination: Color Secure Badge Print Save As Back Preview Print

Recording Communications Baud rate:

Incoming F,48,153,VOLTS,0,12,MCF,2,123,CCF,8,000,PSI-G,26,-138,14F,31,75,34F,3BFBIETX00034E0T] [SOH]#02704800,38,225,0,MCF,226,0,CCF,206,000,PSI-G,207,-137,87,F,48,145,VOLTS,0,12,MCF,F50BIETX00DEEJE0T] Evaluate

Outgoing [ACK] [SOH]D2,5STX0,599681802,602705802ET,00C43E0T] [ACK] Trigger

Connected (EC350 + CloudLink) Intsite 00000000 - 00000000 Comm Monitor Send Capture Buffer to File Email

Refer [Auto Download Settings](#) page for more details.

3.3.4 Configuration Check

After connecting to the instrument, MasterLink compares values of items defined in the template with actual values in the instrument and reports the status of Configuration Check widget on Dashboard. User can correct the values from the drill-down screen.

Configuration Check

Select item to correct value Selected Template File: EC350_CloudLink_00567622_00567622.TEL

Item Number	Description	Default	Actual
<input type="checkbox"/>	Corrected Volume	90	90
<input type="checkbox"/>	P1 High Alarm Limit	2	2
<input type="checkbox"/>	Atmospheric Pressure	10	10
<input type="checkbox"/>	Calibration P1-Zero	200	0.0000
<input checked="" type="checkbox"/>	Base Pressure	10	14.7300

Back Correct Value

Incoming [SOH] 2.000, 0[ETX]24F5[EOT] [SOH] 10.0000, 0[ETX]DD94[EOT] [SOH] 0.0000, 0[ETX]D379[EOT] [SOH] 14.7300, 0[ETX]E2EB[EOT] Evaluate Trigger

Outgoing 37[ETX]F73[EOT] [SOH]RG[S]TXD14.087[ETX]F8D2[EOT] [SOH]RG[S]TXD17.087[ETX]3632[EOT] [SOH]RG[S]TXD13.087[ETX]3393[EOT]

Connected (EC350 + CloudLink) Insite | 00567622 - 00567622 Comm Monitor | Send Capture Buffer to File | Email

When all the values are corrected, the Configuration Check widget reports status as **All items found are within range. No error found!**

Dashboard

Integrated EC350 + CloudLink Serial No. 00000000 Refresh

Instrument / ModemData

00000090 CCF Corrected Volume

0.000 PSI P1 Gas Pressure

239043.8 CFHR Dial Rate (Unc Vol)

0 dBm Last Known Signal Strength

0.0.0.0 CloudLink IP Address

0000040000 CloudLink Port Number

Alarms 7 Clear All

- 144 - Temperature Low Alarm
- 1025 - Supercompress Alarm
- 1058 - P1 Transducer Alarm
- 1335 - Temp Probe Alarms
- 1035 - Metro Chng Alarm

00075903 CCF Unconnected Volume

-137.83 F Gas Temperature

3861.32 CFHR Flow Rate (Cor Vol)

Configuration Check Time Sync Firmware Data Transfer Instrument / Modem Power

Download Completed Log:1 Records

Download Disabled

EC350 - External

External	Low Alarm Limit
11.616 V	6.000 V
Battery	Low Alarm Limit
0.066 V	4.600 V
CloudLink - External	Low Alarm Limit
External	Low Alarm Limit
11.67 V	NA
Battery	Low Alarm Limit
3.46 V	NA

All the item values are within range. No error found!

DST 19:24:23 Nov 04 2019

EC350 1.3030

CloudLink 1.0004

Incoming [SOH]00000090, 5[ETX]070B[EOT] [SOH] 2.000, 0[ETX]24F5[EOT] [SOH] 10.0000, 0[ETX]DD94[EOT] [SOH] 0.0000, 0[ETX]D379[EOT] [SOH] 14.7300, 0[ETX]E2EB[EOT] Evaluate Trigger

Outgoing ETX[E8B]EOT [SOH]RG[S]TXD10.087[ETX]F73[EOT] [SOH]RG[S]TXD14.087[ETX]F8D2[EOT] [SOH]RG[S]TXD13.087[ETX]3393[EOT]

Connected (EC350 + CloudLink) Insite | 00567622 - 00567622 Comm Monitor | Send Capture Buffer to File | Email

When the customized files are a part of default templates list the Dashboard will show **Multiple item templates exist** in the Configuration Check panel. See below.

The dashboard displays the following information:

- Instrument / ModemData:**
 - Corrected Volume (MCF): 00000010
 - P1 Gas Pressure (PSI): 0.000
 - Dial Rate (Unc Vol) (CF/Hr): 0.0
 - Uncorrected Volume (CCF): 00000010
 - Gas Temperature (F): -135.67
 - Flow Rate (Cor Vol) (MCF/Hr): 0.00
 - Last Known Signal Strength: -59 dBm
 - CloudLink IP Address: 117.231.127.193
 - CloudLink Port Number: 0000040000
- Alarms:** 6 active alarms including Temperature Low Alarm, Supercompress Alarm, P1 Transducer Alarm, Temp Probe Alarms, and System Alarms.
- Configuration Check:** All item values are within range. No error found!
- Time Sync:** DST 00:45:01 on Jun 11 2020.
- Firmware:** EC350 1.3030, CloudLink 1.0004.
- Data Transfer:** Download Completed. Log1: 2622 Records, Log2: 1313 Records. Item File Download Disabled.
- Instrument / Modem Power:** EC350 - None. External 7.76V, Battery 0.07V. Low Alarm Limits: -1.00V, 4.60V, NA, NA.

User can drill-down the panel screen to view the list of templates available. You can select any template for config check from the drop-down and correct the values if required.

The Configuration Check screen shows the following table:

Item Number	Description	Default	Actual
<input type="checkbox"/> 11	P1 Low Alarm Limit	12	<input checked="" type="checkbox"/>
<input type="checkbox"/> 2	Uncorrected Volume	2	<input checked="" type="checkbox"/>

The 'Selected Template File' dropdown menu is open, showing options: 'Configured.TEL' (highlighted) and 'EC350_CloudLink_00500005_00500005.TEL'. A 'customized template file' link is also visible.

Buttons: Back, Correct Value

Refer [Item Template Configuration](#) page for more details.

3.3.5 Time Sync

'Time Sync' page provides a user configurable option to enable/disable auto time synchronization of the connected device with your PC.

Alternatively, time can be synchronized manually by clicking on **Sync**.

The screenshot shows the 'Time Sync' page with the following details:

- Instrument Time:** 19:29:33 Nov 04 2019
- Proposed Time:** 19:29:33 Nov 04 2019
- Computer Time:** 19:29:33 Nov 04 2019
- Instrument DST Status:** DST Observed

At the bottom of the page, there are 'Back' and 'Sync' buttons. Below the main content area, a terminal window displays communication logs with timestamps and data.

Time difference trigger point is taken into account when application reports time synchronization status.

Note: In case of integrated devices, Time Sync for both device and modem are considered but user can see only Device's date and time in the Dashboard Time Sync panel. If device time is in sync but the modem time is not, the Time Sync panel shows an error.

Note: The Computer time displayed on the Time Sync is not dynamic. It is the actual PC time when the Time Sync tab is opened. It changes only when the Time Sync tab is refreshed. The Computer time can be different from the actual PC time.

Refer [Time Sync Properties](#) page for more details.

3.3.6 Firmware Update

Dashboard reports the current firmware revision/version(s) loaded in the instrument(s).

The dashboard displays the following data:

- Instrument / ModemData:**
 - Corrected Volume: 0000012 CCF
 - P1 Gas Pressure: 0.000 PSI
 - Dial Rate (Unc Vol): 0.0 CFHr
 - Unconnected Volume: 00000123 CCF
 - Gas Temperature: -138.14 F
 - Flow Rate (Cor Vol): 0.00 CFHr
 - Last Known Signal Strength: 0 dBm
 - CloudLink IP Address: 0.0.0.0
 - CloudLink Port Number: 0000040000
- Alarms:** 6 alarms listed, including Temperature Low Alarm, Supercompress Alarm, P1 Transducer Alarm, Temp Probe Alarms, and Comms Login Alarm.
- Configuration Check:** All item values are within range. No error found!
- Time Sync:** Standard, 15:29:44, Feb 07 2020
- Firmware (highlighted):**
 - EC350: 1.3030
 - CloudLink: 1.0004
- Data Transfer:** Audit Trail Download Completed (Log1: 18 Records, Log2: 1 Records), Item File Download Completed
- Instrument / Modem Power:**
 - EC350 - External: External 15.11V, Low Alarm Limit 6.00V, Battery 0.16V, Low Alarm Limit 4.60V
 - CloudLink - External: External 15.22V, Low Alarm Limit NA, Battery 3.46V, Low Alarm Limit NA

Firmware versions can be upgraded using the firmware drill down screen.

The Update screen shows the following configuration and steps:

- Header:** Update | EVC 1.3030 | Modem 1.0004 | Certificate |
- Form Fields:**
 - Firmware File Name: File Location (with Browse button)
 - Current Firmware: 1.3030
 - Loader: 3.1000
 - Selected Firmware Details:
 - Firmware Type: [Dropdown]
 - New Firmware: [Dropdown]
- Steps and Status:**
 - Step: Validate FW file
 - Step: Send Firmware
 - Step: Validate Firmware
 - Step: Sync date and time
 - Status: [Empty]
- Buttons:** Start Upgrade, Reset

The **Update** screen consists of three tabs:

1. EC 350 Firmware Upgrade
2. CloudLink Modem and
3. Certificate

The current firmware version details are displayed on the relevant update screen. The firmware file to be used can be browsed and version of the firmware to be upgraded is displayed under 'Selected Firmware Details' section.

Browse and select the required firmware file to be uploaded and observe application displays the information of firmware file selected under 'Selected Firmware Details' section.

The new firmware is transferred to the instrument and then installed.

Note: MasterLink R500 Application (Windows & Mobile) supports firmware upgrade to the EC 350 and CloudLink Modem, only if the devices have the following firmware versions:

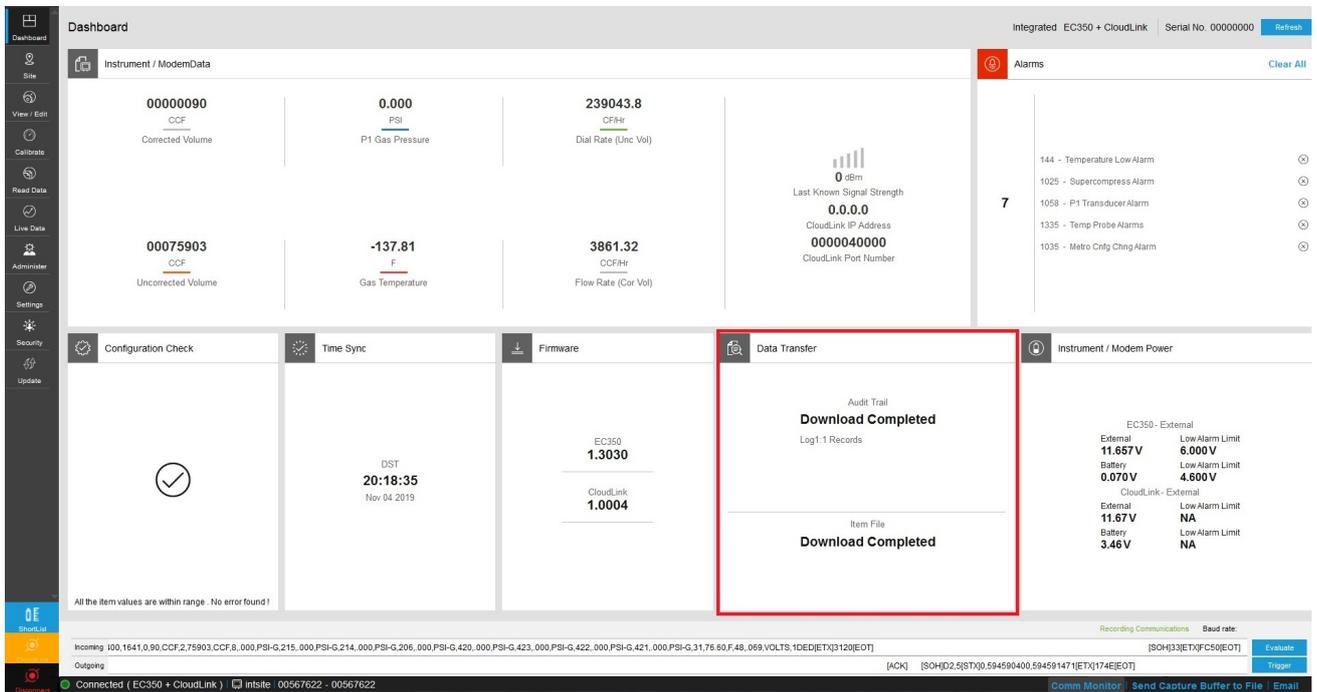
CloudLink Modem: 1.0001

EC 350: 1.1032

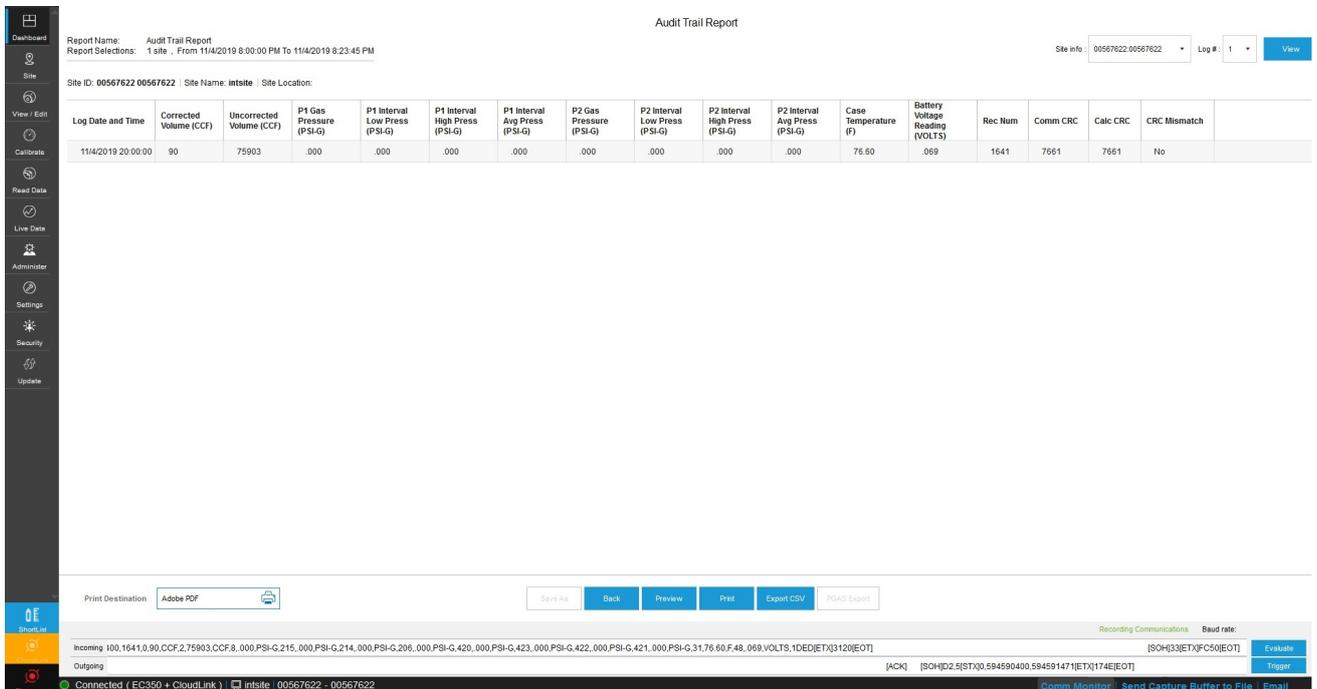
It is not recommended to perform a firmware upgrade, unless the devices are running on the versions mentioned above.

3.3.7 Data Transfer

As soon as you connect an instrument to MasterLink Software Applications, Audit Trail data and Item File from the instrument is automatically downloaded.



Screen shot showing Audit Trail data.



Instrument data is automatically downloaded if the Auto Download settings are enabled.

The screenshot displays the 'Settings' page in the MasterLink User Interface, specifically the 'Auto Download Settings' section. The page is divided into three columns for 'Alarm Log', 'Audit Trail', and 'Event Log'. Each column has two radio button options: 'From Last Download' (selected) and 'Number of Days' (set to 0). Below these columns is a 'Save Item File' section with two checkboxes: 'On Connect' (checked) and 'On Disconnect' (unchecked). At the bottom of the page, there is a status bar showing connection information: 'Connected (EC350 + CloudLink) | insite 00567622 - 00567622'. The status bar also includes a 'Recording Communications' section with 'Baud rate' and 'Evaluate' buttons, and a 'Comm Monitor' section with 'Send Capture Buffer to File' and 'Email' buttons.

Refer [Auto Download Settings](#) for more details.

Scenario 1: When the device is not saved in Site list and if Auto download is enabled. Audit trail will display an error message as “Instrument not in site list” “Download failed”.

Resolution: Make sure that the device is saved in Site list to download the data from the dashboard.

Scenario 2: When device is not saved in Site list and if Auto download is disabled. Audit trail will display an error message as “Instrument not in site list” “Download Disabled”.

Resolution: Make sure that the device is saved and Auto download is enabled to download the data from the dashboard.

3.3.8 Instrument or Modem Power

While connecting to the site, application reads the type of power source (Battery or External). Corresponding voltage is displayed on Dashboard.

A drill down on the panel depicts a plot of battery/external voltage against time.

Note: Instrument/Modem Power drill down can be done on 1.4030 firmware version & 15.1.25.0 MasterLink build version onwards only.

Integrated device type with Battery and External Power supply connected.



Note: CloudLink shows only one type of Power source at a time.

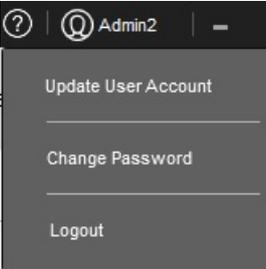
MasterLink supports the below scenarios based on the type of power source connected.

1. When device is battery powered then it displays only the battery voltage graph.
2. When device is external powered then it displays only the external voltage graph.
3. When any standalone device is powered with both external & battery , then it will displays both together in one graph only.

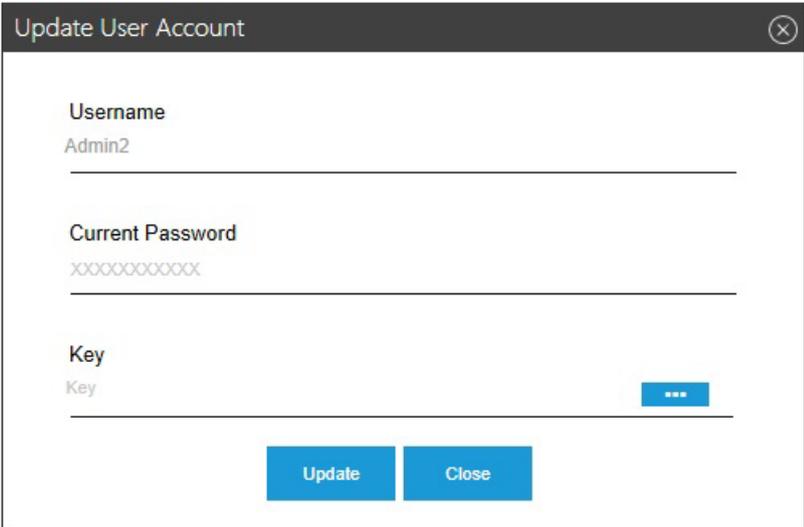
3.3.9 Update User Account

If privileges associated with user role are modified, then the respective user account needs to be updated with a new passkey shared by administrator.

Click on username on the dashboard header and select **Update User Account**.



The **Update User Account** pop-up appears.

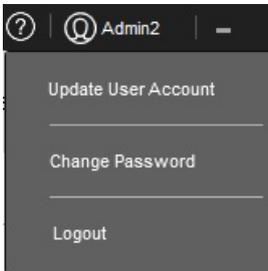


Update user account using the new key sent by the administrator.

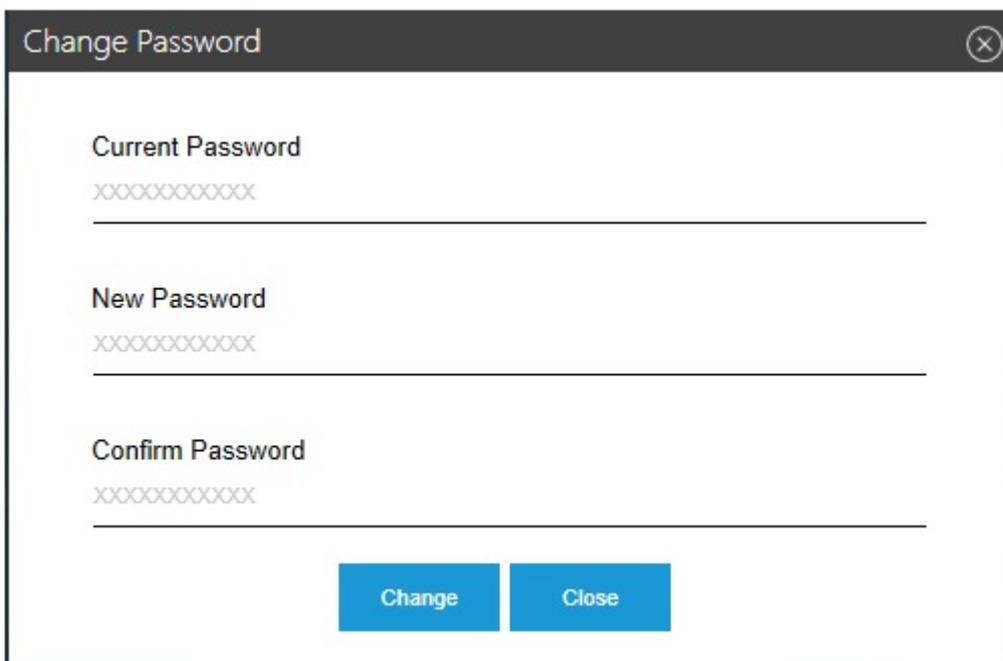
3.3.10 Change Password

Password of an existing user can be changed using the Change Password option.

Click on user-name and select **Change Password**.



The **Change Password** pop-up appears.

A 'Change Password' pop-up window with a dark grey header and a close button (X) in the top right corner. The form contains three input fields: 'Current Password', 'New Password', and 'Confirm Password'. Each field has a label and a placeholder consisting of ten 'x' characters. Below the input fields are two blue buttons: 'Change' and 'Close'.

Type current password, and then the new password. You also need to confirm your new password by typing it again.

After you finish making the required changes, click **Change** to save the changes.

3.4 View and Edit

This tab has the functionality for performing various interactions with device such as read/write item, read item file etc.

3.4.1 Configure by Group

MasterLink must be connected to an instrument for this function to work. **Configure by Group** tab displays groups categorized by items corresponding to connected instrument.

Instrument items (which vary per type of instrument) can be grouped by function. The **Configure by Group** tab displays the item values that apply to the type of connected instrument after grouping them by function. For example, all items related to pressure calibration are displayed on one screen.

When connected to an instrument, you can click on the **Read** button to read item values from the connected instrument.

To change item values:

1. Click on the desired function group (panel on left) to see the group items (panel on right).
2. Select an item by clicking the check box next to it.
3. Enter a value for the selected item number, and click on **Write Item** button.

The screenshot shows the 'View / Edit' interface with the 'Configure by Group' tab selected. The left sidebar lists various configuration categories, and the main area displays a table of P1 Pressure items. A 'Read Item' button is highlighted with a red arrow pointing to the text 'Read item values from the connected device'. A 'Write Item' button is also highlighted with a red arrow pointing to the text 'Write item values to the connected device'. An 'Export' button is highlighted with a red arrow pointing to the text 'Exports all the items of a selected group'. A search bar at the top right is labeled 'Quick access to item parameters'.

Item Number	Description	Value	Unit
<input checked="" type="checkbox"/> 008	P1 Gas Pressure	0.000	PSI
<input type="checkbox"/> 013	Base Pressure	14.7300	PSI
<input type="checkbox"/> 014	Atmospheric Pressure	14.7300	PSI
<input type="checkbox"/> 025	P1 Press Range (PSI)	0.00	PSI
<input type="checkbox"/> 137	P1 Press Range User	0.00	PSI
<input type="checkbox"/> 1380	P1 Press Range Low	-7.51	PSI
<input type="checkbox"/> 112	P1 Transducer Type	None	---
<input type="checkbox"/> 138	P1 Transducer SN	00000000	---
<input type="checkbox"/> 813	P1 High/High Alarm Limit	! Unsupported	---
<input type="checkbox"/> 010	P1 High Alarm Limit	99999.99	PSI
<input type="checkbox"/> 011	P1 Low Alarm Limit	-1.000	PSI
<input type="checkbox"/> 814	P1 Low/Low Alarm Limit	! Unsupported	---
<input type="checkbox"/> 1161	P1 Fixed Pressure Value	0.000	PSI
<input type="checkbox"/> 087	P1 Pressure Units	PSI	---
<input type="checkbox"/> 088	# of Dec for P1 Press	X.XXX.XXX	---
<input type="checkbox"/> 1052	P1 Transducer Enable	Yes	---
<input type="checkbox"/> 1169	P1 High Alarm Value	0.000	PSI
<input type="checkbox"/> 1170	P1 Low Alarm Value	0.000	PSI
<input type="checkbox"/> 1540	P1 High/High Alarm Value	! Unsupported	---
<input type="checkbox"/> 1541	P1 Low/Low Alarm Value	! Unsupported	---

Note: Third Pressure P3 is supported ONLY for MIWI350 with Pressure expansion board from 1.4016 firmware version onwards. Instruments (EC 350, ERX 350) prior to firmware version

1.3318 will not support P3.

View / Edit

Search item by number or desc

Configure by Group | Configure by Item | Send Item File | Logging Configuration | Manage User Table | Manage Shortlist | Manage AGA-8

	Item Number	Description	Value	Unit	
<input type="checkbox"/>	501	P3 Gas Pressure	99.719	PSI	
<input type="checkbox"/>	573	P3 Press Range (PSI)	100.00	PSI	
<input type="checkbox"/>	571	P3 Press Range User	100.00	PSI	
<input type="checkbox"/>	569	P3 Transducer Type	Gauge	----	
<input type="checkbox"/>	575	P3 Transducer S/N	173450039	----	
<input type="checkbox"/>	807	P3 High/High Alarm Limit	99999.99	PSI	
<input type="checkbox"/>	555	P3 High Alarm Limit	99999.99	PSI	
<input type="checkbox"/>	556	P3 Low Alarm Limit	-1.000	PSI	
<input type="checkbox"/>	808	P3 Low/Low Alarm Limit	-1.000	PSI	
<input type="checkbox"/>	550	P3 Pressure Units	PSI	----	
<input type="checkbox"/>	552	# of Dec for P3 Press	X.XXX.XXX	----	
<input type="checkbox"/>	1054	P3 Transducer Enable	Yes	----	
<input type="checkbox"/>	1584	P3 High Alarm Value	0.000	PSI	

Recording Communications Baud rate:

Incoming [SOH] 99.719, 0, 100.00, 100.0, 100.00, 0, 173450039, 99999.99, 99999.99, -1.000, -1.000, 0, 3, 1, 0.000, 0.000, 0.000, 0.000[ETX][D463][EOT]

Outgoing 4.F90.F87.F93[ETX]5E5A[EOT]

Connected (EC350 + CloudLink) insite: 00000000 - 00000000
Comm Monitor | Send Capture Buffer to File | Email

Advanced Options: It has three options

1. Raw Item Access - You can modify (Read/Write) the value of any item by typing an item number in the pop-up below.

Raw Item Access
✕

Item Number *

Value

Read Item

Write Item

2. Read Raw Item File - Reads all the item numbers in one click.
3. Shut Down - Clicking this will shut down the device.

View / Edit

[Configure by Group](#) | [Configure by Item](#) | [Send Item File](#) | [Logging Configuration](#) | [Manage User Table](#) | [Manage Shortlist](#) | Manage AGA-8

101 Site Information

- 102 Volume & Energy
- 103 P1 Pressure
- 104 P2 Pressure
- 105 Temperature
- 106 Correction Factors
- 107 Flow & Dial Rates
- 108 Battery Power
- 109 Pulse Outputs
- 110 Communications
- 111 Call-In
- 112 Call Out Windows
- 113 Date & Time Config
- 115 LCD Scroll List
- 116 Audit Trail Log Configuration
- 117 Audit Trail Volume & Energy
- 118 Audit Trail Pressure & Temperature
- 119 P1 Pressure and Temperature Statistics
- 120 P2 Pressure Audit Trail & Stats
- 121 Volume and Flow Statistics

Read Item Write Item Advanced Options Export

<input type="checkbox"/>	Item Number	Description	Value	Unit	
<input type="checkbox"/>	200	Site ID# Part 1	00000000	---	
<input type="checkbox"/>	201	Site ID# Part 2	00000000	---	
<input type="checkbox"/>	062	Unit Serial Number	00000000	---	
<input type="checkbox"/>	1019	Main Board SIN	00000000	---	
<input type="checkbox"/>	586	Sample Interval	30 Seconds	---	
<input type="checkbox"/>	1190	Meter SIN	00000000	---	
<input type="checkbox"/>	127	Instrument Type	EC 350 (14)	---	
<input type="checkbox"/>	122	Firmware Version	1.3030	---	
<input type="checkbox"/>	1175	Firmware CRC	40463	---	
<input type="checkbox"/>	1177	Loader Version	3.1000	---	
<input type="checkbox"/>	1176	Loader CRC	29613	---	
<input type="checkbox"/>	1056	LCD Display On Time	06:00:00	---	
<input type="checkbox"/>	1057	LCD Display Off Time	18:00:00	---	
<input type="checkbox"/>	1183	Access Jumper Status	Disconnected	---	
<input type="checkbox"/>	1062	Door Status	Door Open	---	
<input type="checkbox"/>	1044	Board Version	CDM REV C	---	
<input type="checkbox"/>	118	Reference Number 1	00000000	---	
<input type="checkbox"/>	119	Reference Number 2	00000000	---	
<input type="checkbox"/>	779	Calibration Mode	No Calibration	---	
<input type="checkbox"/>	1396	Alarm Mask	00000008	---	
<input type="checkbox"/>	1023	Alarm Items Disable	00000008	---	

Raw Item Access
 Read Raw Item File
 Shut Down

Connected (EC350 + CloudLink) | Direct Connect | 00000000 - 00000000
Comm Monitor | Send Capture Buffer to File | Email

3.4.2 Configure by Item

MasterLink must be connected to an instrument for this function to work as different instruments have different items and groups categorized. **Configure by Item** tab displays all items corresponding to connected instrument and by default, all items are sorted by item number.

An item can be searched with Item number or description. The check box must be checked in order to read/write value(s) of any item.

To change item values:

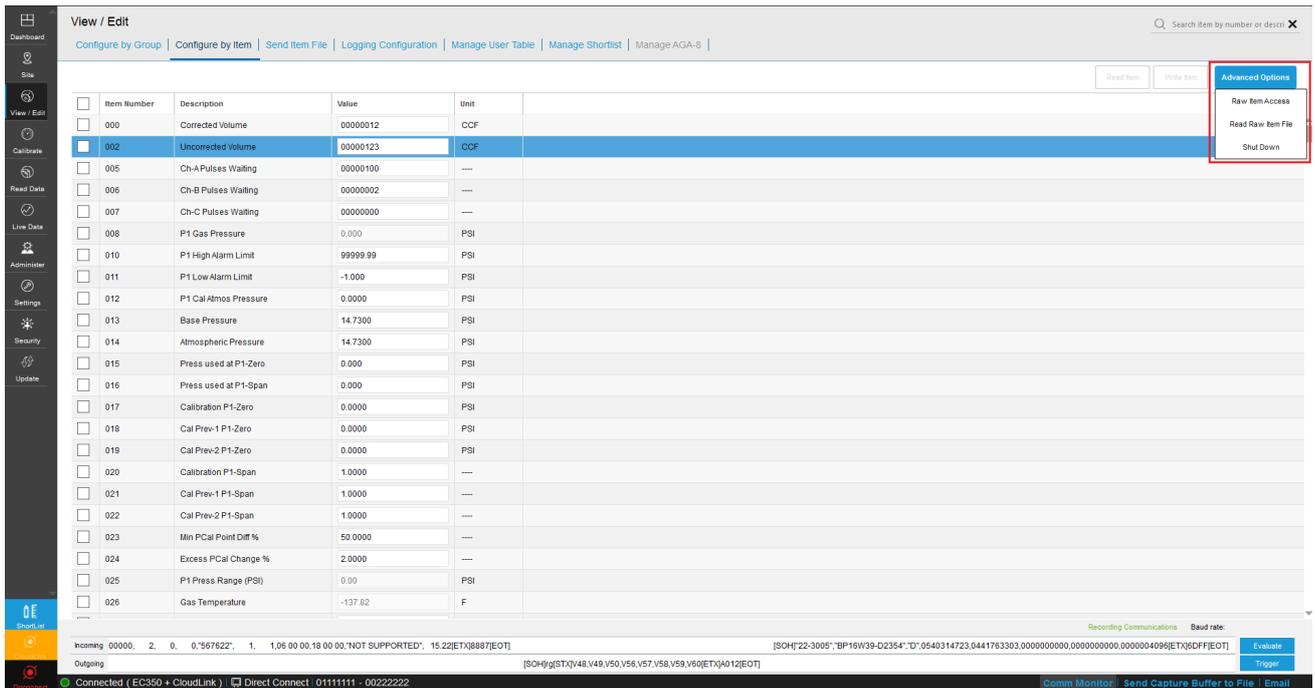
1. Select an item by clicking on the check box next to it.
2. Enter a value for the item number.
3. Click **Write Item** after making the changes. This will write the new item value to the connected instrument.

The screenshot shows the 'View / Edit' interface with the 'Configure by Item' tab selected. A table lists various instrument items. Item 002, 'Uncorrected Volume', is selected with a checked checkbox. The 'Value' column for this item contains '00000123'. The 'Unit' is 'CCF'. At the top right, there are buttons for 'Read Item', 'Write Item', and 'Advanced Options'. Red arrows point to the 'Read Item' and 'Write Item' buttons, with labels 'Read item values from the connected device' and 'Write item values to the connected device' respectively. The interface also includes a search bar, navigation tabs, and a status bar at the bottom.

Item Number	Description	Value	Unit
<input type="checkbox"/> 000	Corrected Volume	00000012	CCF
<input checked="" type="checkbox"/> 002	Uncorrected Volume	00000123	CCF
<input type="checkbox"/> 005	Ch-A Pulses Waiting	00000100	---
<input type="checkbox"/> 006	Ch-B Pulses Waiting	00000002	---
<input type="checkbox"/> 007	Ch-C Pulses Waiting	00000000	---
<input type="checkbox"/> 008	P1 Gas Pressure	0.000	PSI
<input type="checkbox"/> 010	P1 High Alarm Limit	99999.99	PSI
<input type="checkbox"/> 011	P1 Low Alarm Limit	-1.000	PSI
<input type="checkbox"/> 012	P1 Cal Atmos Pressure	0.0000	PSI
<input type="checkbox"/> 013	Base Pressure	14.7300	PSI
<input type="checkbox"/> 014	Atmospheric Pressure	14.7300	PSI
<input type="checkbox"/> 015	Press used at P1-Zero	0.000	PSI
<input type="checkbox"/> 016	Press used at P1-Span	0.000	PSI
<input type="checkbox"/> 017	Calibration P1-Zero	0.0000	PSI
<input type="checkbox"/> 018	Cal Prev-1 P1-Zero	0.0000	PSI
<input type="checkbox"/> 019	Cal Prev-2 P1-Zero	0.0000	PSI
<input type="checkbox"/> 020	Calibration P1-Span	1.0000	---
<input type="checkbox"/> 021	Cal Prev-1 P1-Span	1.0000	---
<input type="checkbox"/> 022	Cal Prev-2 P1-Span	1.0000	---
<input type="checkbox"/> 023	Min PCal Point Diff %	50.0000	---
<input type="checkbox"/> 024	Excess PCal Change %	2.0000	---
<input type="checkbox"/> 025	P1 Press Range (PSI)	0.00	PSI
<input type="checkbox"/> 026	Gas Temperature	-138.15	F

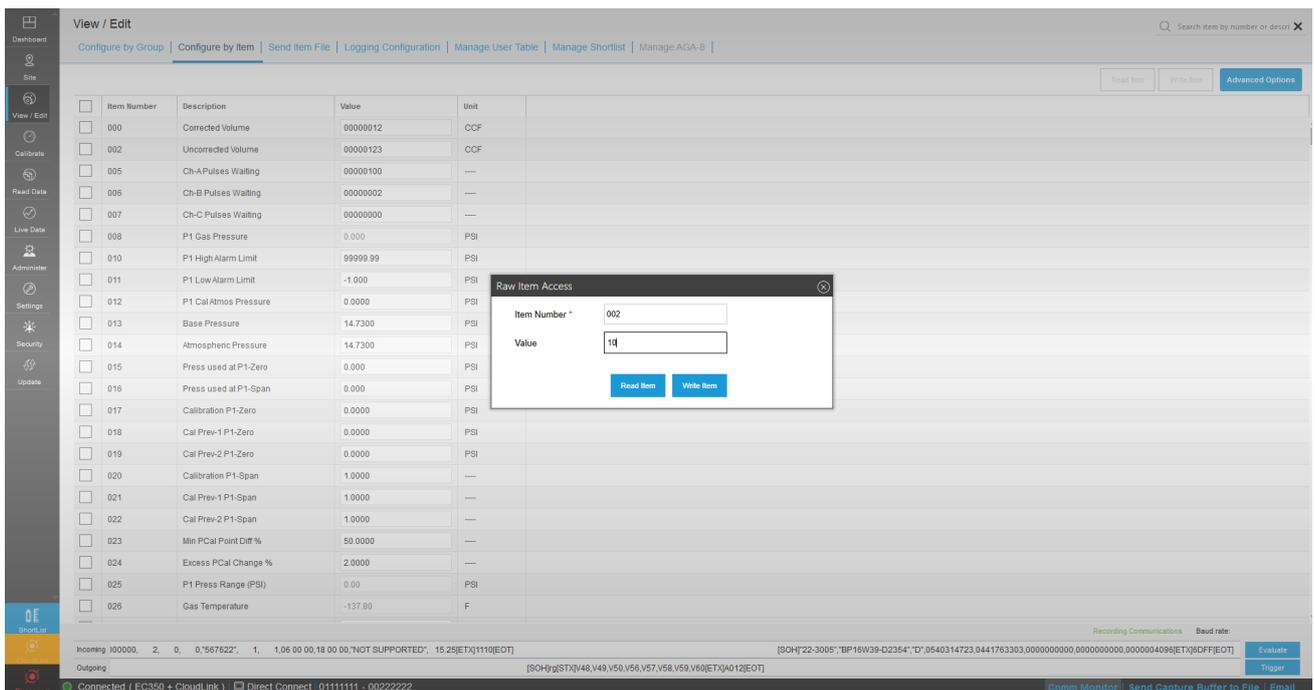
Sliding the mouse over the column divider until a cross is displayed, then dragging it to the desired width can re size the column widths. Use the up/down arrows or across arrows for full viewing of all data fields.

Click on **Advance Options** and select **Raw Item Access** to modify the value of an item.



Item Number	Description	Value	Unit
000	Corrected Volume	00000012	CCF
002	Uncorrected Volume	00000123	CCF
005	Ch-A Pulses Waiting	00000100	---
006	Ch-B Pulses Waiting	00000002	---
007	Ch-C Pulses Waiting	00000000	---
008	P1 Gas Pressure	0.000	PSI
010	P1 High Alarm Limit	99999.99	PSI
011	P1 Low Alarm Limit	-1.000	PSI
012	P1 Cal Atmos Pressure	0.0000	PSI
013	Base Pressure	14.7300	PSI
014	Atmospheric Pressure	14.7300	PSI
015	Press used at P1-Zero	0.000	PSI
016	Press used at P1-Span	0.000	PSI
017	Calibration P1-Zero	0.0000	PSI
018	Cal Prev-1 P1-Zero	0.0000	PSI
019	Cal Prev-2 P1-Zero	0.0000	PSI
020	Calibration P1-Span	1.0000	---
021	Cal Prev-1 P1-Span	1.0000	---
022	Cal Prev-2 P1-Span	1.0000	---
023	Min PCal Point Diff %	50.0000	---
024	Excess PCal Change %	2.0000	---
025	P1 Press Range (PSI)	0.00	PSI
026	Gas Temperature	-137.82	F

Search for a particular item either by number or description.



Raw Item Access

Item Number *

Value

Read Raw Item File will read all the item numbers in one click.

Clicking on **Shut down** will shut down the device.

Note: When Pressure factor mode (Item 109) is changed from Fixed to Live, P1 Transducer Enable (Item 1052) should be manually changed from NO to YES to get the Live value of P1 Gas Pressure (Item 008).

Note: When Temperature factor mode (Item 111) is changed from Fixed to Live, T1 Temp Probe Enable (Item 1055) should be manually changed from NO to YES to get the Gas Temperature (Item 026).

Note: When Supercompress Method (Item 147) is changed to Fixed Super, Unsquared Supercompress (Item 047) and Squared Supercompress (Item 116) will be updated with Fixed Unsq Super Factor (Item 1457) within 30 seconds.

3.4.3 Send Item File

An Item File stores the current instrument's item code values on your computer in a file. You can configure different items corresponding to an instrument in an **Item File** and then send it to the device.

Click **Browse** and select the item file. (.IE3 for EC 350, .ICL for CloudLink Modem, .ECL for EC 350 + CloudLink Modem)

View / Edit

Configure by Group | Configure by Item | **Send Item File** | Logging Configuration | Manage User Table | Manage Shortlist | Manage AGA-8

Choose an item type Pressure1 Pressure2 Pressure3 Temperature Non-Cal Items

Location: **Browse**

Send to Device

Incoming 3000000, 2, 0, 0, '567622', 1, 1.06 00 00 18 00 00,'NOT SUPPORTED', 11.63[ETX]EE70[EOT] [SOH]22-3005,'BP16W3R-D2354','D:0540314723.0441763303.0000000000.0000000000.0000004096[ETX]S0FF[EOT] Evaluate Trigger

Outgoing [SOH]g[STX]48 V48 V50 V56 V57 V58 V59 V60[ETX]4012[EOT]

Connected (EC350 + CloudLink) Intsite 00567622 - 00567622 Comm Monitor | Send Capture Buffer to File | Email

View the values configured for different item numbers.

View / Edit

Configure by Group | Configure by Item | **Send Item File** | Logging Configuration | Manage User Table | Manage Shortlist | Manage AGA-8

Choose an item type Pressure1 Pressure2 Pressure3 Temperature Non-Cal Items

Location: C:\ProgramData\Honeywell\Masterlink\itemfiles\EC350_CloudLink_00567622_191104201623.ECL **Browse**

Item Number	Description	Value	Unit	Item Number	Description	Value	Unit
000	Corrected Volume	0.0000090	CCF	1095	AT Group-3 Item-3	255	Reserved
002	Uncorrected Volume	0.0075903	CCF	1096	AT Group-3 Item-4	255	Reserved
005	Ch-A Pulses Waiting	0.9999023	---	1097	AT Group-3 Item-5	255	Reserved
006	Ch-B Pulses Waiting	0.9999031	---	1098	AT Group-3 Item-6	255	Reserved
007	Ch-C Pulses Waiting	0.0000000	---	1099	AT Group-3 Item-7	255	Reserved
010	P1 High Alarm Limit	2.000	PSI	1100	AT Group-3 Item-8	255	Reserved
011	P1 Low Alarm Limit	-1.000	PSI	1101	AT Group-3 Item-9	255	Reserved
012	P1 Cal Atmos Pressure	0.0000	PSI	1102	AT Group-3 Item-10	255	Reserved
013	Base Pressure	10.0000	PSI	1103	AT Group-3 Item-11	255	Reserved
014	Atmospheric Pressure	10.0000	PSI	1104	AT Group-3 Item-12	255	Reserved
015	Press used at P1-Zero	0.000	PSI	1105	AT Group-3 Item-13	255	Reserved
016	Press used at P1-Span	0.000	PSI	1106	AT Group-3 Item-14	255	Reserved
017	Calibration P1-Zero	0.0000	PSI	1107	AT Group-3 Item-15	255	Reserved
018	Cal Prev-1 P1-Zero	0.0000	PSI	1108	AT Group-3 Item-16	255	Reserved
019	Cal Prev-2 P1-Zero	0.0000	PSI	1109	AT Group-3 Item-17	255	Reserved
020	Calibration P1-Span	1.0000	---	1110	AT Group-3 Item-18	255	Reserved
021	Cal Prev-1 P1-Span	1.0000	---	1111	AT Group-3 Item-19	255	Reserved
022	Cal Prev-2 P1-Span	1.0000	---	1112	AT Group-3 Item-20	255	Reserved
023	Min PCal Point Diff %	50.0000	---	1113	AT Group-4 Interval	10 Minutes	---
024	Excess PCal Change %	2.0000	---	1114	AT Group-4 Enable	Yes	---

Send to Device

Incoming [ACK] [SOH]00[ETX]F053[EOT] [SOH]D77[STX] 14[ETX]R581[EOT] [SOH]E58[STX] 2[ETX]A3CE[EOT] [SOH] Evaluate Trigger

Outgoing [EOT]ENQ [SOH]SS[STX]0,*****[ETX]4E[EOT] [SOH]RD[STX]D77[ETX]EA7[EOT] [SOH]RD[STX]E58[ETX]E295[EOT] [SOH]SS[STX]0,*****[ETX]34E8[EOT]

Connected (EC350 + CloudLink) Intsite 00567622 - 00567622 Comm Monitor | Send Capture Buffer to File | Email

View the values configured for different item numbers. The Item types will differ based on the connected instrument.

Refer to the table below for the item types displayed for specific devices.

Device Type	Supported Types in Send Item File
Accutest	Pressure1, Pressure2, Temperature, Non-Cal Items
CloudLink Modem	Non-Cal Items
CNI4	Non-Cal Items
EC 350	Pressure1, Pressure2, Temperature, Non-Cal Items
EC 350 + CloudLink	Pressure1, Pressure2, Temperature, Non-Cal Items
ECAT	Pressure1, Temperature, Non-Cal Items
ER	Pressure1, Pressure2, Temperature, Non-Cal Items
ERX	Pressure1, Pressure2, Pressure3, Board Temperature, Non-Cal Items
ERX 350	Pressure1, Pressure2, Temperature, Non-Cal Items
ERX 350 + CloudLink Modem	Pressure1, Pressure2, Temperature, Non-Cal Items
Mini	Pressure1, Temperature, Non-Cal Items
Mini-AT	Pressure1, Pressure2, Temperature, Non-Cal Items
Mini-Max	Pressure, Temperature, Board, Non-Cal Items
PT ModBus	Non-Cal Items
Pulse Accumulator	Non-Cal Items
TCI	Temperature, Non-Cal Items
Turbo Corrector	Pressure1, Pressure2, Temperature, Non-Cal Items
Turbo Monitor	Non-Cal Items

Click **Send to Device** to send the Item File to the connected field instrument.

3.4.4 Logging Configuration

Available only for EC 350 and ERX 350 devices

Using MasterLink software, an instrument can be configured to contain as many as 5 independent logs, each with its own collection of item values and collection (sample) frequency. Each log can be configured to collect values for up to 20 items.

The screenshot displays the 'View / Edit' interface for logging configuration. The top navigation bar includes 'Configure by Group', 'Configure by Item', 'Send Item File', 'Logging Configuration', 'Manage User Table', 'Manage Shortlist', and 'Manage AGA-8'. The main area is divided into three sections:

- Select Items:** A table with columns 'Item Number' and 'Description'. Items 0-21 are listed, including 'Corrected Volume', 'Uncorrected Volume', 'Ch-A Pulses Waiting', 'Ch-B Pulses Waiting', 'Ch-C Pulses Waiting', 'P1 Gas Pressure', 'P1 High Alarm Limit', 'P1 Low Alarm Limit', 'P1 Cal Atmos Pressure', 'Base Pressure', 'Atmospheric Pressure', 'Press used at P1-Zero', 'Press used at P1-Span', 'Calibration P1-Zero', 'Cal Prev-1 P1-Zero', 'Cal Prev-2 P1-Zero', 'Calibration P1-Span', and 'Cal Prev-1 P1-Span'.
- Log Configuration:** A tree view for 'Audit Trail Logs' under 'ONE'. It shows a frequency of 'Hourly' and 'Items (12 of 20)'. The selected item is '206 - P1 Interval Avg Press'. Other items include '0 - Corrected Volume', '2 - Uncorrected Volume', '8 - P1 Gas Pressure', '215 - P1 Interval Low Press', '214 - P1 Interval High Press', '420 - P2 Gas Pressure', '423 - P2 Interval Low Press', '422 - P2 Interval High Press', '421 - P2 Interval Avg Press', '31 - Case Temperature', and '49 - Battery Voltage Reading'.
- Stacked Bar Chart:** A vertical bar chart on the right showing five logs labeled 'ONE' through 'FIVE' stacked from top to bottom. The y-axis ranges from 0 to 100.

At the bottom, there is a status bar with 'Connected (EC350 + CloudLink)', 'insite: 00567622 - 00567622', and 'Comm Monitor | Send Capture Buffer to File | Email'.

You cannot add/enable P3 items to the log configuration if the Pressure Expansion Board is not physically connected to the device (EC350/ERX350) hardware. And if you still try to configure, a pop-up error window appears as seen below.

The screenshot shows the same 'View / Edit' interface, but with a warning message displayed. The warning is a red-bordered box with a yellow triangle icon and the following text:

Warning
P3 is not supported on this device.
You cannot send P3 related items to device.
Please unselect P3 items and retry.

The log configuration tree shows 'ONE' with a frequency of '1 Minutes' and 'Items (8 of 20)'. The selected item is '1587 - P3 High/High Alarm Value'. Other items include '1583 - P3 Press High Alarm Date', '1582 - P3 Press High Alarm Time', '1581 - P3 Calculation Error Cnt', '1586 - P3 Press High/High Alarm Date', and '1587 - P3 High/High Alarm Value'.

The status bar at the bottom shows 'Connected (EC350)', 'Direct connect ec350 00000001 - 00000002', and 'Comm Monitor | Send Capture Buffer to File | Email'.

The order of the items in the Log Configuration list determines the order in which the values are stored and thus the order in which they will later appear in a report. Items in the list can be moved up and down to change the order.

The selected items from a log can be removed by clicking 

The configuration can be saved for future references to a configuration file (*.cnfg) with the **Save setup to file** button. It can later be retrieved with the **Read setup from file** button. Only *.cnfg files can be read; item files (*.ie3) are not compatible.

In the **Allocate log memory** tab, configure the percentage of available memory which can be allocated to each log.

The screenshot displays the 'Allocate Log Memory' configuration interface. On the left, a table lists five log configurations (ONE through FIVE) with columns for Percent, Days, Records, and Enable. The 'Percent' column shows values of 20.0 for all logs. The 'Records' column shows 2676 for ONE and 0 for the others. The 'Enable' column has checkmarks for all logs.

In the center, the 'Log Configuration' section shows a list of log items under 'Audit Trail Logs'. The 'Interval' is set to 'Hourly'. The list includes items like '0 - Corrected Volume', '2 - Uncorrected Volume', '8 - P1 Gas Pressure', '215 - P1 Interval Low Press', '214 - P1 Interval High Press', '206 - P1 Interval Avg Press', '420 - P2 Gas Pressure', '423 - P2 Interval Low Press', '422 - P2 Interval High Press', '421 - P2 Interval Avg Press', '31 - Case Temperature', and '48 - Battery Voltage Reading'. The '206 - P1 Interval Avg Press' item is highlighted.

On the right, a stacked bar chart shows the memory allocation for each log. The y-axis represents the percentage of memory, ranging from 0 to 100. The bars are stacked from bottom to top: FIVE (purple, 0-20%), FOUR (green, 20-40%), THREE (yellow, 40-60%), TWO (orange, 60-80%), and ONE (red, 80-100%).

At the bottom of the interface, there is a status bar with various indicators and buttons like 'Read Setup from Device', 'Send to Instrument', and 'Save Setup to File'.

Note: The sum total of memory allocated for all logs must be equal to 100%.

The consequence of a particular allocation setting is reflected in the number of days' worth of data as well as the number of records that can be written before overwriting will occur. The smaller a log's allocation, the less data it will be able to store. When the limit is reached, the oldest records will be overwritten with the newer ones.

Note: A log's interval setting will impact days, but not record numbers.

The Enable check-boxes may be used to suspend data collection for one or more logs. A log's existing records will not be affected when the log is disabled.

Ensure that the device is connected to MasterLink. Click **Send to Instrument** to push the log configuration to the device. A few seconds will be required for the transfer. A window should appear indicating **Successfully Configured**.

Click **Read setup from Device** to read logging configuration settings from the connected instrument.

Attention: When you change the log configuration by modifying the memory allocation, all existing logs will be erased.

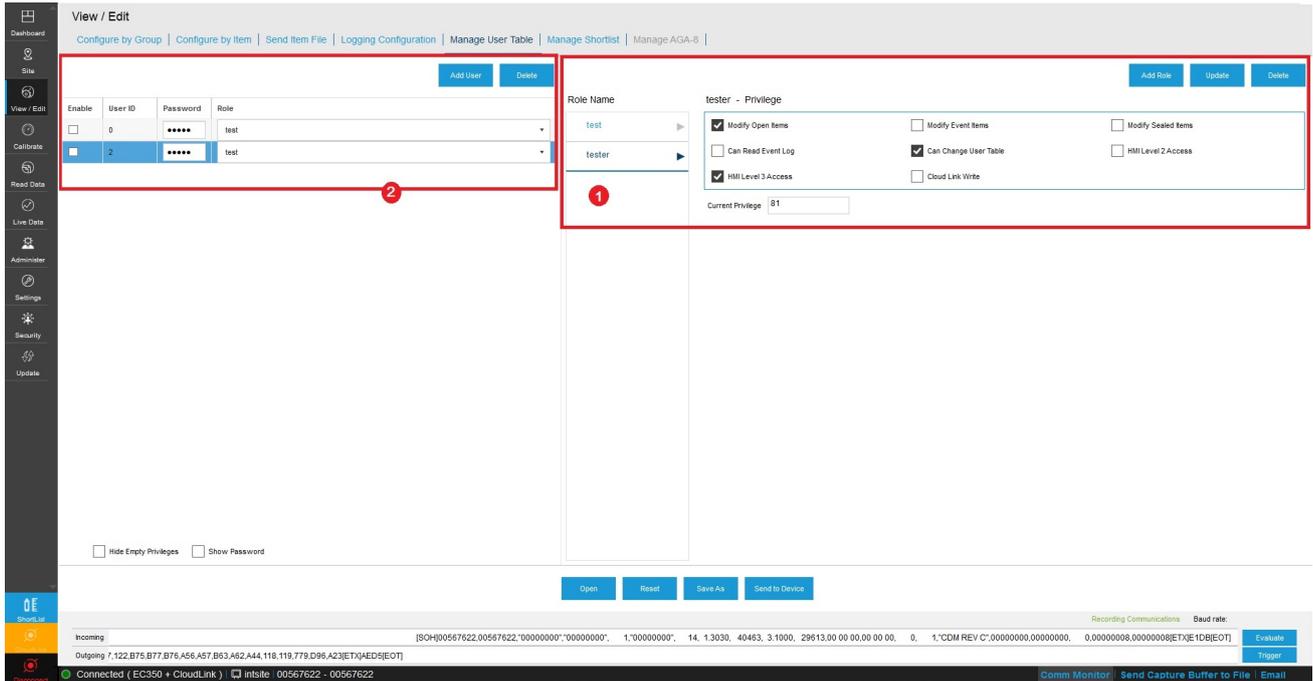
Attention: It is recommended to save the item file and log configuration file before changing the memory allocation of the logs.

3.4.5 Manage User Table

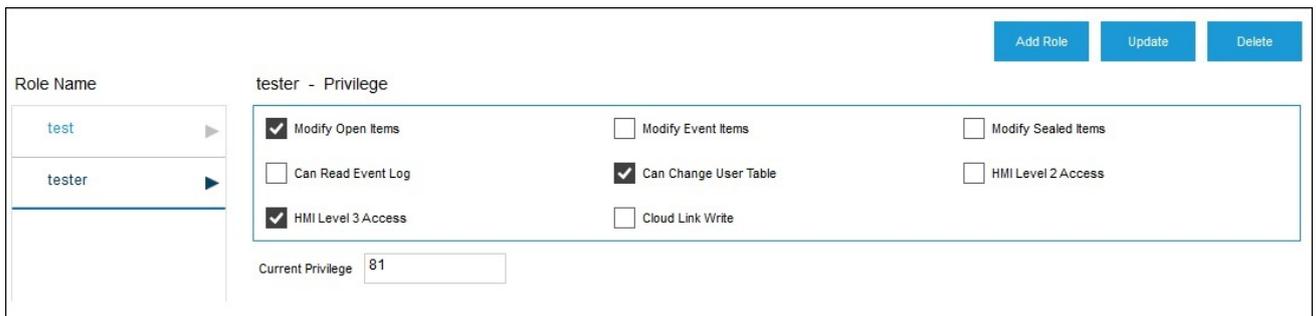
Access to an instrument can be controlled by defining users and assigning them Pass codes with defined privileges. Start by creating a role, then assign the role to the user and define Passcode.

User IDs and Pass codes are used to log-in to an instrument. When creating a user account, assign User ID, and a Passcode, and assign a role to the new user. Valid User IDs are 0 through 99 (decimal numeric). Valid pass codes are 00000 through 99999 (decimal numeric). The Passcode must be 5 digits in length.

Click on **Open** and load an existing saved .UTE (Manage User Table) file.



Based on the privileges assigned to the role, the value of the privilege changes or vice-versa.



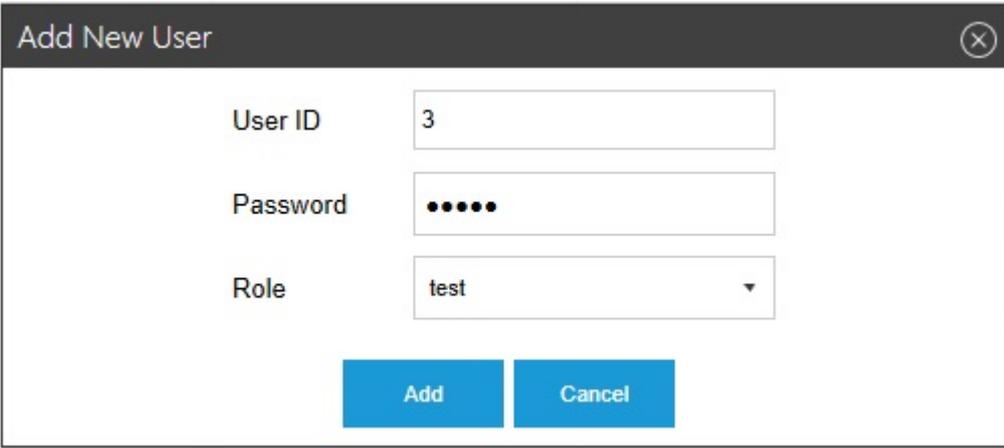
1. Click the check box under privileges to assign permissions to the role.
2. After a role is created, click **Add User** to create a new user.
3. After updating the privileges, click **Update** to save the changes.

The following privileges can be granted:

- Modify Open Items
- Modify Event Items
- Modify Sealed Items
- Can Read Event Log
- Can Change User table
- HMI Level 2 Access
- HMI Level 3 Access
- CloudLink Write

To add a user:

1. Click **Add User** to add new users.



The screenshot shows a dialog box titled "Add New User" with a close button in the top right corner. The dialog contains three input fields: "User ID" with the value "3", "Password" with six dots, and "Role" with a dropdown menu showing "test". At the bottom of the dialog are two blue buttons: "Add" and "Cancel".

2. Enter the **User ID** and **Password**.
3. Assign a role or change the role of an existing user by selecting a different role from the **Role** drop-down.
4. Click **Add** to complete the process of adding a new user.

Click **Save As** to save a copy of the user table created. This user table is encrypted and saved in .UTE format.

Click on **Send to Device** to send a user table to the connected instrument.

Note: For CNI4 device, the User Table must be created with only one user.

3.4.6 Manage Shortlist

A Shortlist is the same as the standard Item list (stores the current instrument's item values), except that you can customize it to include required items.

To create a Shortlist:

1. Start by selecting the instrument type.
2. The items displayed in the **Items** column are populated based on the selected instrument type.
3. Use the **Add** button to move selections to the **Selected Items** pane.
4. Items listed in the **Selected Items** column will be printed using Shortlist Report.

The **Save** option, saves the Shortlist to the database.

The **Save Setup to file** option exports the shortlist.

Note: By default, instrument specific short lists are created (all sites). Use the Site ID 1 and Site ID 2 drop-downs to create site specific short lists. The short list files are named as <SiteID1>_<SiteID2>_yymmddhmmss.CE3 file. **Example:** 44571111_44571111_161214120204

You can save and download the Shortlist as a file for later use. You can also read an existing Shortlist file.

Note: By default all shortlist files are stored in C:\ProgramData\Honeywell\MasterLink\ShortListFiles.

3.4.7 Manage AGA-8

AGA-8 calculations determine the compressibility of natural gas and other hydrocarbons based on its components. These calculations are ideally designed to determine the compressibility of natural gas. These calculations can be gross or detailed. These (.aga) files can be generated using SuiteSQL (MasterLink SQL) software. You can use the **Manage AGA-8** tab to send .aga files to a connected instrument. This feature is supported by the following legacy Mercury devices:

1. Mini-Max
2. Mini-AT
3. Accutest
4. Turbo Corrector
5. ECAT

On the Manage AGA screen, **Browse** and then select a .aga file.

The screenshot shows the MasterLink User Interface. On the left is a vertical navigation menu with icons and labels for: Dashboard, Site, View / Edit (highlighted), Calibrate, Read Data, Live Data, Administer, Settings, Security, Update, ShortList, CloudLink, and Disconnect. The main content area is titled 'View/ Edit' and contains a horizontal menu with options: Configure by Group, Configure by Item, Send Item File, Logging Configuration, Manage User Table, Manage Shortlist, and Manage AGA-8 (highlighted). Below this menu, there is a text input field labeled 'AGA8 File Path:' containing the path 'C:\Users\le842801\Desktop\Natgas_2012_12_20.AGA'. To the right of the input field are two blue buttons: 'Browse' and 'Send'. At the bottom of the interface, a status bar shows 'Connected (Mini Max) | MiniMax-12345 13217894 - 13217894' and 'Comm Monitor | Send Capture Buffer to File | Email'.

Finally click **Send** to send the .aga file to the connected legacy Mercury instrument.

3.5 Calibrate

3.5.1 Pressure Calibration P1

This procedure is used to calibrate the pressure transducer to a pressure calibration standard.

Understanding Pressure Calibration:

This is a simple two-point calibration. First, calibrate pressure at a low scale pressure and then again at a high scale pressure. Each time, adjust the pressure calculated by the instrument to match the reading from your pressure standard (reference standard calibrator). Adjusting the low scale pressure is called "**Zero Calibration**" while adjusting the high scale pressure is called "**Span Calibration**". Span calibration actually uses some of the information determined from performing the zero calibration. For this reason, you will need to at least "sample" a low scale pressure before you can begin the span calibration. Sampling occurs when you indicate that the pressure is ready to be averaged.

Before starting the Pressure Calibration:

Make certain that the following items have been verified for correctness:

1. Pressure Calibrator
2. Pressure Unit Code (unit of measure)
3. Transducer Serial Number (assigned at the factory)
4. Type of Transducer (gauge or absolute)

P1 Calibration table displays current Calibration pressure and two previous pressure values along with Calibration date in mm-dd-yy format. Current span Calibration pressure and two previous pressure values are also displayed.

To calibrate pressure:

1. Apply a zero reference pressure (low range) to the P1 pressure transducer of the instrument, and wait for the instrument to stabilize.
2. Click **Average Now** to apply a zero reference pressure to the instrument.

The screenshot shows the 'Calibrate' interface with the 'Pressure 1 Zero Calibration' table. The 'Average Now' button is highlighted with a red box. The 'Live Pressure' field shows 15.296 PSI.

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.7819	PSI
18	Cal Prev-1 P1-Zero	-2.7819	PSI
19	Cal Prev-2 P1-Zero	0.0480	PSI
20	Calibration P1-Span	1.1706	---
21	Cal Prev-1 P1-Span	0.9921	---
22	Cal Prev-2 P1-Span	1.0000	---
23	Min PCal Point Diff %	50.0000	---

Live Pressure: 15.296 PSI

Average Now Change

Start Calibration Done Span Calibration

Incoming [SOH]008[STX] 15.448[ETX]3444[EOT] [SOH]008[STX] 15.447[ETX]249A[EOT] [SOH]008[STX] 15.296[ETX]7263[EOT] Evaluate

Outgoing [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] Trigger

Connected (EC350) Direct Connect 00201201 - 00201201 Comm Monitor Send Capture Buffer to File Email

The screenshot shows the 'Calibrate' interface with the 'Please wait...' dialog box open. The 'Average Now' button is highlighted. The 'Live Pressure' field shows 'Averaging...'.

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.8254	PSI
18	Cal Prev-1 P1-Zero	-2.7819	PSI
19	Cal Prev-2 P1-Zero	-2.7819	PSI
20	Calibration P1-Span	1.3366	---
21	Cal Prev-1 P1-Span	1.1706	---
22	Cal Prev-2 P1-Span	0.9921	---
23	Min PCal Point Diff %	50.0000	---

Live Pressure: Averaging... PSI

Average Now Change

Please wait... Cancel

Start Calibration Done Span Calibration

Incoming :OT] [SOH]008[STX] 19.039[ETX]4317[EOT] [SOH]008[STX] 19.039[ETX]4317[EOT] Evaluate

Outgoing [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] Trigger

Connected (EC350) Direct Connect 00201201 - 00201201 Comm Monitor Send Capture Buffer to File Email

3. The averaged pressure appears. Click **Change** to enter a zero cal point.

- Dashboard
- Site
- View / Edit
- Calibrate
- Read Data
- Live Data
- Administer
- Settings
- Security
- Update
- ShortList
- Comm Monitor

Calibrate

[P1 Calibration](#) |
 [P2 Calibration](#) |
 [Temperature Calibration](#) |
 [Calibration Parameter](#)

Pressure 1 Zero Calibration

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.7819	PSI
18	Cal Prev-1 P1-Zero	-2.7819	PSI
19	Cal Prev-2 P1-Zero	0.0480	PSI
20	Calibration P1-Span	1.1706	---
21	Cal Prev-1 P1-Span	0.9921	---
22	Cal Prev-2 P1-Span	1.0000	---
23	Min PCal Point Diff %	50.0000	---

Apply any 'zero reference' pressure to the instrument's pressure input and wait for the instrument to stabilize before pressing the AVERAGE NOW button. After the averaged pressure is displayed, press the NEXT button to enter a new ZERO cal point.

Live Pressure PSI

Recording Communications Baud rate:

Evaluate

Trigger

Comm Monitor Send Capture Buffer to File Email

Connected (EC350) Direct Connect 00201201 - 00201201

- Change the value to accurately match the zero reference pressure applied to the pressure transducer. Click **Apply**.

The screenshot shows the 'Calibrate' section of the MasterLink User Interface. A 'Change Pressure Calibration Value' dialog box is open, displaying a 'Reference Pressure' of -1.853 PSI. The 'Apply' button is highlighted with a red box. In the background, a table lists calibration items, and a 'Pressure 1 Zero Calibration' section shows a value of -1.853 PSI. A status bar at the bottom indicates 'Connected (EC350)' and 'Direct Connect2 | 00201201 - 00201201'.

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.7819	PSI
18	Cal Prev-1 P1-Zero	-2.7819	PSI
19	Cal Prev-2 P1-Zero	0.0480	PSI
20	Calibration P1-Span	1.1706	---
21	Cal Prev-1 P1-Span	0.9921	---
22	Cal Prev-2 P1-Span	1.0000	---
23	Min PCal Point Diff %	50.0000	---

The screenshot shows the 'Calibrate' section after a successful calibration. A 'Success!' message box is displayed in the center, stating 'Zero Calibration Successful.' The background table shows updated values, including a 'Calibration P1-Zero' value of -2.8404 PSI. The status bar at the bottom indicates 'Connected (EC350)' and 'Direct Connect2 | 00201201 - 00201201'.

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.8404	PSI
18	Cal Prev-1 P1-Zero	-2.8254	PSI
19	Cal Prev-2 P1-Zero	-2.7819	PSI
20	Calibration P1-Span	1.3366	---
21	Cal Prev-1 P1-Span	1.1706	---
22	Cal Prev-2 P1-Span	0.9921	---
23	Min PCal Point Diff %	50.0000	---

- Click **Span Calibration**. Apply a high pressure such that the pressure applied is at least 50% more than the zero reference pressure. Wait for the pressure reading displayed on the Pressure 1 dialog box to exceed the zero reference pressure by 50%.

Note: For example, if the zero reference pressure on a 100 PSI transducer equals 0.00 PSI, then the span reference pressure must be between 50.00 and 100.00 PSI. If the zero reference pressure on a 600 PSI transducer equals 0.00 PSI, then the span reference pressure must be between 300.00 and 600.00 PSI.

Calibrate

P1 Calibration | P2 Calibration | Temperature Calibration | Calibration Parameter

Pressure 1 Zero Calibration

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.7724	PSI
18	Cal Prev-1 P1-Zero	-2.8404	PSI
19	Cal Prev-2 P1-Zero	-2.8254	PSI
20	Calibration P1-Span	1.3366	----
21	Cal Prev-1 P1-Span	1.1706	----
22	Cal Prev-2 P1-Span	0.9921	----
23	Min PCal Point Diff %	50.0000	----

Live Pressure: 19.407 PSI

Average Now Change

Start Calibration Done **Span Calibration**

Incoming [SOH]008[STX] 19.406[ETX]C088[EOT] [SOH]008[STX] 19.407[ETX]F3B9[EOT] [SOH]008[STX] 19.407[ETX]F3B9[EOT] Evaluate

Outgoing [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] Trigger

Connected (EC350) Direct Connect 00201201 - 00201201 Comm Monitor Send Capture Buffer to File Email

Calibrate

P1 Calibration | P2 Calibration | Temperature Calibration | Calibration Parameter

Pressure 1 Span Calibration

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.6744	PSI
18	Cal Prev-1 P1-Zero	-2.7724	PSI
19	Cal Prev-2 P1-Zero	-2.8404	PSI
20	Calibration P1-Span	1.3366	----
21	Cal Prev-1 P1-Span	1.1706	----
22	Cal Prev-2 P1-Span	0.9921	----
23	Min PCal Point Diff %	50.0000	----

Live Pressure: 19.615 PSI

Average Now Change

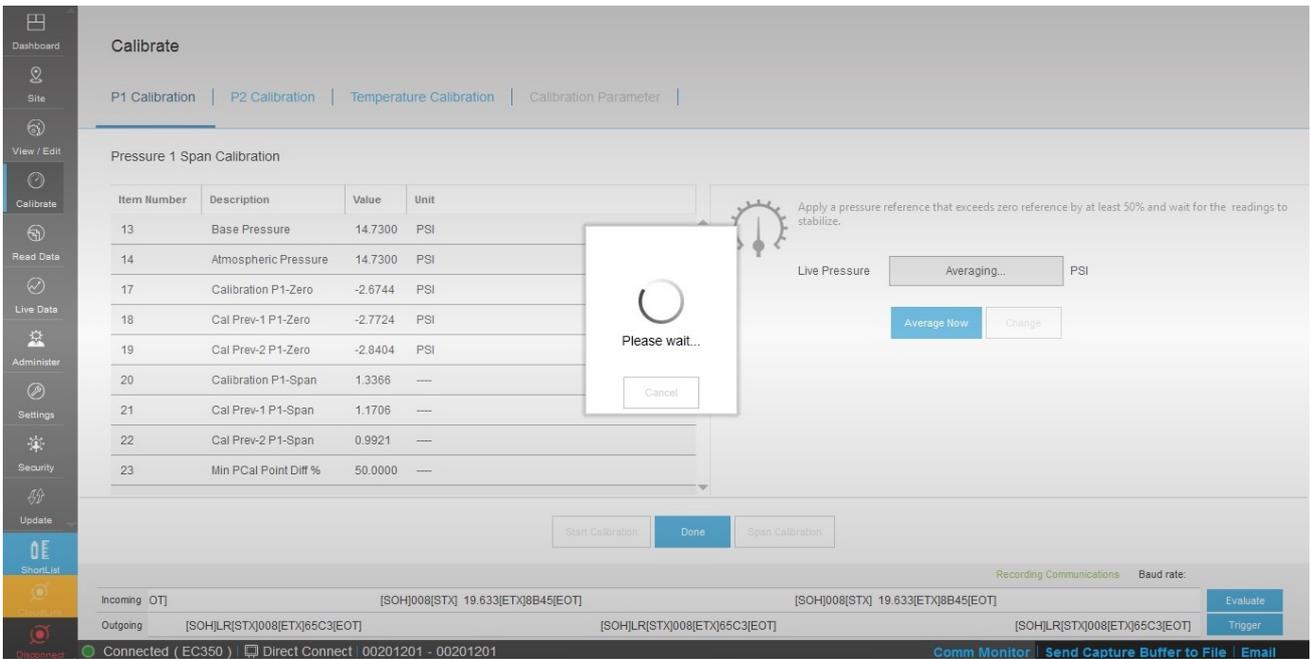
Start Calibration Done **Span Calibration**

Incoming OT] [SOH]008[STX] 19.614[ETX]7CB2[EOT] [SOH]008[STX] 19.615[ETX]4F83[EOT] Evaluate

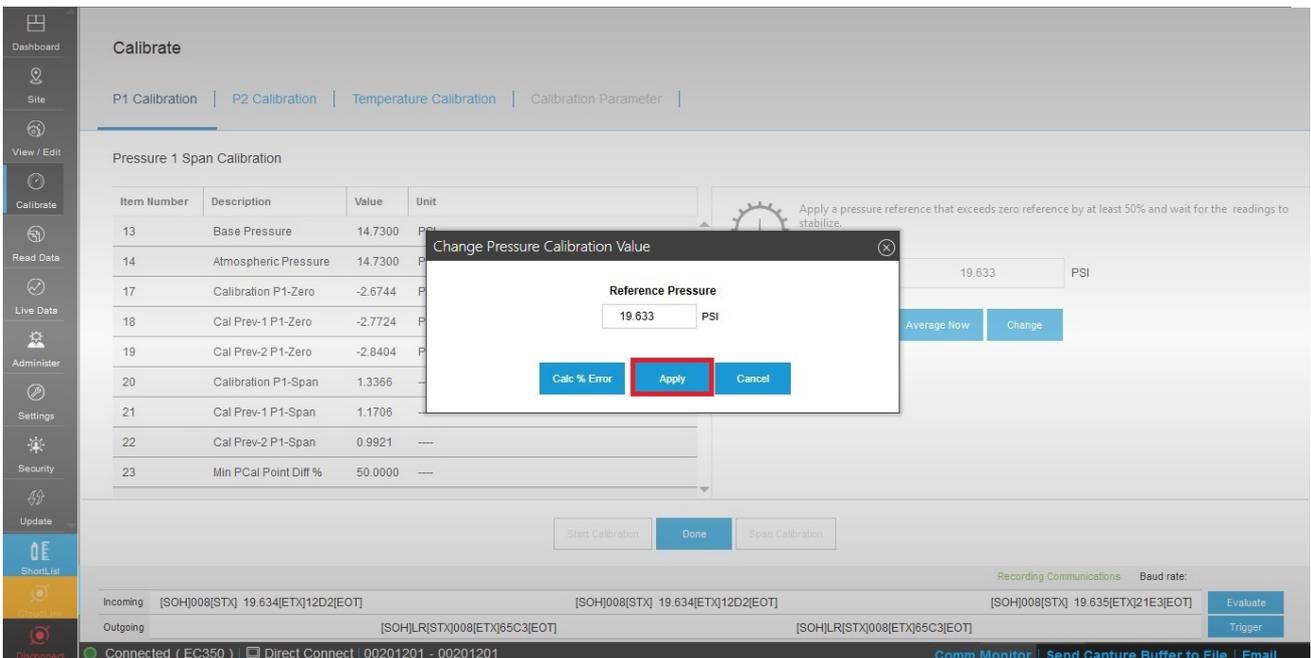
Outgoing [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] Trigger

Connected (EC350) Direct Connect 00201201 - 00201201 Comm Monitor Send Capture Buffer to File Email

- After the pressure stabilizes, click **Average Now**. MasterLink averages the reading and displays the average pressure.



7. Click **Apply**.



Calibrate

P1 Calibration | P2 Calibration | **Temperature Calibration** | Calibration Parameter

Pressure 1 Span Calibration

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.6774	PSI
18	Cal Prev-1 P1-Zero	-2.7724	PSI
19	Cal Prev-2 P1-Zero	-2.8404	PSI
20	Calibration P1-Span	1.3366	---
21	Cal Prev-1 P1-Span	1.3366	---
22	Cal Prev-2 P1-Span	1.1706	---
23	Min PCal Point Diff %	50.0000	---

Apply a pressure reference that exceeds zero reference by at least 50% and wait for the readings to stabilize.

Pressure: 19.647 PSI

Success !
Span Calibration Successful.

Average Now Change

Start Calibration Done Span Calibration

Recording Communications Baud rate:

Incoming OT] [SOH]008[STX] 19.647[ETX]C211[EOT] [SOH]008[STX] 19.647[ETX]C211[EOT] Evaluate

Outgoing [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]008[ETX]65C3[EOT] Trigger

Connected (EC350) | Direct Connect | 00201201 - 00201201 | Comm Monitor | Send Capture Buffer to File | Email

- To complete the calibration process, restore the normal line pressure to the instrument, and then click **Done**.

The screenshot displays the 'Calibrate' interface for 'Pressure 1 Span Calibration'. A modal dialog box titled 'Restore Line Pressure' is open, displaying the following text:

To Complete the calibration process, first restore normal line pressure to the instrument and click done. To return to calibration click Recalibration.

P1 Gas Pressure : 19.662 PSI

Buttons: Recalibrate, Done

The background interface shows a table of calibration parameters:

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
17	Calibration P1-Zero	-2.6774	PSI
18	Cal Prev-1 P1-Zero	-2.7724	PSI
19	Cal Prev-2 P1-Zero	-2.8404	PSI
20	Calibration P1-Span	1.3366	PSI
21	Cal Prev-1 P1-Span	1.3366	PSI
22	Cal Prev-2 P1-Span	1.1706	PSI
23	Min PCal Point Diff %	50.0000	%

At the bottom of the interface, there is a 'Start Calibration' button, a 'Done' button, and a 'Span Calibration' button. The status bar at the bottom shows 'Connected (EC350)', 'Direct Connect | 00201201 - 00201201', and 'Comm Monitor | Send Capture Buffer to File | Email'.

- For Recalibration, click **Recalibrate** and repeat the same process.

3.5.2 Pressure Calibration P2

P2 Calibration contains different calibration items. The procedure is same as performed for P1 calibration.

Calibrate

P1 Calibration | **P2 Calibration** | Temperature Calibration | Calibration Parameter

Pressure 2 Zero Calibration

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
23	Min PCal Point Diff %	50.0000	---
24	Excess PCal Change %	2.0000	---
407	P2 Transducer Type	Gauge	---
408	P2 Pressure Units	PSI	---
409	# of Dec for P2 Press	X X X X . X X X	---
410	Calibration Date P2 Press	11-05-19	MM-DD-YY
412	P2 Press Range (PSI)	6.00	PSI

Apply any 'zero reference' pressure to the instrument's pressure input and wait for the instrument to stabilize before pressing the AVERAGE NOW button. After the averaged pressure is displayed, press the NEXT button to enter a new ZERO cal point.

Live Pressure: PSI

Recording Communications Baud rate:

Incoming [SOH]420[STX] 16.489[ETX]1DDD[EOT] [SOH]420[STX] 16.489[ETX]1DDD[EOT] [SOH]420[STX] 16.489[ETX]1DDD[EOT]

Outgoing [SOH]LR[STX]420[ETX]48FB[EOT] [SOH]LR[STX]420[ETX]48FB[EOT]

Connected (EC350) Direct Connect 00201201 - 00201201

3.5.3 Pressure Calibration P3

P3 Calibration contains different calibration items. The procedure is same as performed for P1 calibration.

ERX :

Calibrate

P1 Calibration | P2 Calibration | **P3 Calibration** | Temperature Calibration | Calibration Parameter

Pressure 3 Zero Calibration

Item Number	Description	Value	Unit
408	P3 Pressure Units	PSIG	---
410	Pressure 3 Calibration Date	08-13-19	MM-DD-YY
414	Pressure 3 Zero Offset	0.0580	PSIG
415	P3 Prev Cal Zero	0.0580	PSIG
417	P3 Span Factor	1.0000	---
418	P3 Prev Span Factor	1.0000	---
419	P3 Pressure Range User	20.00	PSIG
552	Press Disp Resolution	XXXXXXXX	---
569	Transducer Type	Gauge	---

Apply any 'zero reference' pressure to the instrument's pressure input and wait for the instrument to stabilize before pressing the AVERAGE NOW button. After the averaged pressure is displayed, press the NEXT button to enter a new ZERO cal point.

Live Pressure: PSIG

Recording Communications Baud rate: 9600

Incoming [SOH]420[STX] -2[ETX]6F35[EOT] [SOH]420[STX] -2[ETX]6F35[EOT] [SOH]420[STX] -2[ETX]6F35[EOT]

Outgoing 7B[EOT] [SOH]LR[STX]420[ETX]48FB[EOT] [SOH]LR[STX]420[ETX]48FB[EOT]

Connected (ERX) Direct Connect 00123456 - 00123456

ERX 350 :

- Dashboard
- Site
- View / Edit
- Calibrate**
- Read Data
- Live Data
- Administer
- Settings
- Security
- Update
- ShortList

Calibrate

[P1 Calibration](#) |
 [P2 Calibration](#) |
 [P3 Calibration](#) |
 [Temperature Calibration](#) |
 [Calibration Parameter](#)

Pressure 3 Zero Calibration

Item Number	Description	Value	Unit
23	Min PCal Point Diff %	50.0000	---
24	Excess PCal Change %	2.0000	---
88	# of Dec for P3 Press	XXXX.XXX	---
112	P3 Transducer Type	Gauge	---
408	P3 Pressure Units	PSI	---
410	Calibration Date P3 Press	01-01-01	MM-DD-YY
414	Calibration P3-Zero	0.0100	PSI
415	Cal Prev-1 P3-Zero	0.0000	PSI
417	Calibration P3-Span	0.9990	---

Apply any 'zero reference' pressure to the instrument's pressure input and wait for the instrument to stabilize before pressing the AVERAGE NOW button. After the averaged pressure is displayed, press the NEXT button to enter a new ZERO cal point.

Live Pressure PSI

Recording Communications Baud rate:

Incoming (T)	[SOH]420[STX] 21.533[ETX]6490[EOT]	[SOH]420[STX] 21.533[ETX]6490[EOT]	<input type="button" value="Evaluate"/>
Outgoing	[SOH]LR[STX]420[ETX]48FB[EOT]	[SOH]LR[STX]420[ETX]48FB[EOT]	<input type="button" value="Trigger"/>

● Connected (ERX350) Direct Connect | 00000000 - 00000000
 [Comm Monitor](#) |
 [Send Capture Buffer to File](#) |
 [Email](#)

EC 350 :

- Dashboard
- Site
- View / Edit
- Calibrate**
- Read Data
- Live Data
- Administer
- Settings
- Security
- Update
- ShortList

Calibrate

[P1 Calibration](#) |
 [P2 Calibration](#) |
 [P3 Calibration](#) |
 [Temperature Calibration](#) |
 [Calibration Parameter](#)

Pressure 3 Zero Calibration

Item Number	Description	Value	Unit
13	Base Pressure	14.7300	PSI
14	Atmospheric Pressure	14.7300	PSI
23	Min PCal Point Diff %	50.0000	---
24	Excess PCal Change %	2.0000	---
510	Calibration P3-Zero	0.0100	PSI
511	Cal Prev-1 P3-Zero	0.0000	PSI
512	Calibration P3-Span	0.9990	---
513	Cal Prev-1 P3-Span	1.0000	---
519	Calibration Date P3 Press	01-01-01	MM-DD-YY

Apply any 'zero reference' pressure to the instrument's pressure input and wait for the instrument to stabilize before pressing the AVERAGE NOW button. After the averaged pressure is displayed, press the NEXT button to enter a new ZERO cal point.

Live Pressure PSI

Recording Communications Baud rate:

Incoming (T)	[SOH]501[STX] 16.382[ETX]0BCA[EOT]	[SOH]501[STX] 7.379[ETX]31BB[EOT]	<input type="button" value="Evaluate"/>
Outgoing	[SOH]LR[STX]501[ETX]631E[EOT]	[SOH]LR[STX]501[ETX]631E[EOT]	<input type="button" value="Trigger"/>

● Connected (EC350) test1 | 00000000 - 00000000
 [Comm Monitor](#) |
 [Send Capture Buffer to File](#) |
 [Email](#)

3.5.4 Temperature Calibration

Understanding Temperature Calibration

This is a simple two-point calibration. First, calibrate the gas temperature sensor at a low scale temperature and then again at a high scale temperature. Each time, adjust the temperature calculated by the instrument to match the reading from your reference standard calibrator.

Adjusting the low scale temperature is called **Zero Calibration** while adjusting the high scale temperature is called **Span Calibration**. A low temperature source, usually an ice bath (32 °F) is used to determine the Temperature Zero Calibration. A higher temperature source is used to determine the Temperature Span Calibration (gain). The default Calibration Parameters require the Span Temperature exceed the Zero Temperature by at least 10% of the instrument's temperature range.

Span calibration actually uses some of the information determined from performing the zero calibration. For this reason, you will need to at least "sample" a low scale temperature before you can begin the span calibration. Sampling occurs when you indicate that the temperature is ready to be averaged.

To calibrate temperature:

Insert the temperature probe of the instrument, along with an accurately calibrated thermometer into a low temperature bath or dry well, which provides the temperature zero reference. Wait for the temperature reading displayed on the Temperature Calibration dialog box to be stabilized.

1. Click **Average Now**. MasterLink averages the reading and displays the average temperature.

The screenshot shows the 'Calibrate' interface with the 'Temperature Calibration' tab selected. The 'Temperature Span Calibration' section contains a table with the following data:

Item Number	Description	Value	Unit
31	Case Temperature	76.24	F
34	Base Temperature	60.00	F
35	Calibration T-Zero	0.5300	F
36	Cal Prev-1 T-Zero	0.0000	F
37	Cal Prev-2 T-Zero	0.0000	F
38	Calibration T-Span	1.0000	----
39	Cal Prev-1 Temp-Span	1.0000	----
40	Cal Prev-2 Temp-Span	1.0000	----
41	Min TCal Point Diff %	10.0000	----

Below the table, the 'Live Temperature' is shown as -136.78 F. The 'Average Now' button is highlighted with a red box. The interface also includes a 'Start Calibration' button, a 'Done' button, and a 'Span Calibration' button. The bottom status bar shows 'Connected (EC350)' and 'Direct Connect 00000000 - 00000000'.

The screenshot shows the 'Calibrate' interface with the 'Temperature Calibration' tab selected. The 'Temperature Zero Calibration' section contains a table with the following data:

Item Number	Description	Value	Unit
31	Case Temperature	76.15	F
34	Base Temperature	60.00	F
35	Calibration T-Zero	-0.0034	F
36	Cal Prev-1 T-Zero	0.0000	F
37	Cal Prev-2 T-Zero	0.0000	F
38	Calibration T-Span	1.0034	----
39	Cal Prev-1 Temp-Span	1.0000	----
40	Cal Prev-2 Temp-Span	1.0000	----
41	Min TCal Point Diff %	10.0000	----

Below the table, the 'Live Temperature' is shown as 'Averaging...'. A 'Please wait...' dialog box is displayed over the 'Live Temperature' field. The 'Average Now' button is visible. The interface also includes a 'Start Calibration' button, a 'Done' button, and a 'Span Calibration' button. The bottom status bar shows 'Connected (EC350)' and 'Direct Connect 00012345 - 00012345'.

2. The averaged temperature appears. Click **Change** to change the value to accurately match the temperature measured by the calibrated thermometer placed in the low temperature bath.

Calibrate

P1 Calibration | P2 Calibration | **Temperature Calibration** | Calibration Parameter

Temperature Span Calibration

Item Number	Description	Value	Unit
31	Case Temperature	76.24	F
34	Base Temperature	60.00	F
35	Calibration T-Zero	0.5300	F
36	Cal Prev-1 T-Zero	0.0000	F
37	Cal Prev-2 T-Zero	0.0000	F
38	Calibration T-Span	1.0000	----
39	Cal Prev-1 Temp-Span	1.0000	----
40	Cal Prev-2 Temp-Span	1.0000	----
41	Min TCal Point Diff %	10.0000	----

Live Temperature: 110.81 F

Average Now **Change**

Start Calibration Done Span Calibration

Incoming [SOH]026[STX] 110.81[ETX]1092[EOT] [SOH]026[STX] 110.81[ETX]1092[EOT] [SOH]026[STX] 110.81[ETX]1092[EOT] Evaluate

Outgoing [SOH]LR[STX]026[ETX]28AC[EOT] [SOH]LR[STX]026[ETX]28AC[EOT] Trigger

Connected (EC350) Direct Connect 00000000 - 00000000 Comm Monitor Send Capture Buffer to File Email

3. Click Apply.

Calibrate

P1 Calibration | P2 Calibration | **Temperature Calibration** | Calibration Parameter

Temperature Span Calibration

Item Number	Description	Value	Unit
31	Case Temperature	76.24	F
34	Base Temperature	60.00	F
35	Calibration T-Zero	0.5300	F
36	Cal Prev-1 T-Zero	0.0000	F
37	Cal Prev-2 T-Zero	0.0000	F
38	Calibration T-Span	1.0000	----
39	Cal Prev-1 Temp-Span	1.0000	----
40	Cal Prev-2 Temp-Span	1.0000	----
41	Min TCal Point Diff %	10.0000	----

Live Temperature: 110.81 F

Average Now **Change**

Start Calibration Done Span Calibration

Incoming [SOH]026[STX] 110.81[ETX]1092[EOT] [SOH]026[STX] 110.81[ETX]1092[EOT] [SOH]026[STX] 110.81[ETX]1092[EOT] Evaluate

Outgoing [SOH]LR[STX]026[ETX]28AC[EOT] [SOH]LR[STX]026[ETX]28AC[EOT] Trigger

Connected (EC350) Direct Connect 00000000 - 00000000 Comm Monitor Send Capture Buffer to File Email

Change Temperature Calibration Value

Reference Pressure: 110.81 F

Calc % Error **Apply** Cancel

Note: On entering incorrect values, an error message is displayed.

Calibrate

P1 Calibration | P2 Calibration | **Temperature Calibration** | Calibration Parameter

Temperature Span Calibration

Item Number	Description	Value	Unit
31	Case Temperature	76.24	F
34	Base Temperature	60.00	F
35	Calibration T-Zero	0.5300	F
36	Cal Prev-1 T-Zero	0.0000	F
37	Cal Prev-2 T-Zero	0.0000	F
38	Calibration T-Span	1.0000	---
39	Cal Prev-1 Temp-Span	1.0000	---
40	Cal Prev-2 Temp-Span	1.0000	---
41	Min TCal Point Diff %	10.0000	---

Temperature: F

Information

The difference between zero calibration point and span calibration point is not great enough. Please set the span calibration point greater than 10.00 % of the transducer range. Note: The minimum difference between calibration points is configurable through Item 41

Buttons: Start Calibration, Done, Span Calibration

Recording Communications Baud rate: [Evaluate]

Incoming: [SOH]026[STX]-136.78[ETX]969A[EOT] [SOH]026[STX]-136.79[ETX]A5AB[EOT] [SOH]026[STX]-136.76[ETX]B595[EOT]

Outgoing: [SOH]LR[STX]026[ETX]28AC[EOT] [SOH]LR[STX]026[ETX]28AC[EOT]

Connected (EC350) Direct Connect 00000000 - 00000000 Comm Monitor Send Capture Buffer to File Email

Calibrate

P1 Calibration | P2 Calibration | **Temperature Calibration** | Calibration Parameter

Temperature Span Calibration

Item Number	Description	Value	Unit
31	Case Temperature	76.42	F
34	Base Temperature	60.00	F
35	Calibration T-Zero	1.1904	F
36	Cal Prev-1 T-Zero	0.0000	F
37	Cal Prev-2 T-Zero	0.0000	F
38	Calibration T-Span	1.0048	---
39	Cal Prev-1 Temp-Span	1.0000	---
40	Cal Prev-2 Temp-Span	1.0000	---
41	Min TCal Point Diff %	10.0000	---

Temperature: F

Success!

Span Calibration Successful.

Buttons: Start Calibration, Done, Span Calibration

Recording Communications Baud rate: [Evaluate]

Incoming: 0,01-01-01, 0, 0[ETX]8B3D[EOT] [SOH]026[STX] 111.84[ETX]4536[EOT] [SOH]026[STX] 111.84[ETX]4536[EOT]

Outgoing: [SOH]LR[STX]026[ETX]28AC[EOT] [SOH]LR[STX]026[ETX]28AC[EOT]

Connected (EC350) Direct Connect 00000000 - 00000000 Comm Monitor Send Capture Buffer to File Email

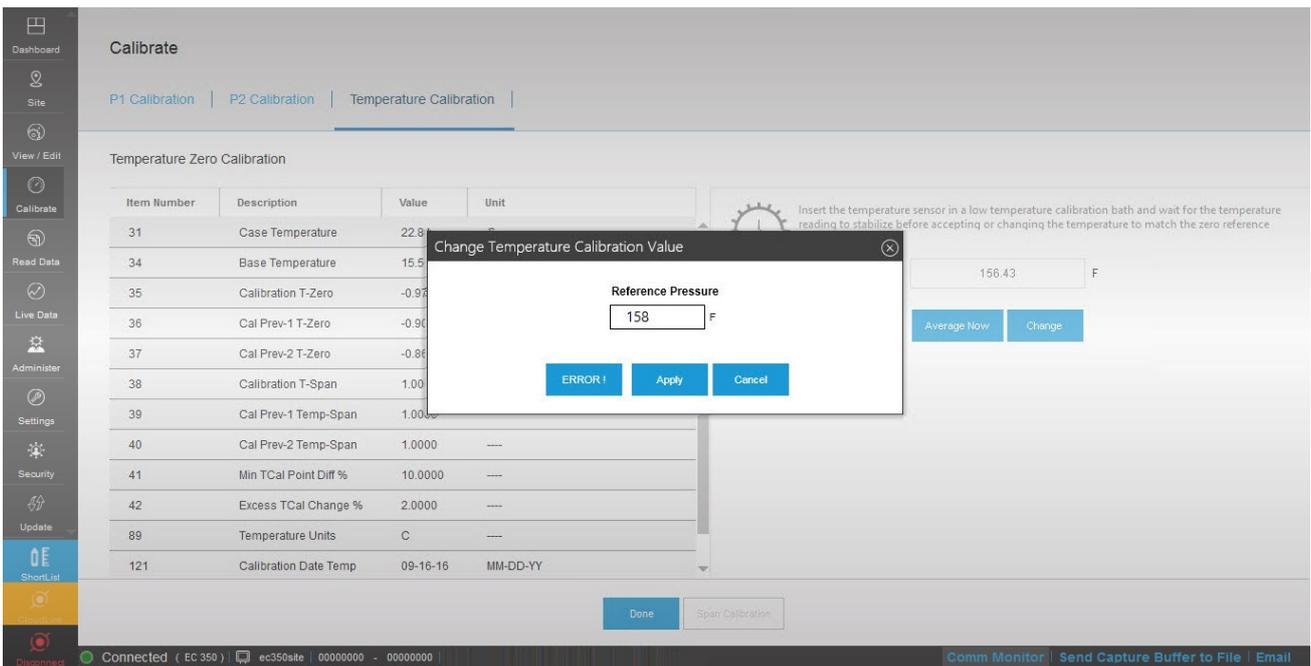
4. Click **Span Calibration**.

Insert the temperature probe of EC 350 and the calibrated thermometer into a high temperature bath, which provides the temperature span reference. The temperature reading displayed on the Temperature Calibration dialog box must exceed the zero reference temperature by at least 15% to proceed with span calibration.

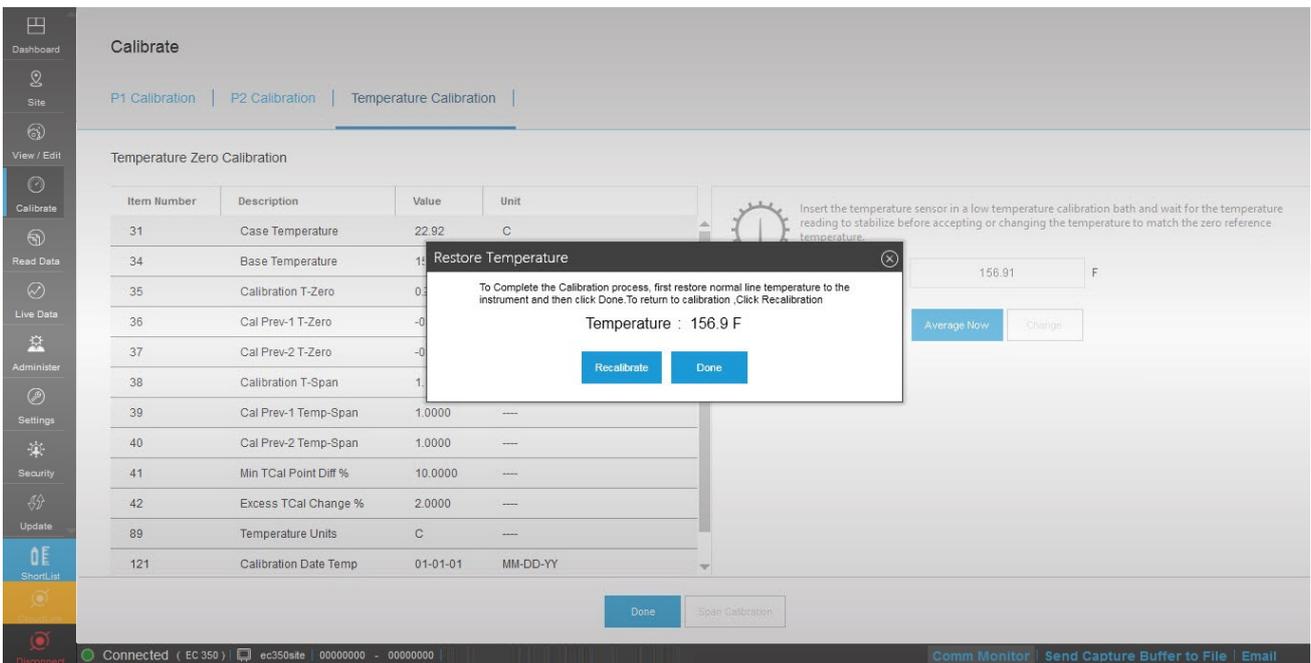
5. After the reading stabilizes, click **Average Now**.

MasterLink averages the reading and displays the average temperature.

- Click **Change**. Change the value to accurately match the temperature measured by the calibrated thermometer placed in the high calibration bath. Finally click **Apply**.



- To complete the calibration process, first restore normal line temperature to the instrument, and then click **Done**.



Note: Supported temperature range: -40 °C to 70 °C

- For Recalibration, click **Recalibrate** and repeat the same process.

3.5.5 Calibration Parameter

This tab is used to configure calibration parameters for legacy Mercury devices, such as ERX, ER, and Mini.

The screenshot displays the MasterLink user interface. On the left is a vertical navigation menu with icons and labels for: Dashboard, Site, View / Edit, Calibrate (highlighted), Read Data, Live Data, Administer, Settings, Security, Update, ShortList, CloudLink, and Disconnected. The main content area is titled "Calibrate" and contains a breadcrumb trail: P1 Calibration | P2 Calibration | P3 Calibration | Temperature Calibration | Calibration Parameter. Below the breadcrumb are four input fields for calibration parameters:

Minimum TCal Point Difference %	<input type="text" value="15"/>
Excess TCal Change %	<input type="text" value="2"/>
Minimum PCal Point Difference %	<input type="text" value="50"/>
Excess PCal Change %	<input type="text" value="2"/>

At the bottom center of the main area is a blue "Save" button. The bottom status bar shows a green "Connected" indicator, the device name "(ERX)", and connection details "Direct Connect 1 | 13217891 - 13217891". On the right side of the status bar are links for "Comm Monitor", "Send Capture Buffer to File", and "Email".

Enter the values and click **Save** to calibrate the connected legacy Mercury device.

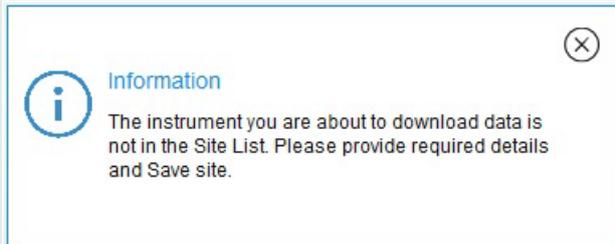
3.6 Read Data

The Read data functionality is now re-designed to read and report data from the same screen. Users can read the logs from the instrument and can also generate reports.

In EC 350/Standalone mode, tabs corresponding to cellular logs and diagnostic logs are disabled.

While working with a CloudLink modem, if you start downloading the device logs, you cannot cancel or abort the ongoing download process.

Attention: The site must be added to MasterLink application to use the **Read Data** tab. If the site is not already added, the following warning pop-up message appears.

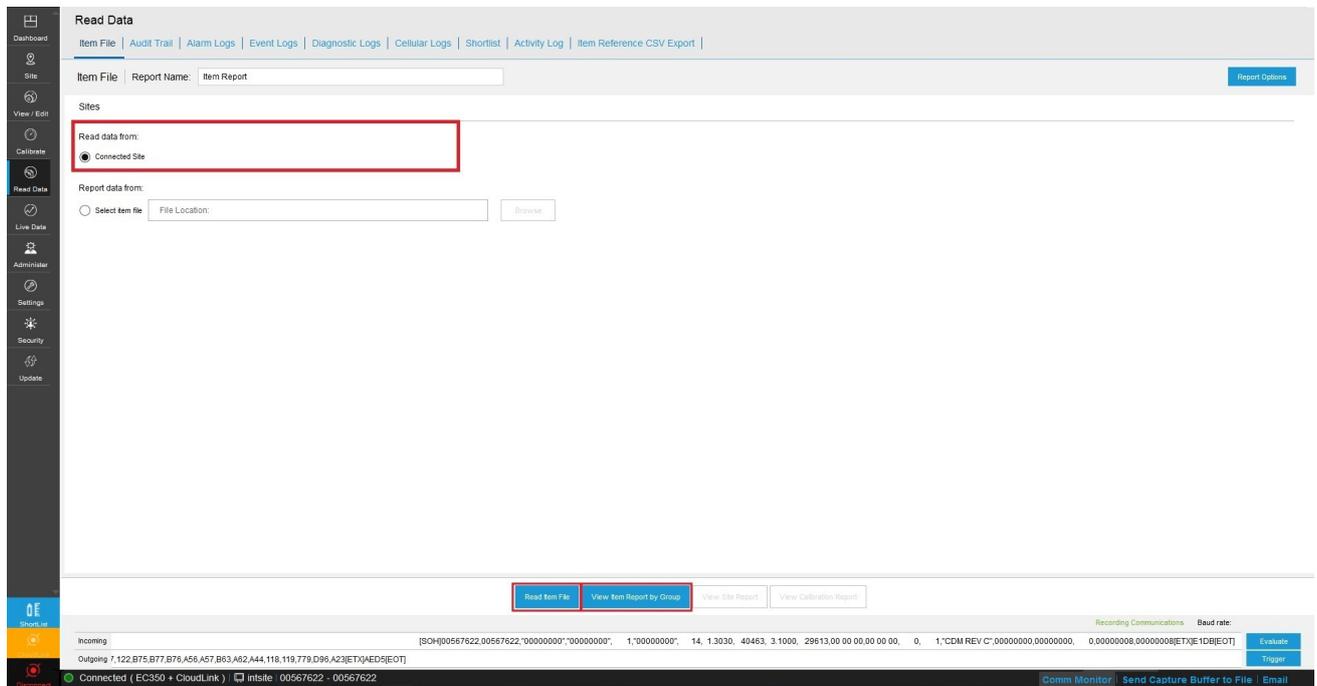


After closing the warning pop-up message, the **Add Site** page will appear. Provide required site details and click on **Save**.

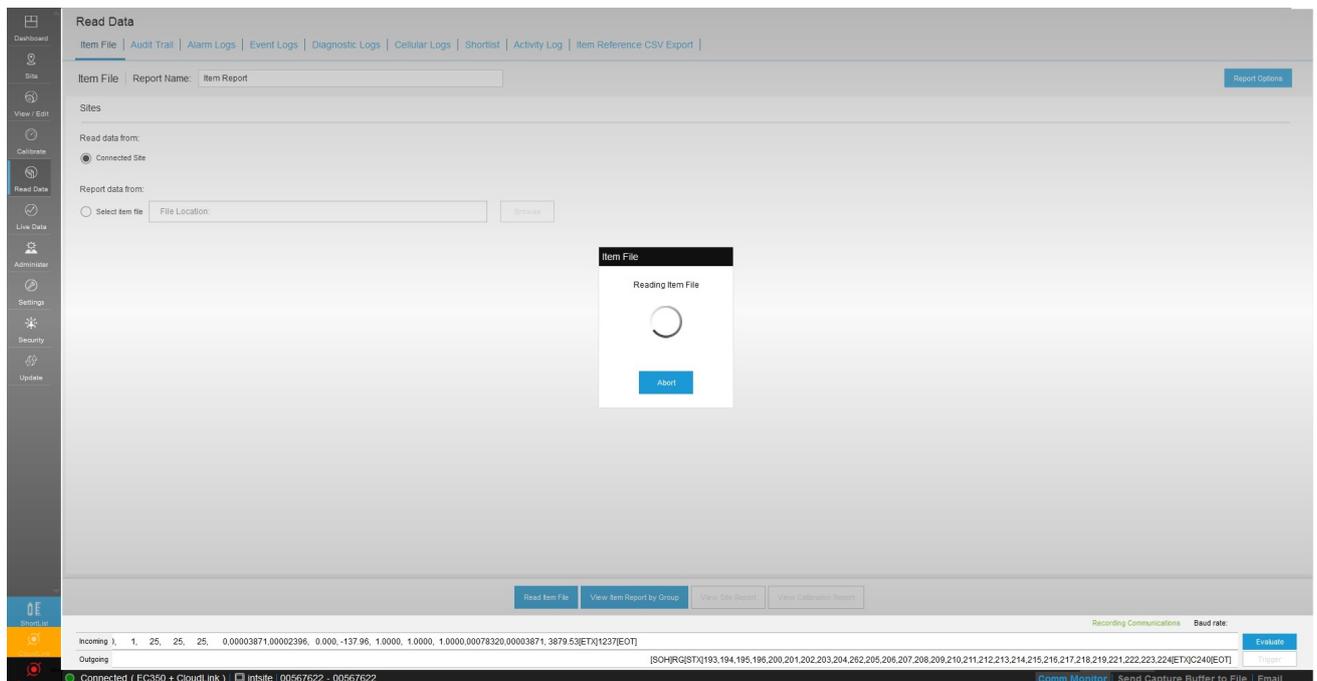
3.6.1 Item File

Use the **Item File** tab to read the item numbers and their current values from the instrument. An Item File stores the connected site instrument's item values in a file (*.IE3 for EC 350, *.ICL for CloudLink Modem, *.ECL for EC 350 + CloudLink Modem).

Item file can be read (online) from the connected instrument or can be viewed (offline) from a stored item file.



On checking the **Connected Site** click **Read Item File** tab.



The Item File report appears.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export

Item File
Report Name: Item Report

Site ID: 00567622-00567622 | Site Name: insite | Serial Number: 00000000 | Firmware Version: 1.3030 | Item File Name: EC350_CloudLink_00567622_191120155411.ECL

Item Num	Item Description	Item Value	Item Units
0000	Corrected Volume	00000900	CCF
0002	Uncorrected Volume	00075903	CCF
0005	Ch-A Pulses Waiting	09999023	---
0006	Ch-B Pulses Waiting	09999031	---
0007	Ch-C Pulses Waiting	00000000	---
0008	P1 Gas Pressure	0.000	PSI
0010	P1 High Alarm Limit	2.000	PSI
0011	P1 Low Alarm Limit	-1.000	PSI
0012	P1 Cal Atmos Pressure	0.0000	PSI
0013	Base Pressure	10.0000	PSI
0014	Atmospheric Pressure	10.0000	PSI
0015	Press used at P1-Zero	0.000	PSI
0016	Press used at P1-Span	0.000	PSI
0017	Calibration P1-Zero	0.0000	PSI
0018	Cal Prev-1 P1-Zero	0.0000	PSI
0019	Cal Prev-2 P1-Zero	0.0000	PSI
0020	Calibration P1-Span	1.0000	---
0021	Cal Prev-1 P1-Span	1.0000	---
0022	Cal Prev-2 P1-Span	1.0000	---

Print Destination: Adobe PDF

Save As | Back | Preview | **Print**

Incoming 0000000, 2, 0, 0, 0, "567622", 1, 1, 06 00 00,18 00 00,"NOT SUPPORTED", 11.68[ETX]328[EOT]

Outgoing [SOH]@[STX]48, V48, V50, V56, V57, V58, V59, V60[ETX]0412[EOT]

Recording Communications Baud rate: Evaluate Trigger

Connected (EC350 + CloudLink) insite 00567622 - 00567622 Comm Monitor Send Capture Buffer to File Email

You can **Save As** or **Print** the data obtained.

You can also choose **Preview** to export the data.

On checking the **Connected Site** click **View Item Report by Group** tab.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export

Item File | Report Name: Item Report

Sites

Read data from:
 Connected Site

Report data from:
 Select item file File Location: [Browse]

Item File
Reading Item File
Abort

Read Item File | **View Item Report by Group** | View Site Report | View Calibration Report

Incoming 1, 1, 25, 25, 25, 0.00003871,00002396, 0.000, -137.96, 1.0000, 1.0000, 1.0000,00078320,00003871, 3879.53[ETX]1237[EOT]

Outgoing [SOH]RQ[STX]193,194,195,196,200,201,202,203,204,282,205,206,207,208,209,210,211,212,213,214,215,216,217,218,219,221,222,223,224[ETX]C240[EOT]

Recording Communications Baud rate: Evaluate Trigger

Connected (EC350 + CloudLink) insite 00567622 - 00567622 Comm Monitor Send Capture Buffer to File Email

The Item File report appears by Group.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export

Item Report by Group
Report Name: Item Report

Site ID: 00000000-00000000 | Site Name: Integrated | Serial Number: 00000000 | Firmware Version: 1.3030 | Item File Name: EC350_CloudLink_00000000_191209185557.ECL

101 Site Information

Item Number	Item Description	Item Value	Item Units
0052	Unit Serial Number	00000000	---
0118	Reference Number 1	00000000	---
0119	Reference Number 2	00000000	---
0122	Firmware Version	1.3030	---
0127	Instrument Type	EC 350 (14)	---
0200	Site ID# Part 1	00000000	---
0201	Site ID# Part 2	00000000	---
0586	Sample Interval	30 Seconds	---
0779	Calibration Mode	No Calibration	---
1019	Main Board S/N	00000000	---
1023	Alarm Items Disable	00000008	---
1044	Board Version	CDM REV C	---
1056	LCD Display On Time	06 00 00	---
1057	LCD Display Off Time	18 00 00	---
1062	Door Status	Door Open	---
1163	Access Jumper Status	Disconnected	---
1175	Firmware CRC	40463	---
1176	Loader CRC	29613	---

Print Destination: Adobe PDF [Save As] [Back] [Preview] [Print]

Incoming 3000000, 3, 0, 0, "567622", 1, 1, 06 00 00,18 00 00,"NOT SUPPORTED", 11.67[ETX]D720[EOT] [SOH]22-3005,"BP16W39-D2354",D:0540314723,0441763303,0000000000,0000000000,0000004096[ETX]E0FF[EOT] [Evaluate] [Trigger]

Outgoing [SOH]@[STX]48,V48,V50,V56,V57,V58,V59,V60[ETX]0412[EOT] [Evaluate] [Trigger]

Connected (EC350 + CloudLink) Integrated | 00000000 - 00000000 [Comm Monitor] [Send Capture Buffer to File] [Email]

You can **Print** the data that is obtained.

You can also choose **Preview** to export the data.

Note: Application must be connected to an instrument to perform this operation.

Browse and select an item file to generate Site Report.

Note: Site Report and Calibration Report are offline operations.

Click **View Site Report** under Item File tab to generate site report. Click **View Calibration Report** under item file tab to view calibration report.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export

Item File | Report Name: Item Report [Report Options]

Sites

Read data from:

Connected Site

Report data from:

Select item file File Location: C:\ProgramData\Honeywell\Masterlink\ItemFiles\EC350_00567622_191 [Browse]

[View Item Report] [View Item Report by Group] [View Site Report] [View Calibration Report]

Incoming :00,1541,0,90,CCF2,75903,CCF8,000,PSI-G,215,000,PSI-G,214,000,PSI-G,206,000,PSI-G,420,000,PSI-G,423,000,PSI-G,422,000,PSI-G,421,000,PSI-G,31,76,60,F,48,069,VOLTS,1DED[ETX]56D[EOT] [Evaluate] [Trigger]

Outgoing [ACK] [SOH]D2,5[STX]0,592936041,595960041[ETX]4683[EOT] [Evaluate] [Trigger]

Connected (EC350 + CloudLink) insite | 00567622 - 00567622 [Comm Monitor] [Send Capture Buffer to File] [Email]

See the reports here: [Site Report](#); [Calibration Report](#).

3.6.2 Audit Trail

Use the 'Audit Trail' tab to view and download Audit Trail data from the instrument.

Logs can be read from a connected site (online), or can be retrieved from exiting list of sites (off-line). The connected site will be selected by default.

On checking the **Connected Site**, select a **Date Range**, select the required logs from **Log selection**.

Since last Download gives you the last downloaded log time and date. Once you select this, logs are downloaded from the time the report was last generated. You can reset the value to the start of the device setup.

and then click **View** tab. Application must be connected to an instrument to view Audit Trail reports.

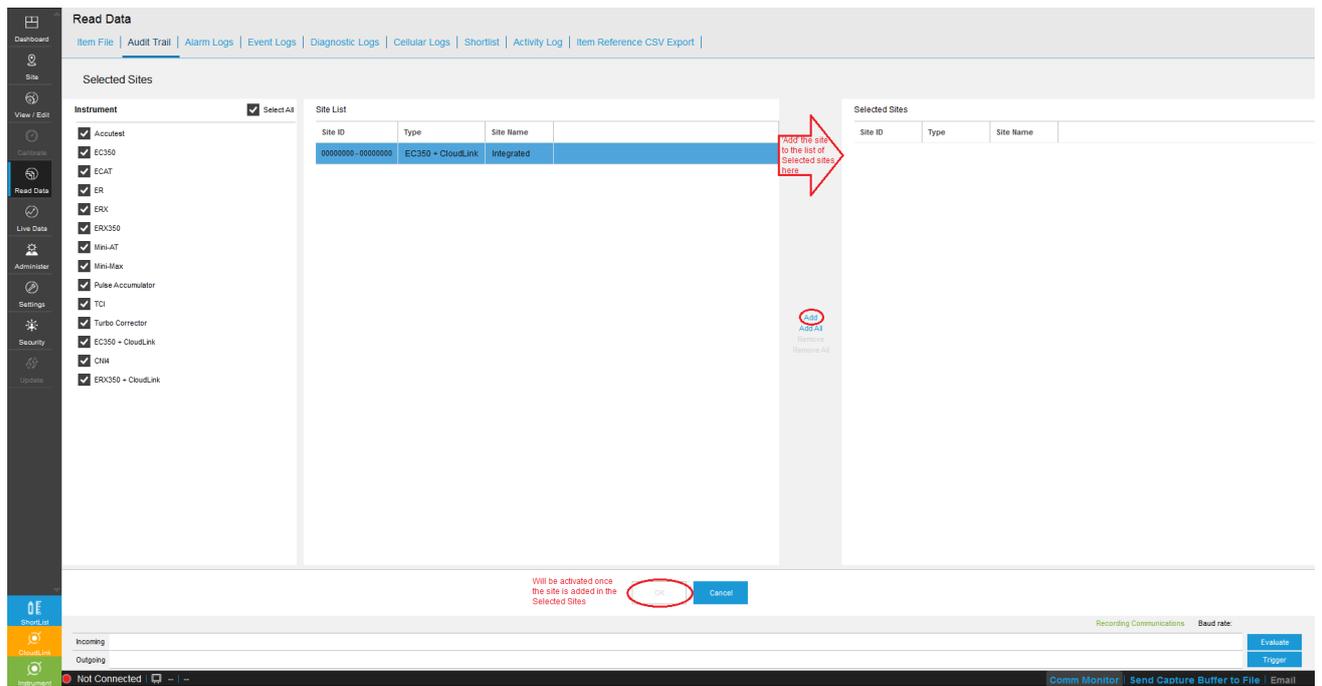
The screenshot shows the 'Read Data' interface for the 'Audit Trail' tab. The 'Report Name' is 'Audit Log Report'. The 'Read data from:' section has 'Connected Site' selected. The 'Report data from:' section has 'Selected Sites' selected. The 'Log selection:' section has 'Log 1' checked. The 'Date Range:' section has 'From/To' selected with dates 11/4/2019 20:00:00 and 11/22/2019 18:27:23. The 'Since Last Download:' section shows a table of download times for Log1 through Log5.

Log1 Since Download	Log2 Since Download	Log3 Since Download
1/1/2001 12:00:00 AM	1/1/2001 12:00:00 AM	1/1/2001 12:00:00 AM
Log4 Since Download	Log5 Since Download	
1/1/2001 12:00:00 AM	1/1/2001 12:00:00 AM	

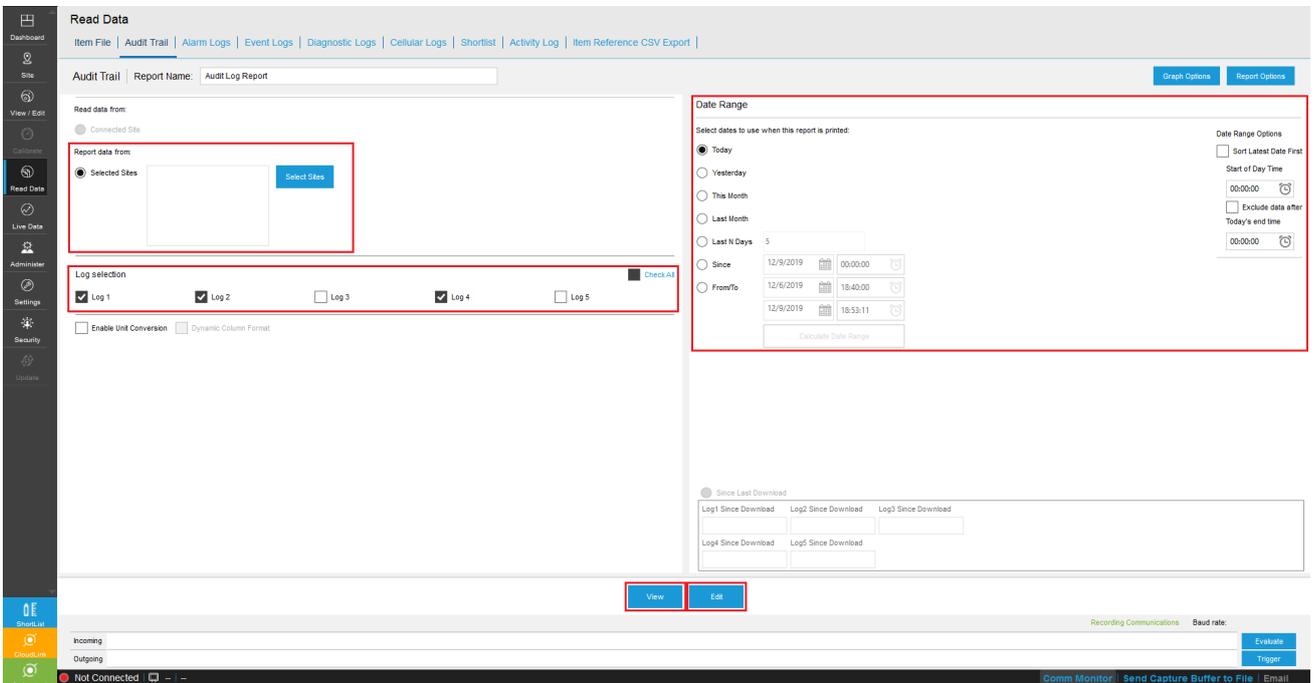
Alternatively, you can choose to select a list of sites and then generate a report.

Relate the steps highlighted in the image above with the steps below:

1. Start by selecting the site. For selecting multiple sites use **Select Sites** option. A new window appears.



2. Click **OK**
3. Select the required **log** or select **Check All**.
4. Select the **Date Range**.
5. Click **View** to view Audit Trail [Report](#).
6. Click **Edit** to edit the generated [report](#).



If required, click on **Report Options** to view or add more information in the report.

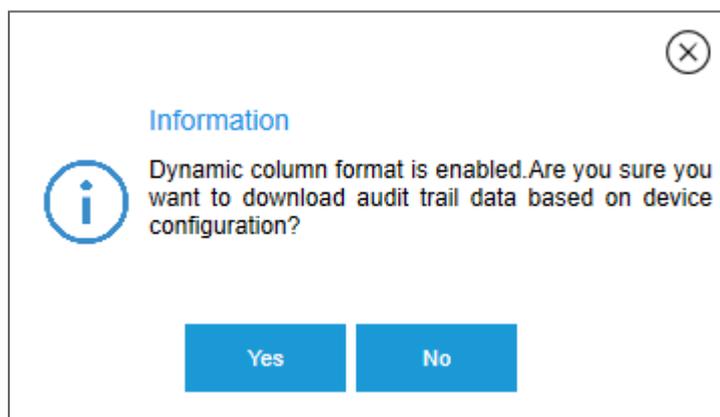
Dynamic Column Format (For Mini-Max connections only):

This option is enabled only when Mini-Max is connected (as below) and as per the instrument log configuration audit trail data will be downloaded.

Click **View**.

The screenshot shows the 'Read Data' window in the MasterLink software. The 'Read data from' section has 'Connected Site' selected. The 'Log selection' section has 'Dynamic Column Format' checked. The 'Date Range' section shows a date range from 1/1/2001 to 11/25/2019. A 'View' button is highlighted at the bottom.

An 'Information' dialog box appears with two options **Yes** and **No**.



YES: Audit Trail data will be downloaded as per the pre-defined instrument configuration

NO: All the 10 log audit data items will be downloaded. The next view of the 'Audit Trail' window will deselect the **Dynamic Format Column** check box.

Dynamic Column Format is disabled for other device types and when in offline view i.e., selected sites.

Audit Trail Report can be viewed without Summary (offline mode only) - This function is used to provide a full report (without summary) of the audit trail data that pertains to a particular instrument.

Note: 'Log Trigger' is available only for 'Without Summary' option.

Relate the steps highlighted in the image above with the steps below:

1. Start by checking **Use User Text**, and entering the name of the report.
2. Select whether *start of gas day* is to be included in **Beginning of report** or towards the **End of Report**.
3. Select the required **CSV Format Options**.

Max Data Columns: This is applicable only in the Export CSV format. It will display the logging configuration parameters.

For example: When 15 is chosen in the drop-down but the [logging configuration](#) is only defined for 10 parameters then, the next 5 columns will be shown empty. See [here](#).

4. Select the **Summary**. You can chose Without Summary, Daily Summary and Monthly Summary from the drop-down.
5. [Unit Conversion](#) is only applicable for legacy devices (ERX, Mini-Max etc.).
6. Click **View**.

Note: 'Log Trigger', 'Unit Conversion' and 'Summary' are available only in offline mode.

The Audit Trail Report appears based on selected criteria.

Read Data
[Item File](#) | [Audit Trail](#) | [Alarm Logs](#) | [Event Logs](#) | [Diagnostic Logs](#) | [Cellular Logs](#) | [Shortlist](#) | [Activity Log](#) | [Item Reference CSV Export](#)

Audit Log Report

Report Name: Audit Log Report
 Report Selections: 1 site , From 9/16/2019 12:00:00 AM To 11/25/2019 4:05:16 PM

Site Info: 00567622-00567622 Log #: 1 [View](#)

Site ID: 00567622-00567622 Site Name: intsite Site Location:

Log Date and Time	Corrected Volume	Uncorrected Volume	P1 Gas Pressure	P1 Interval Low Press	P1 Interval High Press	P1 Interval Avg Press	P2 Gas Pressure	P2 Interval Low Press	P2 Interval High Press	P2 Interval Avg Press	Case Temperature	Battery Voltage Reading	Rec Num	Comm CRC	Calc CRC	CRC Mismatch
9/19/2019 18:00:00	122601	75903	.000	.000	.000	.000	.000	.000	.000	.000	73.29	.055	1637	99EB	99EB	No
11/4/2019 17:00:00	122601	75903	.000	.000	.000	.000	.000	.000	.000	.000	73.56	.055	1638	63F2	63F2	No
11/4/2019 18:00:00	122601	75903	.000	.000	.000	.000	.000	.000	.000	.000	74.36	.057	1639	9089	9089	No
11/4/2019 19:00:00	122601	75903	.000	.000	.000	.000	.000	.000	.000	.000	75.68	.065	1640	D901	D901	No
11/4/2019 20:00:00	90	75903	.000	.000	.000	.000	.000	.000	.000	.000	76.60	.069	1641	1DED	1DED	No

Print Destination: [Adobe PDF](#) [Save As](#) [Back](#) [Preview](#) [Print](#) [Export CSV](#) [PGAS Export](#)

Recording Communications Baud rate:
 Incoming :00,1641,0,90,CCF,2,75903,CCF,8,000,PSI-G,215,000,PSI-G,214,000,PSI-G,206,000,PSI-G,420,000,PSI-G,423,000,PSI-G,422,000,PSI-G,421,000,PSI-G,31,76,60,F,48,069,VOLTS,1DED[ETX]56D[REOT]
 Outgoing :[ACK] [SOH]D2,5[STX]D,593366515,596390515[ETX]9907[EOT] [SOH]33[ETX]F C50[EOT]

Connected (EC350 + CloudLink) intsite 00567622-00567622 [Comm Monitor](#) [Send Capture Buffer to File](#) [Email](#)

You can choose to **Export** or **Print** the data.

PGAS Export is the customized Audit trail report in CSV format to fulfill the PGAS requirements. If items 225, 206, 207, 226, -1, 54, 55, 53 are part of Audit trail configuration then, their audit data values are mapped to the columns 5, 9, 10, 11, 12, 29, 30, 31 of the report respectively.

PGAS Export is applicable only for correctors and can only be generated for Time log trigger data.

Show units in Verbose: This feature will help load the volume units in the alphanumeric or numeric format as per the user selection.

Connected Site With or with out selecting the check box: While you are reading the Audit trail from the Connected Site option, the **Show units in Verbose** check box will be enabled irrespective of Corrector type connected.

1. Select the **Show units in Verbose** then click on **View**.

The screenshot shows the 'Read Data' configuration page for an 'Audit Log Report'. The 'Log selection' section has 'Show Units in Verbose' checked. The 'Date Range' section is configured with 'From' 1/1/2001 00:00:00 and 'To' 1/31/2022 18:11:40. The 'Since Last Download' section shows the report was last downloaded on 1/1/2001 12:00:00 AM. At the bottom, a data table is visible with columns for Ingoing and Outgoing, and various signal parameters.

2. It will display the volume units in alpha numeric format.

The screenshot shows the 'Audit Log Report' results. The report is for site 00191919. The data table below shows the following columns: Log Date and Time, Log Trigger, Alarms, Incremental Cor Vol, Incremental Unc Vol, Cor Volume Units (---), Unc Volume Units (---), Pulse Output Width (---), Reserved (---), and Alarms Text. The 'Cor Volume Units' and 'Unc Volume Units' columns show values like 'CFx10'.

Log Date and Time	Log Trigger	Alarms	Incremental Cor Vol	Incremental Unc Vol	Cor Volume Units (---)	Unc Volume Units (---)	Pulse Output Width (---)	Reserved (---)	Alarms Text				
1/17/2022 14:27:40	Serial	0	0	0	CFx10	CFx10	0.500 Second	0	0	0	0	0	

3. Click on **View** by not selecting the **Show units in Verbose** check box.

4. It will display the volume units in numeric format.

Log Date and Time	Log Trigger	Alarms	Incremental Cor Vol	Incremental Utc Vol	Cor Volume Units (—)	Utc Volume Units (—)	Pulse Output Width (—)	Reserved (—)	Alarms Text				
1/17/2022 14:15:00	Time	0	0	0	4	4	1	0	0	0	0	0	
1/17/2022 14:25:00	Time	0	0	0	4	4	1	0	0	0	0	0	
1/17/2022 14:27:40	Serial	0	0	0	4	4	1	0	0	0	0	0	

Selected Sites With or with out selecting the check box: While you are reading the Audit trail from the Selected Site option, the **Show units in Verbose** check box will be enabled only for the Corrector types (EC350 and ERX350).

1. Select the **Show units in Verbose** then click on **View**.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export |

Audit Trail | Report Name: Graph Options | Report Options

Read data from:
 Connected Site
 Selected Sites

Log selection
 Log 1 Log 2 Log 3 Log 4 Log 5

Enable Unit Conversion Dynamic Column Format Show Units in Verbose

Date Range
 Select date to use when this report is printed:
 Today
 Yesterday
 This Month
 Last Month
 Last N Days:
 Since:
 From/To:

Date Range Options
 Sort Latest Date First
 Start of Day Time
 Exclude data after Today's end time
 Today's end time

Incoming: 2F,90.6,MCF,92.5,CCF,5840F5965405580,7.0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,8968F5965405640,8.0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,6856F5965405700,9.0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,A68CJETX92E5[EOT] [SOH]00[ETX]F053[EOT] [Evaluate]
 Outgoing: [ACK] [SOH]9F[ETX]9097[EOT] [Trigger]

NOT Connected Comm Monitor | Send Capture Buffer to File | Email

2. It will display the volume units in alpha numeric format.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export |

Audit Log Report

Report Name:
 Report Selections: From 2/1/2022 10:42:00 AM To 2/1/2022 10:55:00 AM Site info: Log #:

Site ID: 00000000 00000000 | Site Name: Direct Connect_house | Site Location:

Log Date and Time	Corrected Volume (MCF)	Uncorrected Volume (CCF)	Cor Volume Units (MCF)	Unc Volume Units (CCF)	Rec Num	Comm CRC	Calc CRC	CRC Mismatch
2/1/2022 10:42:00	99	100	MCF	CCF	275	0F22	7512	Yes
2/1/2022 10:43:00	99	100	MCF	CCF	276	B166	E7F4	Yes
2/1/2022 10:44:00	99	100	MCF	CCF	277	9720	582E	Yes
2/1/2022 10:46:00	99	100	MCF	CCF	0	E02E	5077	Yes
2/1/2022 10:47:00	99	100	MCF	CCF	1	DF14	AA14	Yes
2/1/2022 10:48:00	99	100	MCF	CCF	2	453F	E9CB	Yes
2/1/2022 10:49:00	99	100	MCF	CCF	3	BC69	F243	Yes
2/1/2022 10:50:00	99	100	MCF	CCF	4	A98D	2950	Yes
2/1/2022 10:51:00	99	100	MCF	CCF	5	DE94	E7FA	Yes
2/1/2022 10:52:00	99	100	MCF	CCF	6	584D	043E	Yes
2/1/2022 10:53:00	99	100	MCF	CCF	7	8968	55DF	Yes
2/1/2022 10:54:00	99	100	MCF	CCF	8	685B	3B74	Yes
2/1/2022 10:55:00	99	100	MCF	CCF	9	A68C	CABE	Yes

Print Destination:

Incoming: 2F,90.6,MCF,92.5,CCF,5840F5965405580,7.0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,8968F5965405640,8.0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,A68CJETX92E5[EOT] [SOH]00[ETX]F053[EOT] [Evaluate]
 Outgoing: [ACK] [SOH]9F[ETX]9097[EOT] [Trigger]

NOT Connected Comm Monitor | Send Capture Buffer to File | Email

3. Click on **View** by not selecting the **Show units in Verbose** check box.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export

Audit Trail | Report Name: Audit Log Report

Read data from: Connected Site Selected Sites

Report data from: EC350 00000000 - 00000000 [Select Sites](#)

Log selection: Log 1 Log 2 Log 3 Log 4 Log 5 [Check All](#)

Enable Unit Conversion Dynamic Column Format Show units in Verbose

Date Range: Select dates to use when this report is printed

Today Yesterday This Month Last Month Last N Days: 10 Since: 9/3/2020 00:00:00 FromTo: 2/1/2022 10:42:00 to 2/1/2022 10:55:00 [Calculate Date Range](#)

Date Range Options: Sort Latest Date First Exclude data after Today's end time

Since Last Download: Log1 Since Download, Log2 Since Download, Log3 Since Download, Log4 Since Download, Log5 Since Download

[View](#) [Edit](#)

Recording Communications | Baud rate: [SOH]00[ETX]053[EOT]

Incoming: 2F,90.6,MCF,92.5,CCF,58A0F3965405580,7,0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,8968F3965405540,8,0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,685BF3965405700,9,0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,A88C[ETX]D2E6[EOT]

Outgoing: [ACK] [SOH]5F[ETX]9097[EOT]

Not Connected | Comm Monitor | Send Capture Buffer to File | Email

4. It will display the volume units in numeric format.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export

Audit Log Report

Report Name: Audit Log Report
Report Selections: 1 site - From 2/1/2022 10:42:00 AM To 2/1/2022 10:55:00 AM

Site info: 00000000.00000000 | Log # : 1 [View](#)

Site ID: 00000000 00000000 | Site Name: Direct Connect_house | Site Location:

Log Date and Time	Corrected Volume (MCF)	Uncorrected Volume (CCF)	Cor Volume Units (MCF)	Unc Volume Units (CCF)	Rec Num	Comm CRC	Calc CRC	CRC Mismatch
2/1/2022 10:42:00	99	100	6	5	275	0F22	0F22	No
2/1/2022 10:43:00	99	100	6	5	276	B166	B166	No
2/1/2022 10:44:00	99	100	6	5	277	9720	9720	No
2/1/2022 10:46:00	99	100	6	5	0	E02E	E02E	No
2/1/2022 10:47:00	99	100	6	5	1	DF14	DF14	No
2/1/2022 10:48:00	99	100	6	5	2	483F	483F	No
2/1/2022 10:49:00	99	100	6	5	3	BC69	BC69	No
2/1/2022 10:50:00	99	100	6	5	4	A98D	A98D	No
2/1/2022 10:51:00	99	100	6	5	5	DE84	DE84	No
2/1/2022 10:52:00	99	100	6	5	6	58A0	58A0	No
2/1/2022 10:53:00	99	100	6	5	7	8968	8968	No
2/1/2022 10:54:00	99	100	6	5	8	685B	685B	No
2/1/2022 10:55:00	99	100	6	5	9	A88C	A88C	No

Print Destination: Black and White Secure Bad [Save As](#) [Back](#) [Preview](#) [Print](#) [Export CSV](#) [PGAS Export](#)

Recording Communications | Baud rate: [SOH]00[ETX]053[EOT]

Incoming: 2F,90.6,MCF,92.5,CCF,58A0F3965405580,7,0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,8968F3965405540,8,0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,685BF3965405700,9,0,99,MCF,2,100,CCF,90.6,MCF,92.5,CCF,A88C[ETX]D2E6[EOT]

Outgoing: [ACK] [SOH]5F[ETX]9097[EOT]

Not Connected | Comm Monitor | Send Capture Buffer to File | Email

3.6.2.1 Audit Trail Graphs

The Audit Trail Graph function displays selected report items in graph format. It is recommended that items with numeric values are used for plotting the graph.

Note: This is an offline operation. ONLY one site and one log can be selected to generate an Audit Trail graph.

The screenshot shows the 'Read Data' interface with the 'Audit Trail' report selected. The interface is divided into several sections:

- 1. Read data from:** A section where the user selects the report data source. The 'Selected Sites' option is chosen, and a site 'EC350 - CloudLink 00567822 - 00567822' is selected.
- 2. Log selection:** A section where the user selects which log to view. 'Log 1' is selected, and the 'Check All' checkbox is also checked.
- 3. Date Range:** A section where the user selects the date range for the report. The 'From To' option is selected, and the date range is set from 11/25/2019 14:45:32 to 10/7/2010 00:00:00.
- 4. Since Last Download:** A section where the user can select the last downloaded log time and date. The 'Log1 Since Download' field shows '1/1/2001 12:00:00 AM'.

Relate the steps highlighted in the image above with the steps below:

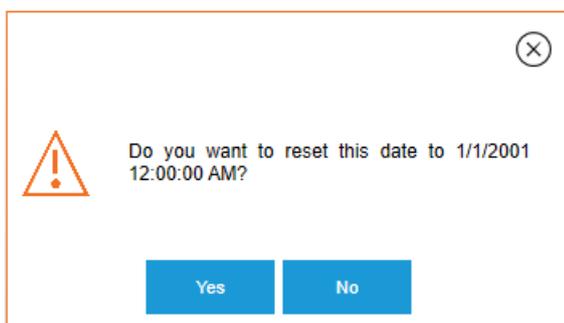
1. Start by selecting the site from the 'Select Sites'.
2. Select one **log** out of 5 logs, from the 'Log selection'.
3. Select the **Date Range**

Select the date range. Select the check box next to the date range choice.

- **TODAY:** Selecting today, will report data from 12-hours up to the time the report is begun.
- **YESTERDAY:** Choosing Yesterday will print from a 24-hour span up to the time the report is begun.
- **THIS MONTH:** Reports only the data for the current month.
- **LAST MONTH:** Reports back 30 days.
- **LAST N DAYS:** If chosen, enter the number of days.
- **SINCE or FROM/TO:** When selecting either of this, date and time fields appear on the screen for input.

4. 'Since last Download' gives you the last downloaded log time and date. Once you select this,

logs are downloaded from the time the report was last generated. You can reset the value to the start of the device setup.



Line Graphs

Click **Graph Options** to customize the audit trail graph.

Relate the steps highlighted in the image with the steps below:

1. Graph can be configured in linear or Circular form (by selecting the drop-down) in 'Graph Type'. Configure the Y-Axis item, Y Min, Y Max, Color and Line Style
2. Select the required option from the **Log selection**

Audit Trail Graph - Y Axis Item

Toggle-click on the box to select/deselect the item(s) to graph. The items chosen will be displayed on the actual graph when the Preview button is clicked.

Audit Trail Graph - Y Min

This option sets the values for the minimum Y scale (vertical scale). To change these defaults, click on that field and enter the new value.

Audit Trail Graph - Y Max

This option sets the values for the maximum Y scale (vertical scale). To change these defaults, click on that field and enter the new value.

Audit Trail Graph - Color

For each of the 4 items, click on the down arrow next to the color fields for selectable options, then click on the selection. The color selections and item titles will be displayed on the actual graph legend when Preview is clicked.

Audit Trail Graph - Line Style

For each of the 4 items, click on the down arrow next to the line style field for selectable options, then click on the selection. Dashed or dotted line styles will not be noticeable on data lines unless the data points are fairly far apart.

Log Selection

Each item on separate graph - Checking this box will draw one item per graph. If this is unchecked, more than one item will be drawn on a graph. A graph can have two Y scales (vertical); one on each side. If two items have the same unit of measure, they can share a Y scale. The Y scales are located along the left and right sides of the graph.

Show data points on lines - Data lines may be drawn with or without dots.

Show Graph on Grid - To make the data in a chart that displays axes easier to read.

Audit Trail Graph - Save Setup

Click this button to save the Audit Trail Graph Setup configuration. These defaults can be reused when you click the Load Setup button. The default file extension is .ags and is saved in the installation designated file folder for report/graph files.

Audit Trail Graph: Load Setup

Click this button to load the Audit Trail Graph Setup configuration which is previously saved to file with the "Save Setup" feature. The file is saved in the installation designated file folder for report/graph files.

After selecting a file, click the Open button to proceed with this function or Cancel to return to the currently displayed graph setup.

After customizing the graph, finally click **Show Graph**. The Audit Trail Graph appears based on the selected criteria.

Read Data

Item File | Audit Trail | Alarm Logs | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export |

Audit Trail Graph | Graph Name: Audit Trail Graph

Configuration | Graph Type: Line

Y Axis Item	Y Min	Y Max	Color	Line Style
Case Temperature	0	200	Blue	Solid Line(Thick)
Corrected Volume	0	100	Green	Solid Line(Thick)
Uncorrected Volume	0	0	Red	Solid Line(Thick)
Case Temperature	0	0	Orange	Solid Line(Thick)

Log selection

Each item on separate graph Show Data Point on Lines

Load Setup Save Setup

Back Show Graph

Not Connected | Comm Monitor | Send Capture Buffer to File | Email



You can choose to **Export** or **Print** the data.

Circular Graphs

Note: You can add grids to the plot by checking 'Horizontal Grid Line/ Vertical Grid Line' to obtain horizontal and vertical grid lines respectively. Also, one can directly 'Print' the plot or Save it as a PDF copy.

Read Data
[Item File](#) | [Audit Trail](#) | [Alarm Logs](#) | [Event Logs](#) | [Diagnostic Logs](#) | [Cellular Logs](#) | [Shortlist](#) | [Activity Log](#) | [Item Reference CSV Export](#)

Audit Trail Graph | Graph Name:

Configuration | Graph Type: | Graph Duration:

Y Axis Item: | Y Min: | Y Max: | Color: | Line Style:

| | | |

| | | |

| | | |

Log selection
 Each item on separate graph | Show Data Point on Lines

Recording Communications | Baud rate: [SOH]00[ETX]F053[EOT] | Evaluate

Incoming 15, 1.3030, 40463, 3.1000, 29613,06 00 00,18 00 00, 0,"CDM REV C",00000000,00000000, 0,00000008,00000008[ETX]3979[EOT]

Outgoing [SOH]SF[ETX]9097[EOT] | Trigger

Not Connected | Comm Monitor | Send Capture Buffer to File | Email

Gas Temperature plot:

Read Data
[Item File](#) | [Audit Trail](#) | [Alarm Logs](#) | [Event Logs](#) | [Diagnostic Logs](#) | [Cellular Logs](#) | [Shortlist](#) | [Activity Log](#) | [Item Reference CSV Export](#)

MasterLink Audit Trail Graph | Graph Name: Circular Graph | Graph Duration: 1/31/2020 12:00:00 AM - 2/1/2020 12:00:00 AM
 Site ID : 00555444 - 00555444 | Site Name ERX350_Cubical | Site Location | Log 2

Gas Temperature | P1 Gas Pressure | Case Temperature | P2 Gas Pressure

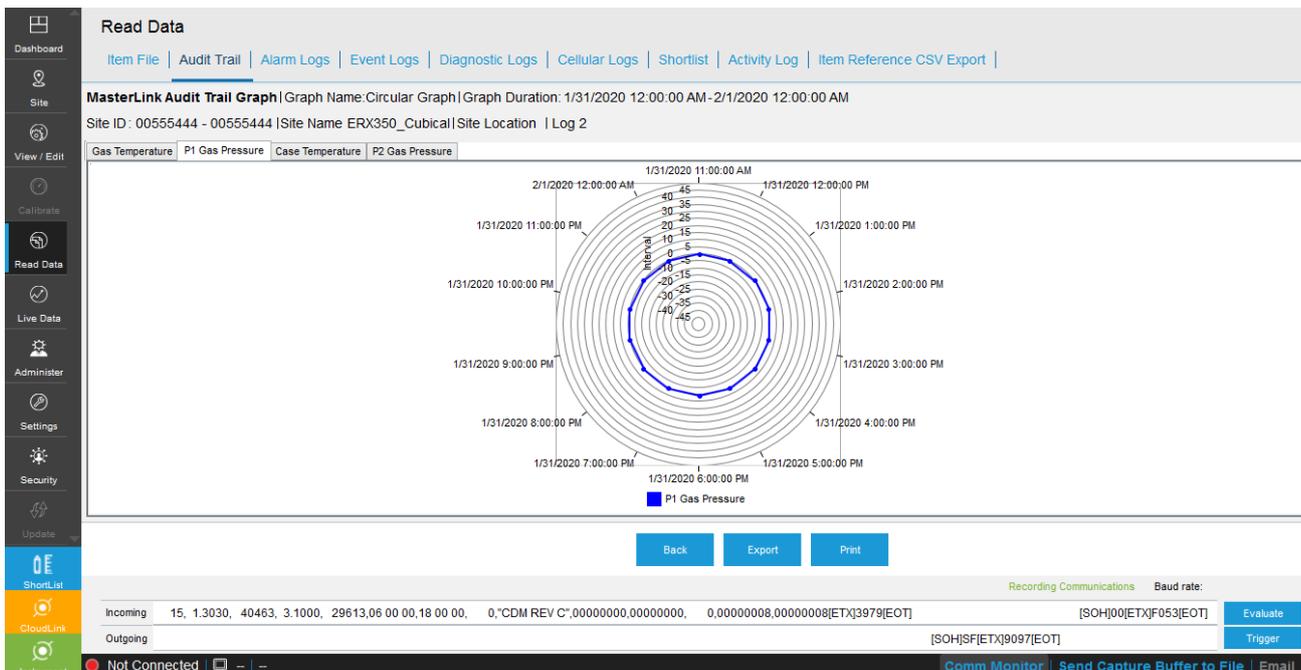
Recording Communications | Baud rate: [SOH]00[ETX]F053[EOT] | Evaluate

Incoming 15, 1.3030, 40463, 3.1000, 29613,06 00 00,18 00 00, 0,"CDM REV C",00000000,00000000, 0,00000008,00000008[ETX]3979[EOT]

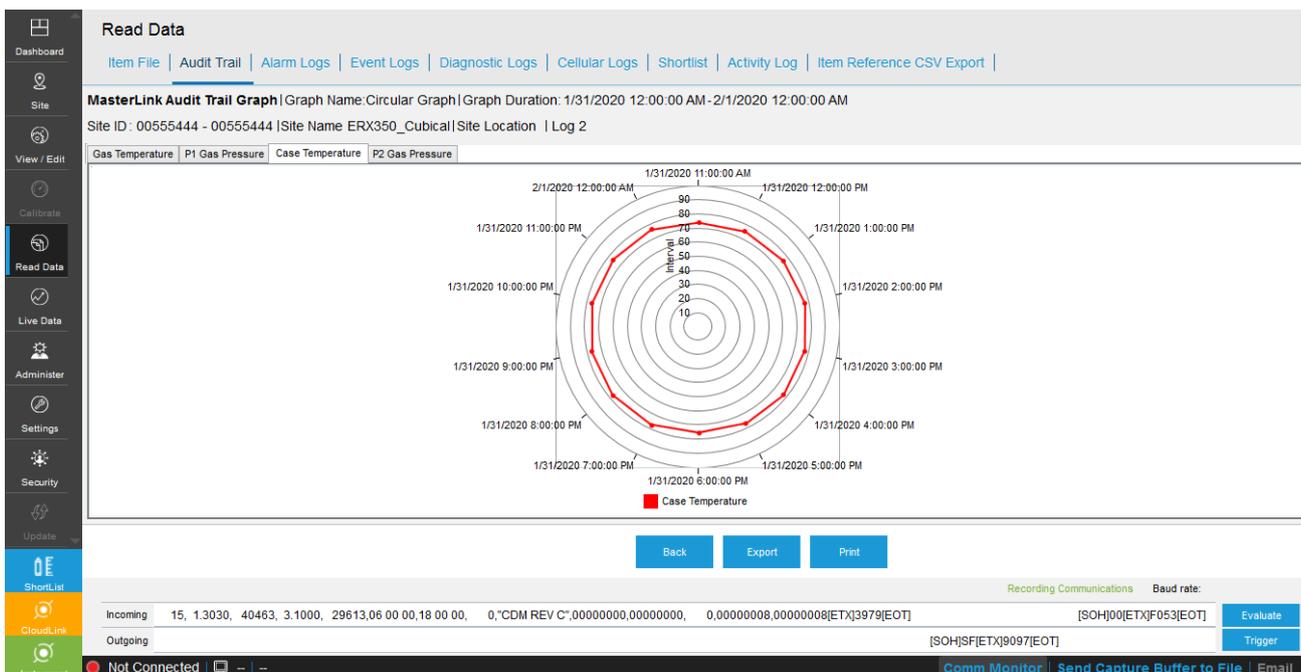
Outgoing [SOH]SF[ETX]9097[EOT] | Trigger

Not Connected | Comm Monitor | Send Capture Buffer to File | Email

P1 Gas Pressure plot:



Case Temperature:



P2 Gas Pressure:

- Dashboard
- Site
- View / Edit
- Calibrate
- Read Data
- Live Data
- Administer
- Settings
- Security
- Update
- ShortList
- CloudLink
- Instrument

Read Data

[Item File](#) | [Audit Trail](#) | [Alarm Logs](#) | [Event Logs](#) | [Diagnostic Logs](#) | [Cellular Logs](#) | [Shortlist](#) | [Activity Log](#) | [Item Reference CSV Export](#)

MasterLink Audit Trail Graph | Graph Name: Circular Graph | Graph Duration: 1/31/2020 12:00:00 AM - 2/1/2020 12:00:00 AM
 Site ID : 00555444 - 00555444 | Site Name ERX350_Cubical | Site Location | Log 2

Gas Temperature | P1 Gas Pressure | Case Temperature | **P2 Gas Pressure**

Back Export Print

Recording Communications Baud rate:

Incoming	15, 1.3030, 40463, 3.1000, 29613,06 00 00,18 00 00, 0,"CDM REV C",00000000,00000000, 0,00000008,00000008[ETX]3979[EOT]	[SOH]00[ETX]F053[EOT]	Evaluate
Outgoing	[SOH]SF[ETX]9097[EOT]		Trigger

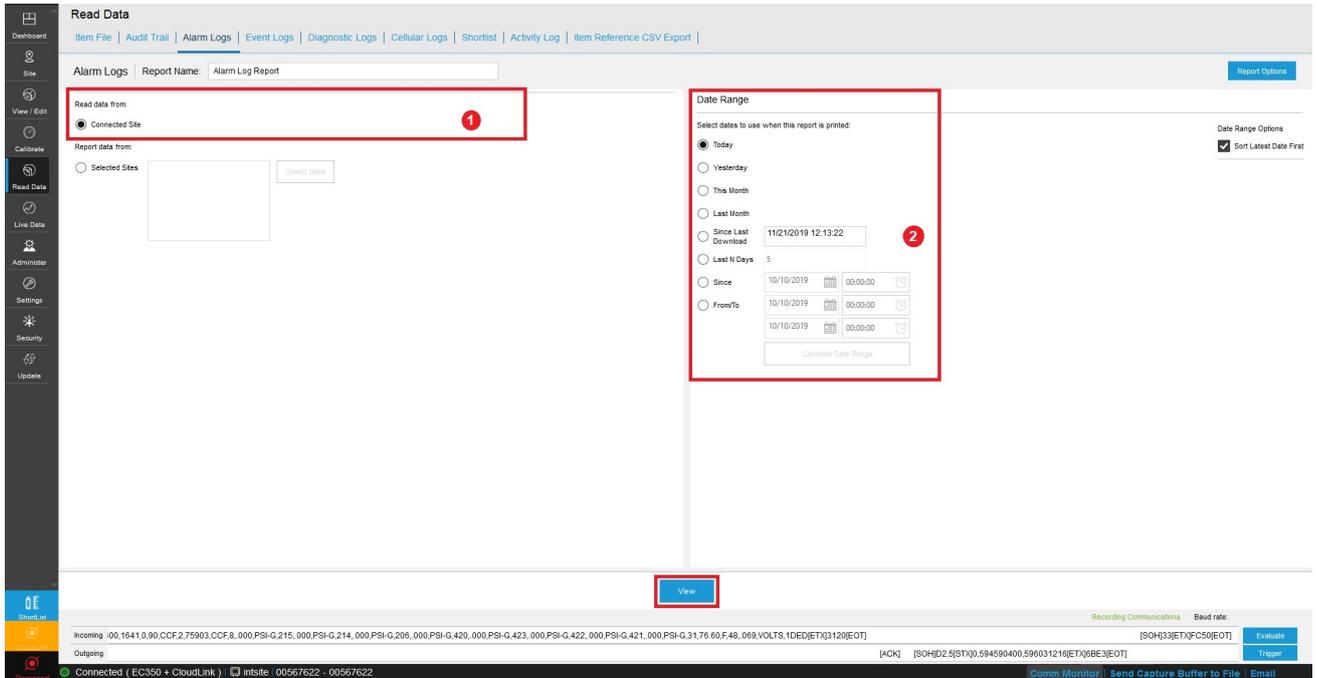
Not Connected
Comm Monitor
Send Capture Buffer to File
Email

3.6.3 Alarm Logs

Use the 'Alarm Logs' tab to read and view all alarm activity data from a connected instrument. You can either read alarm logs from a connected site or select a list of sites to read logs from.

An Alarm Log record is defined as any alarm activity, which includes new alarms, alarms acknowledged as well as alarms that have been cleared.

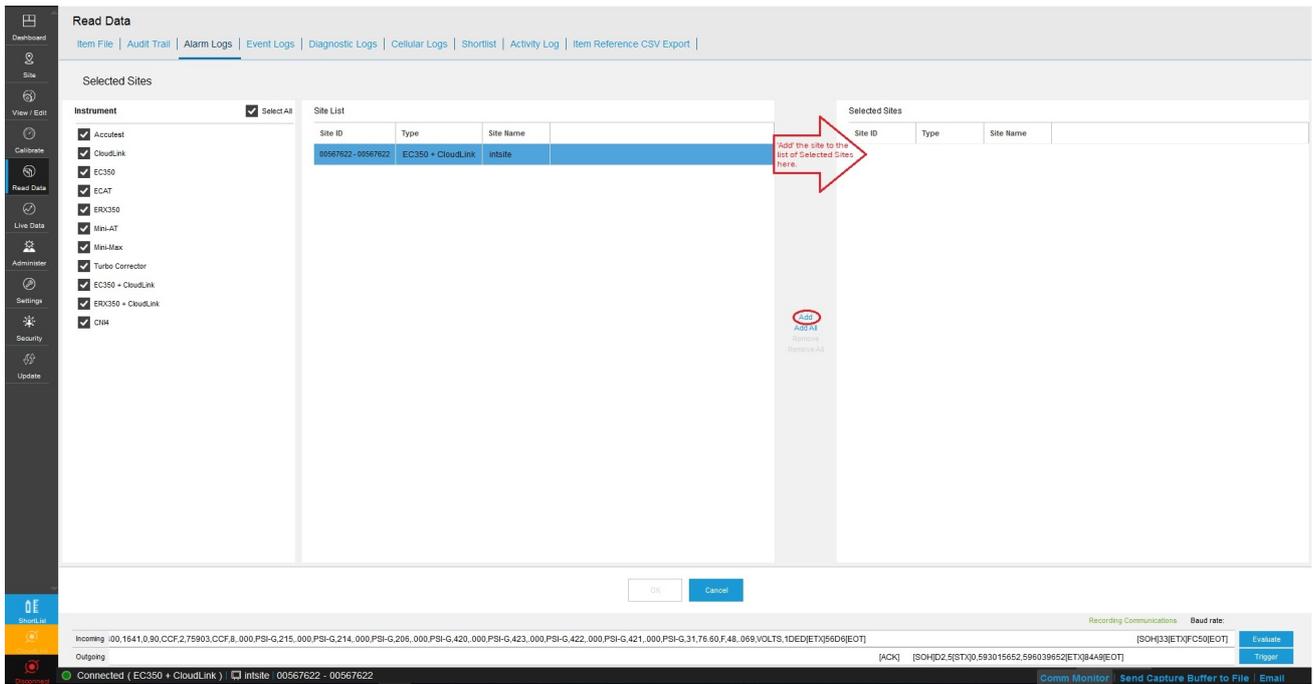
On checking the **Connected Site**, select a **Date Range** and then click **View** tab.



The Alarm report for the connected site is seen [here](#).

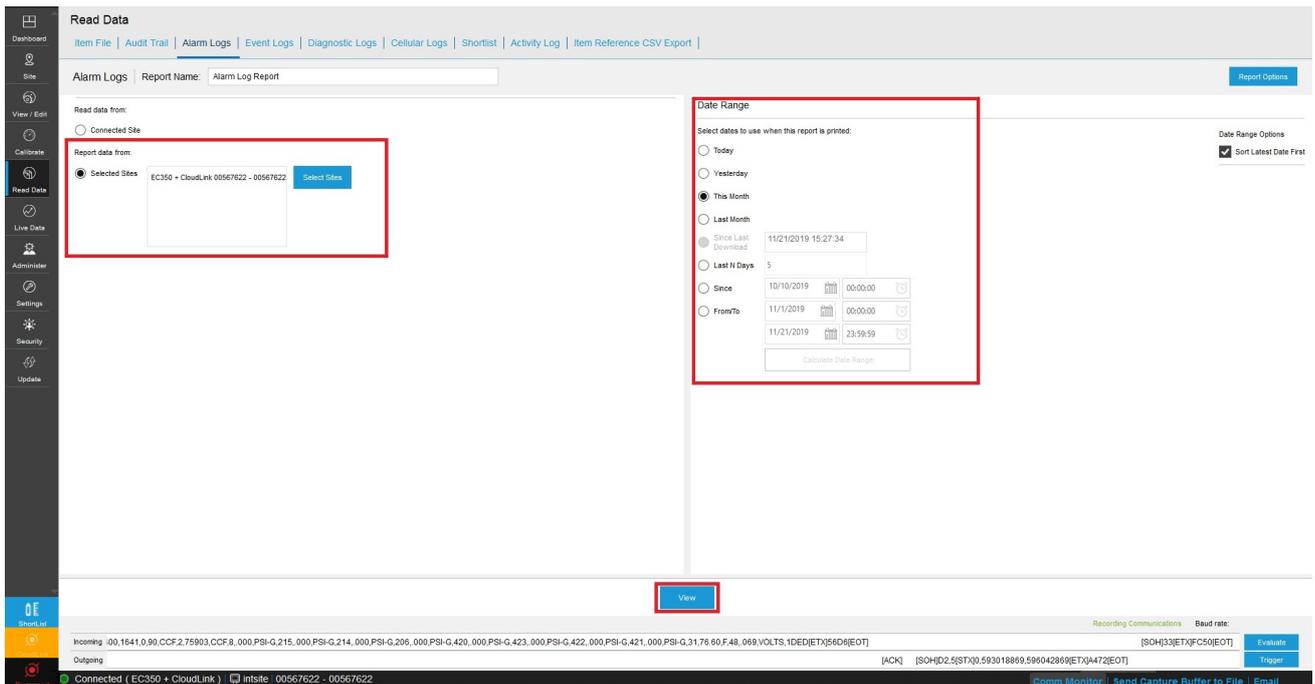
Alternatively, you can choose to select a list of sites and then generate a report.

Start by checking the **Selected Sites**, select a site from the **Select Sites** tab. A new window appears.



Click **OK**.

Next, select the date range of the report and then click **View**.



The Alarm Logs will appear based on your selected criteria.

Read Data

Item File | Audit Trail | **Alarm Logs** | Event Logs | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export |

Alarm Log Report

Report Name: Alarm Log Report
Report Selections: 1 site , From 11/1/2019 12:00:00 AM To 11/21/2019 11:59:59 PM

Site ID: 00567622 00567622 Site Name: Intsite Site Location:

Date	Time	Alarm Type	Item #	Alarm Desc	Alarm Value	Alarm Limit
11/4/2019	17:26:26	Alarm Ack	1388	Comms Login Alarm	11111111	00000000
11/4/2019	16:31:58	Alarm	1388	Comms Login Alarm	11111111	00000000

Print Destination: Adobe PDF

Save As Back **Preview** Print

Recording Communications Baud rate: [SOH]33[ETX]FCS[EOI]

Incoming: [00,1641,0,90,CCF,2,75903,CCF,8,000,PSI-G,215,000,PSI-G,214,000,PSI-G,206,000,PSI-G,420,000,PSI-G,423,000,PSI-G,422,000,PSI-G,421,000,PSI-G,31,76,60,F,48,069,VOLTS,1D]E[ETX]5[5D]6[EOI]

Outgoing: [ACK] [SOH]D2,5[STX]0,593018869,596042669[ETX]4472[EOI]

Connected (EC350 + CloudLink) Intsite: 00567622 - 00567622 Comm Monitor: Send Capture Buffer to File Email

You can choose to export with **Preview** or **Print** the data.

3.6.4 Event Logs

The Event Log records activity that is directly linked to and maintained within the instrument. An "event" documents an item change in the instrument or an instrument download. Event Log activities include:

1. Calibration Changes
2. Access Code Changes
3. Shutdown
4. Item Code Changes
5. Event Log Downloads

Use the 'Event Logs' tab to read event data from a connected instrument.

Note: This log is different from the Activity Log because that log mainly focuses on software activity (and some firmware activity) where the Event Log function records activity that is directly linked to and maintained by the instrument.

On checking the **Connected Site**, select a **Date Range** and then click **View** tab.

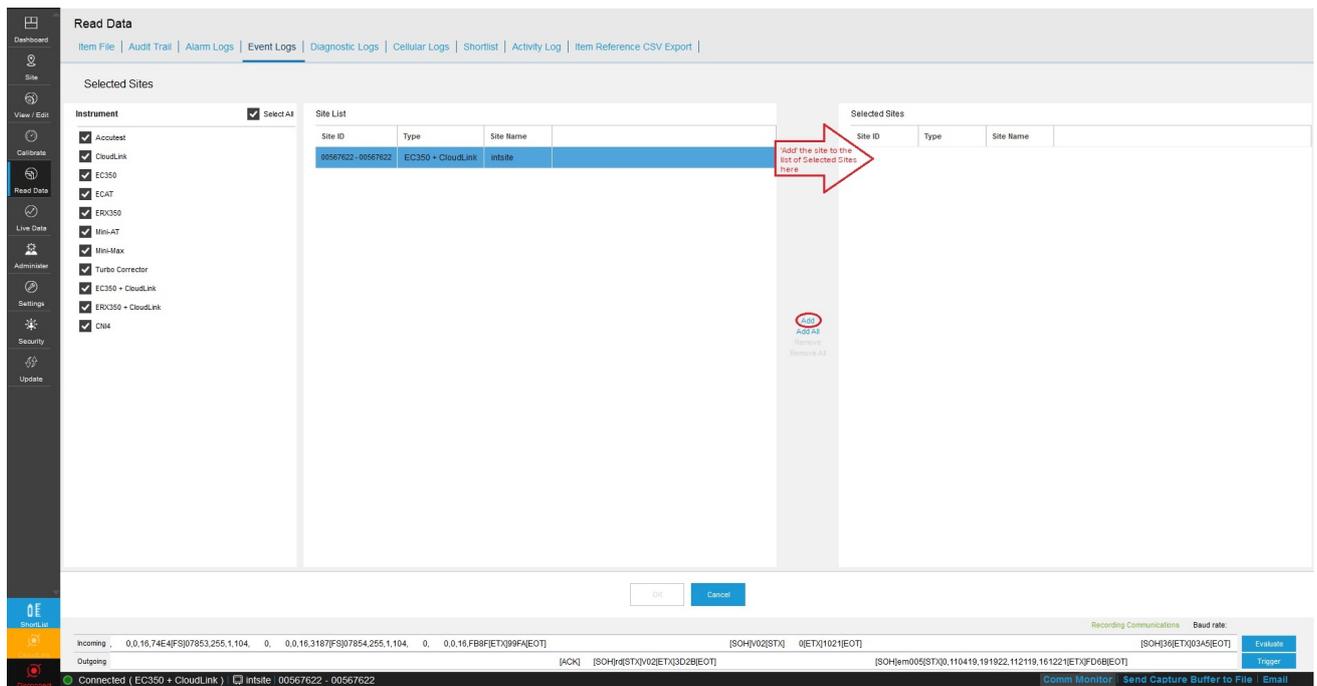
The screenshot displays the 'Read Data' interface for Event Logs. On the left, a sidebar contains navigation icons for Dashboard, Site, View/Edit, Calibrates, Read Data, Live Data, Administrator, Settings, Security, and Update. The main area shows the 'Event Logs' tab with a 'Report Name' field set to 'Event Log Report'. Under 'Read data from', the 'Connected Site' radio button is selected. Below this, there are options for 'Report data from' (Selected Sites) and a 'Select Sites' button. To the right, the 'Date Range' section allows selection of dates for the report, with 'Since Last Download' chosen and a date of 11/4/2019 19:19:22. Other options include 'Last N Days' (set to 5), 'Since' (10/10/2019 00:00:00), and 'From To' (11/4/2019 19:19:22 to 11/21/2019 15:53:12). A 'Calculate Date Range' button is present. At the bottom, a 'View' button is highlighted. The status bar at the very bottom shows communication logs and system status like 'Connected (EC350 + CloudLink)' and 'Intsite: 00567622 - 00567622'.

The Event log report for the connected site is seen [here](#).

Alternatively, you can choose to select a list of sites and then generate a report.

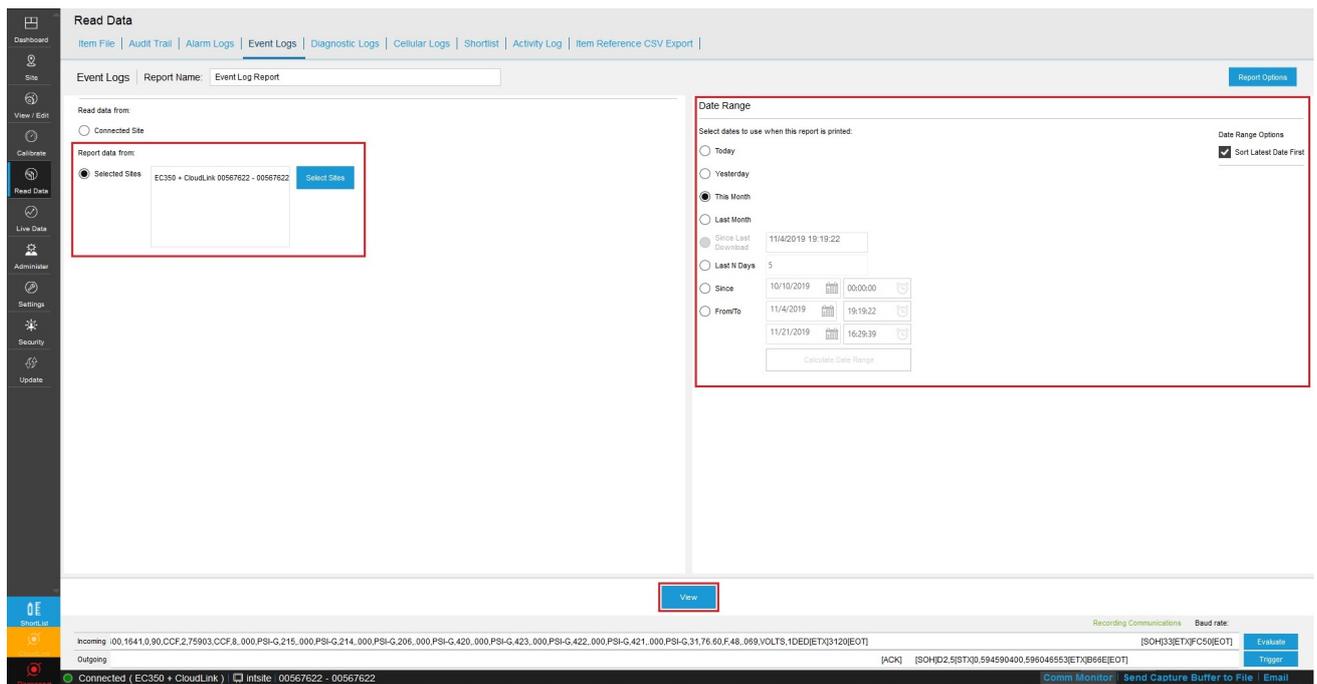
Start by checking the **Selected Sites**, select a site from the **Select Sites** tab. A new window appears.

3 MasterLink User Interface



Click **OK**.

Next, select the date range of the report and then click **View**.



The Event Logs will appear based on your selected criteria.

Read Data

Item File | Audit Trail | Alarm Logs | **Event Logs** | Diagnostic Logs | Cellular Logs | Shortlist | Activity Log | Item Reference CSV Export

Event Log Report

Report Name: Event Log Report
Report Selections: 1 site , From 11/1/2019 12:00:00 AM To 11/21/2019 11:59:59 PM

Site ID: 00567622 00567622 | Site Name: Intsite | Site Location:

Site info: 00567622-00567622

Date	Time	Event #	Item #	Item/Event Description	UserID	Type	As Found	As Left	Callinit	Comm CRC	Calc CRC
11/4/2019	19:19:22	7840	13	Base Pressure	0	Item Chg NC	14.7300	10.0000	0	92F2	92F2
11/4/2019	19:09:47	7839	14	Atmospheric Pressure	0	Item Chg NC	14.7300	10.0000	0	23E2	23E2
11/4/2019	19:09:47	7838	10	P1 High Alarm Limit	0	Item Chg NC	99999.99	2.0000	0	8440	8440
11/4/2019	19:09:46	7837	0	Corrected Volume	0	Item Chg NC	00122601	00000090	0	1D23	1D23
11/4/2019	16:11:24	7836	203	Time	0	Item Chg NC	00 19 54	16 11 24	0	9111	9111
11/4/2019	00:18:54	7835	204	Date	0	Item Chg NC	01-01-01	11-04-19	0	D28D	D28D
11/4/2019	16:15:53	81	3115	CloudLink Configuration Saved	0	Item Chg NC	Clear	Set	0	---	---
11/4/2019	16:13:16	80	3115	CloudLink Configuration Saved	0	Item Chg NC	Clear	Set	0	---	---

Print Destination:

Recording Communications Baud rate: [Evaluate] [Tagger]

Incoming :00,1641,0,90,CCF2,75903,CCF8,000,PSI-G,215,000,PSI-G,214,000,PSI-G,209,000,PSI-G,420,000,PSI-G,423,000,PSI-G,422,000,PSI-G,421,000,PSI-G,31,76,60,F,48,069,VOLTS,1DED|ETX|3120|EOT| [ACK] [SOH]D2,5|STX|0,594590400,596046563|ETX|B66|EOT|

Outgoing

Connected (EC350 + CloudLink) Intsite 00567622 - 00567622 [Comm Monitor] Send Capture Buffer to File Email

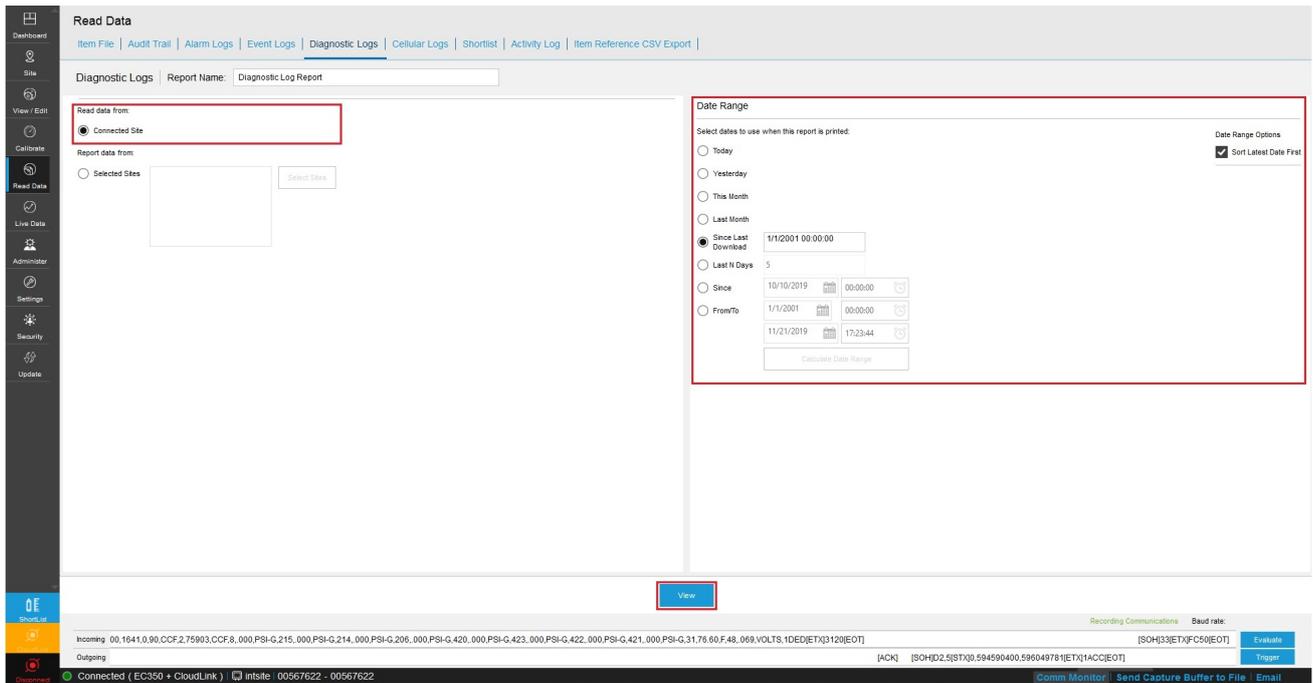
You can choose to export with **Preview** or **Print** the data.

3.6.5 Diagnostic Logs

Use the 'Diagnostic Logs' tab to read diagnostic data from a CloudLink Modem. You can read Diagnostic logs from the currently connected site. Alternatively, you can choose to select a list of sites and then generate a report.

Diagnostic logs are applicable to CloudLink Modem only and would be available when connected to CloudLink Modem or in integrated mode (EC 350 + CloudLink Modem).

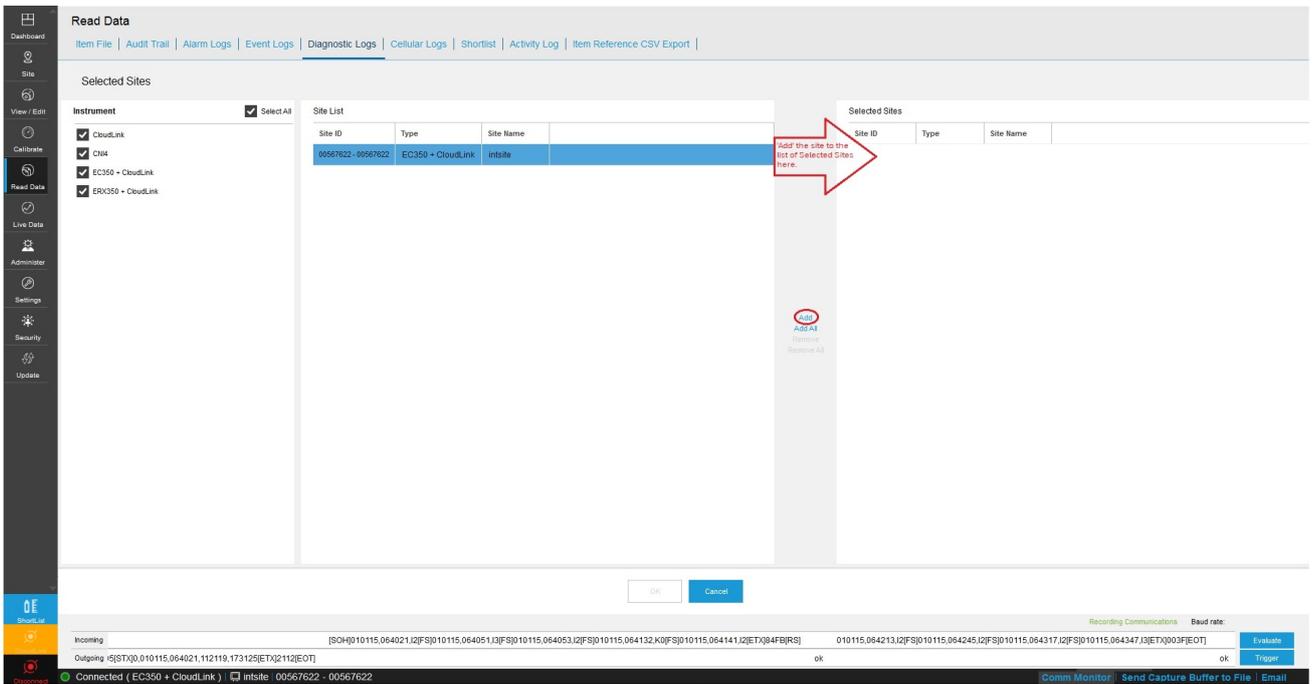
On checking the **Connected Site**, select a **Date Range** and then click **View** tab.



The Diagnostic Log report for the connected site is seen [here](#).

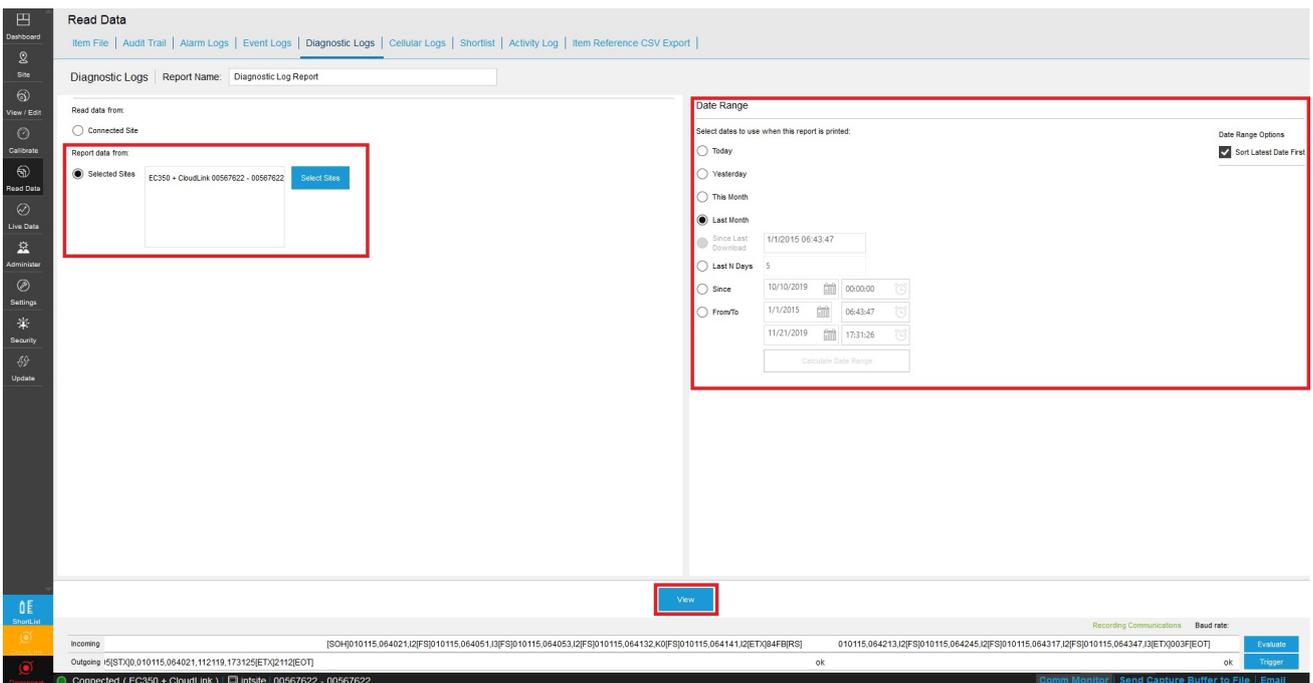
Alternatively, you can choose to select a list of sites and then generate a report.

Start by checking the **Selected Sites**, select a site from the **Select Sites** tab. A new window appears.



Click **OK**.

Next, select the date range of the report and then click **View**.

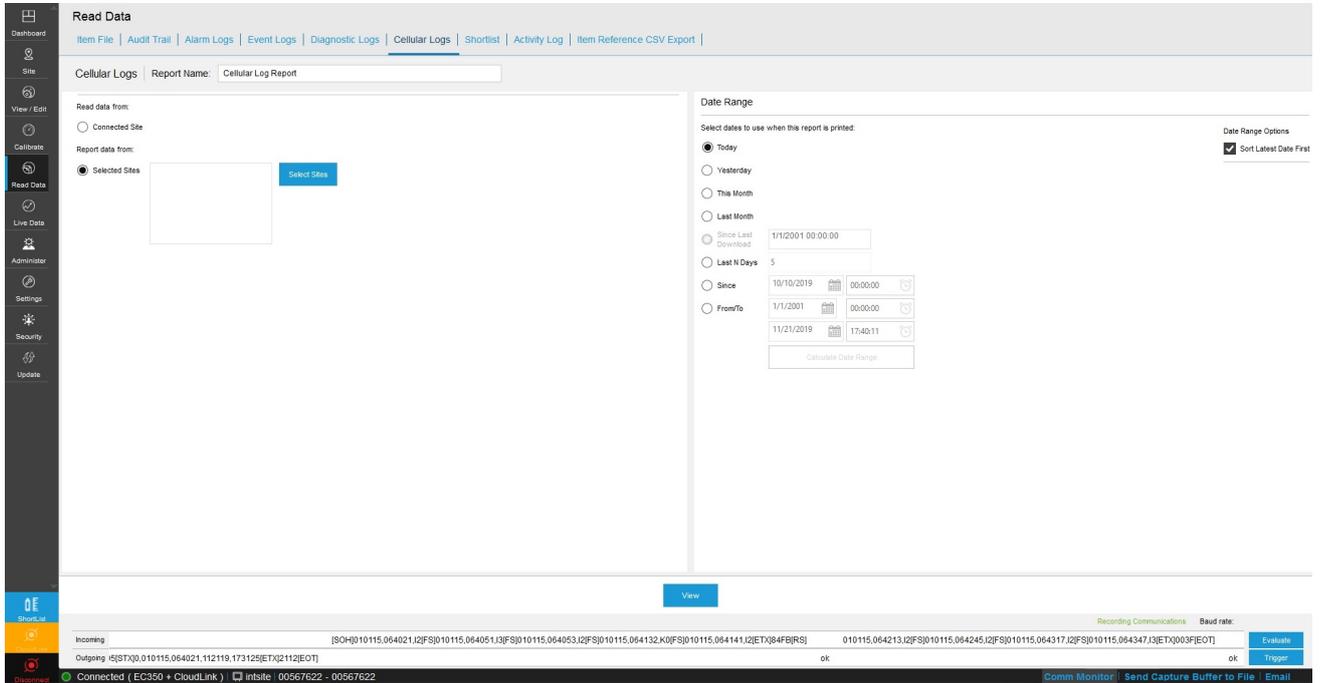


The Diagnostic Logs will appear based on your selected criteria.

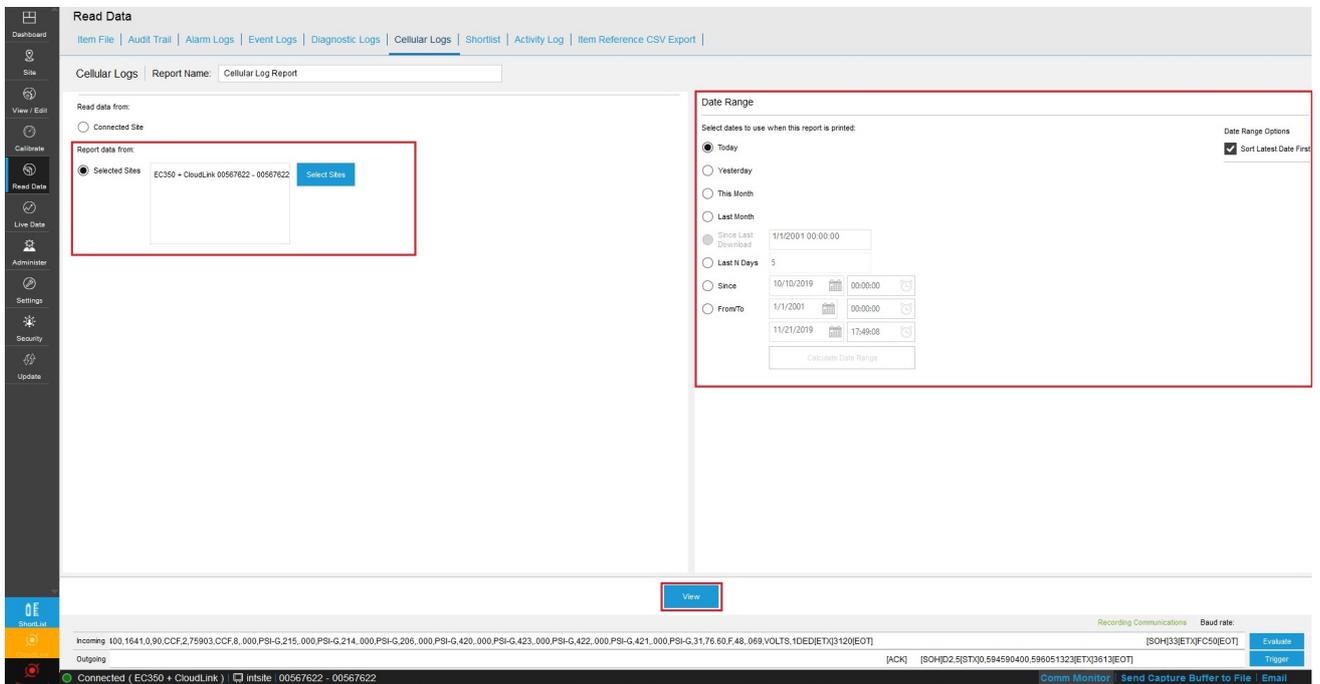
You can also choose to export with **Preview** or **Print** the data.

3.6.6 Cellular Logs

Use the 'Cellular Logs' tab to read cellular data from a connected CloudLink Modem. Cellular Logs contain cellular connectivity and communication data of the connected modem. You can read Cellular logs from the currently connected site.



Alternatively, you can choose to select a list of sites and then generate a report.



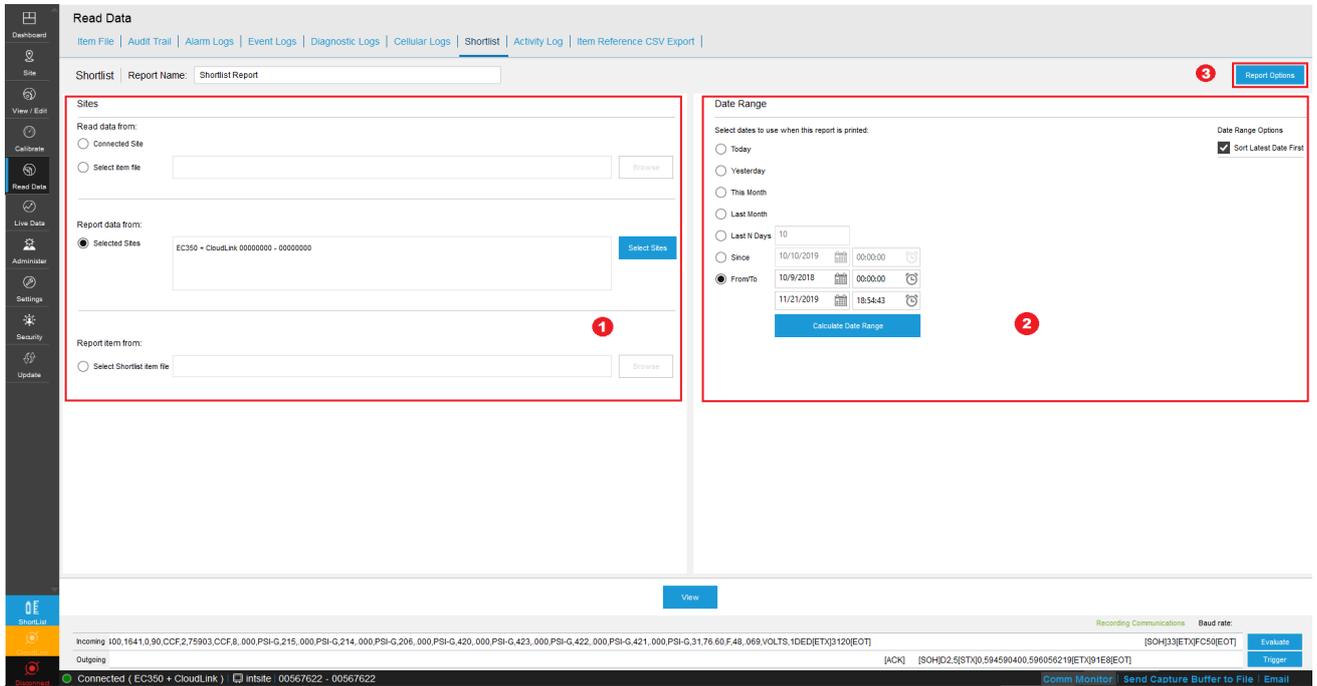
Relate the steps highlighted in the image above with the steps below:

1. Start by selecting the required site
2. Then select the date range, and finally click **View** to read the Cellular log report.

3. You can also choose to export with **Preview** or **Print** the data.

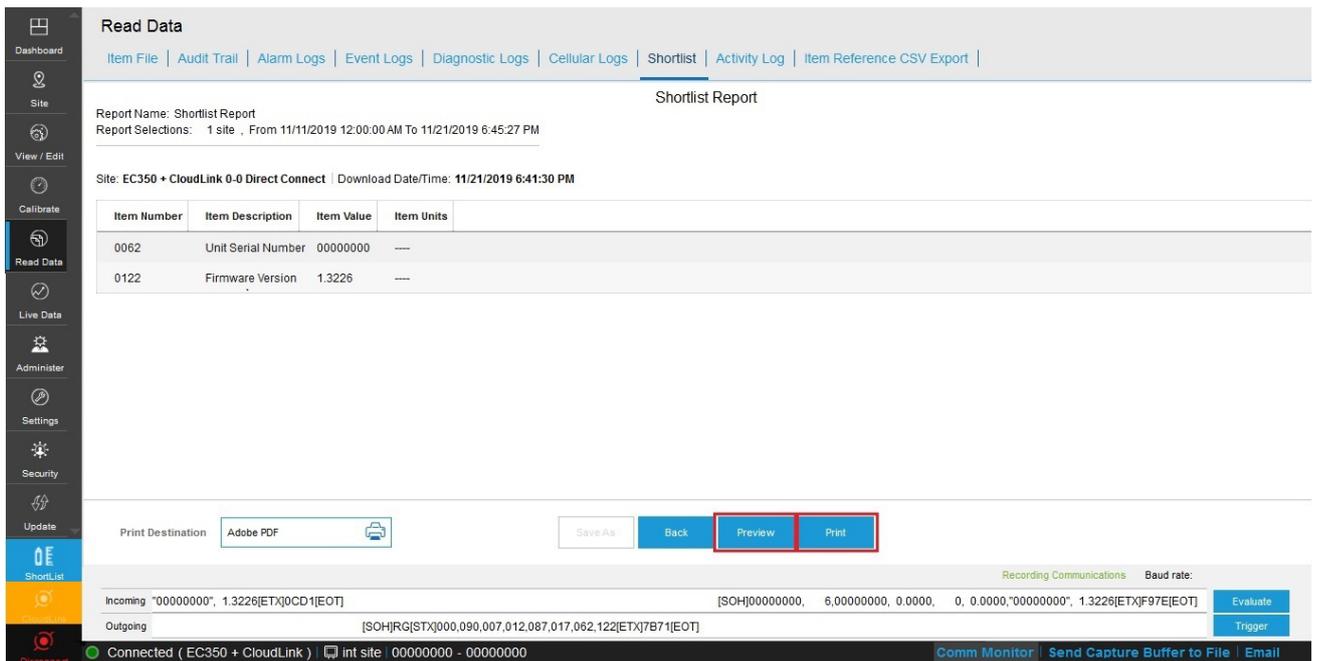
3.6.7 Shortlist

The Shortlist Template created using [Manage Shortlist](#) tab can be used to generate report for the corresponding shortlist.



Relate the steps highlighted in the image above with the steps below:

1. Select the site list or the item file.
2. Select the dates to use when the report is printed.
3. Click **Report Options** to enter user text. Check **Use User Text**, type the text that should appear in the report in the **User Text** box.
4. Click **View** to view the shortlist report.



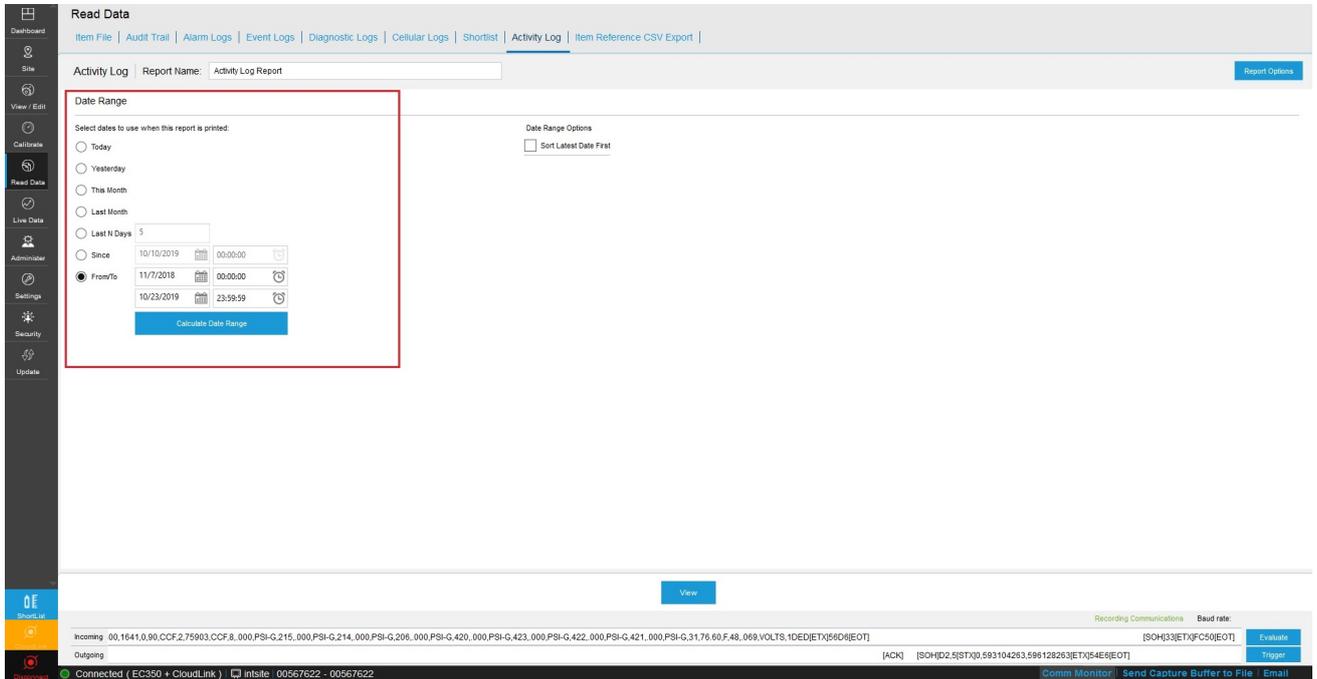
You can choose to export with **Preview** or **Print** the data.

Note: In Shortlist report, firmware version and serial number are not be displayed until the user selects Firmware version (**item #122**) and serial number (**item#62**) in Shortlist.

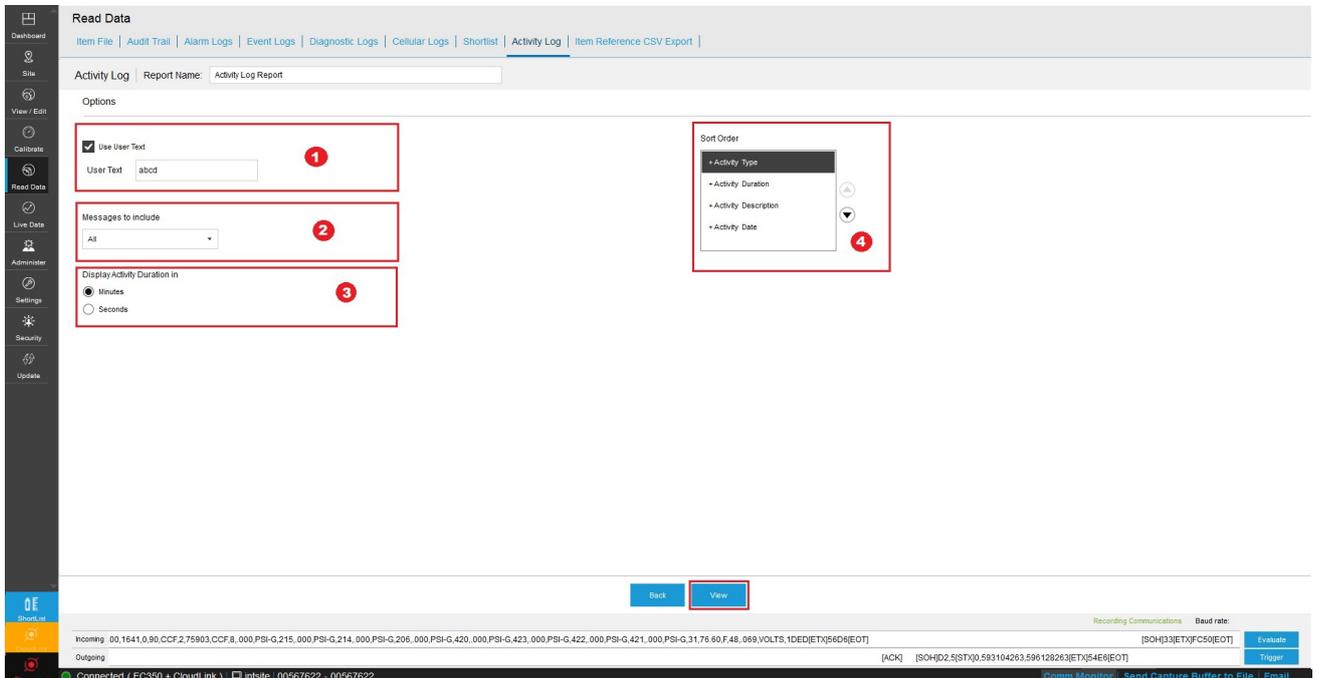
3.6.8 Activity Log

Use the 'Activity log' tab to read data on software activity.

Select the date range of the report and then click **Report Options**.



Customize the report in the **Report Options** page.



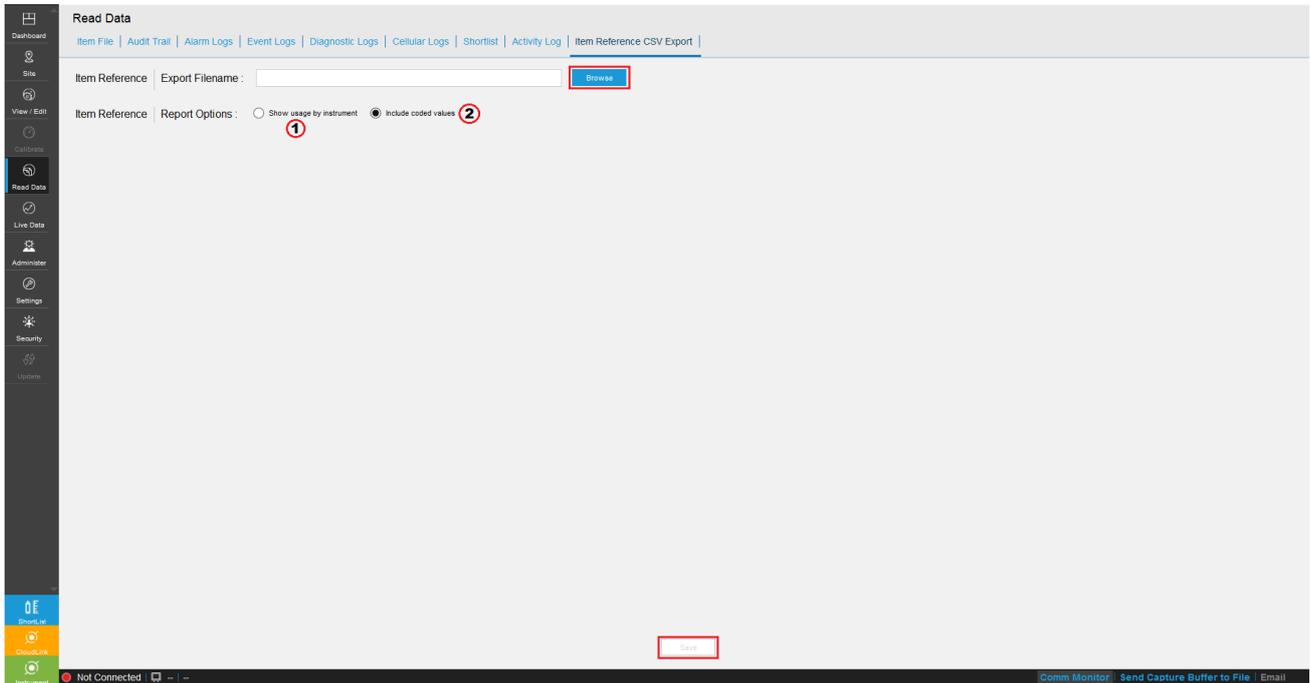
Relate the steps highlighted in the image above with the steps below:

1. Start by checking **Use User Text**. Type the text that should appear in the report in this box.
2. Select the **Messages to include**. There are 3 options for message reporting.
3. Select the **Display Activity Duration in**.

4. Select the **Sort Order**. This list shows the data columns that will be used in the report. Double click on the data type to change the sort order for that column: + (ascending) or - (descending).
5. Finally click **View** to view activity log report.

3.6.9 Item Reference CSV Export

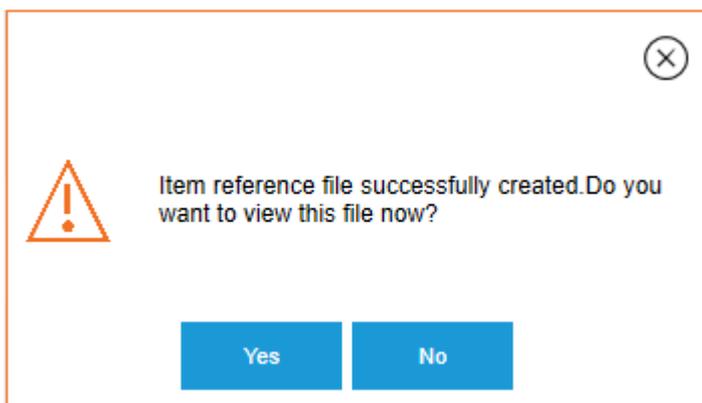
Use the 'Item Reference CSV Export' tab to export the Item Reference files on software activity.



Relate the steps highlighted in the image above with the steps below:

1. Start by clicking on 'Browse'.
2. Save the file in the Reports pop-up window.
3. You can select two Report Options:
 1. **Show usage by instrument** - Allows the user to view the generated report wrt the instrument applicable to the corresponding item description. See [here](#).
 2. **Include coded values** - You can view the coded values with units for each instrument. See [here](#).

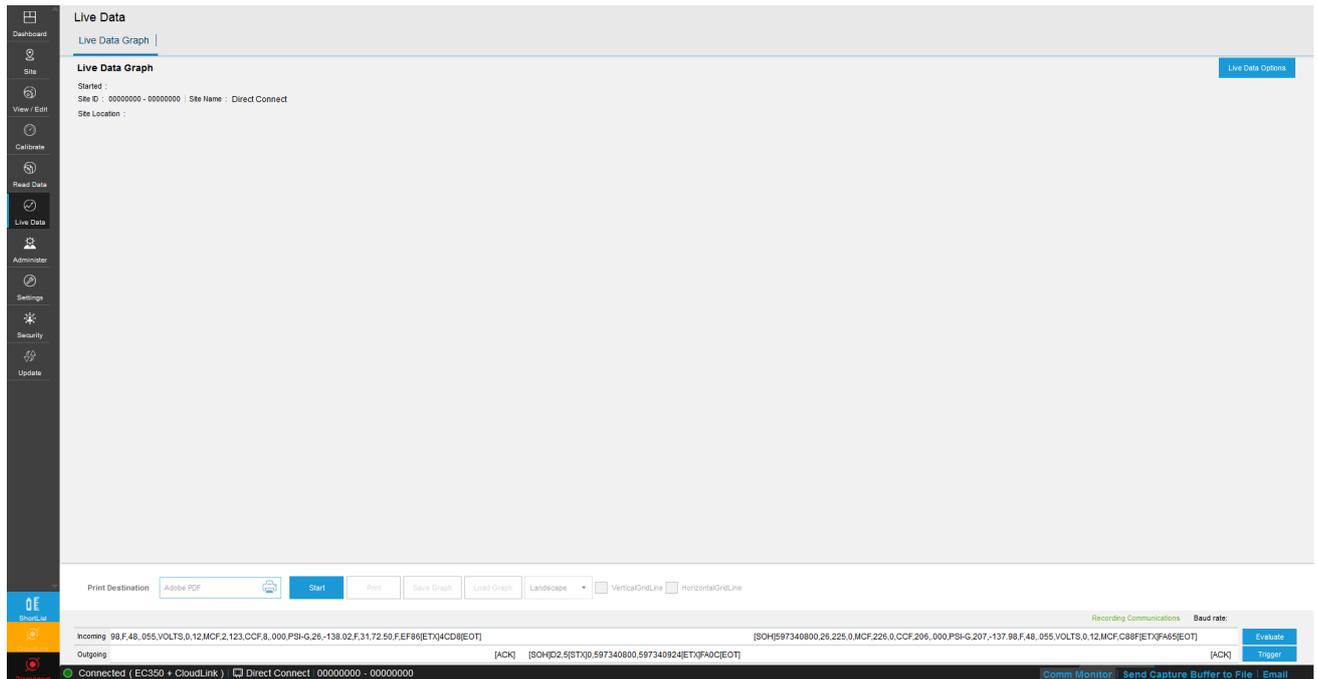
Once you select either of the above options, click Save.



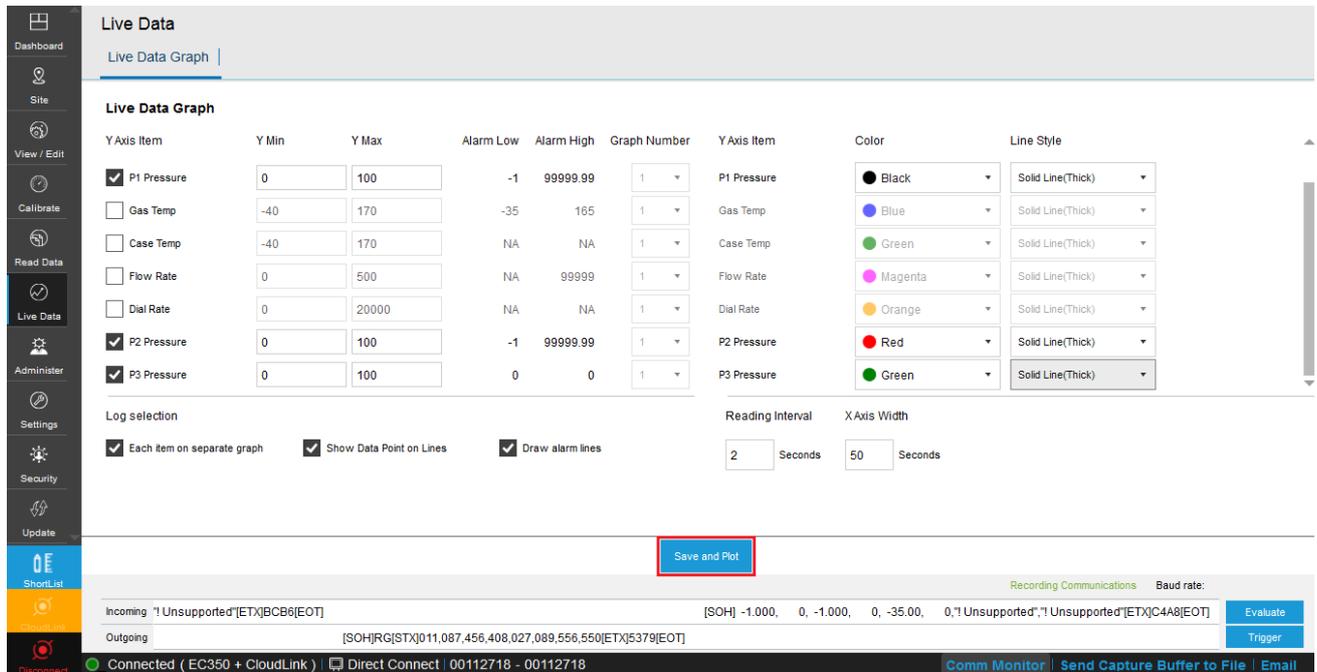
If you want to view the generated file click Yes else No.

3.7 Live Data

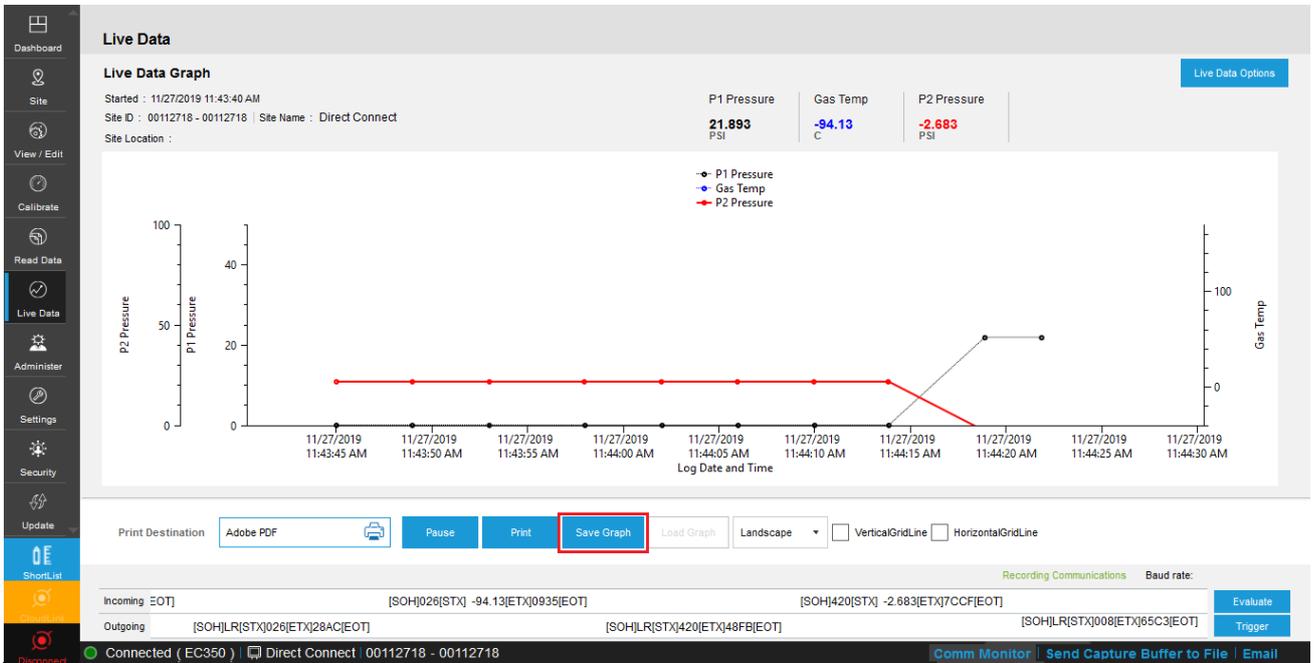
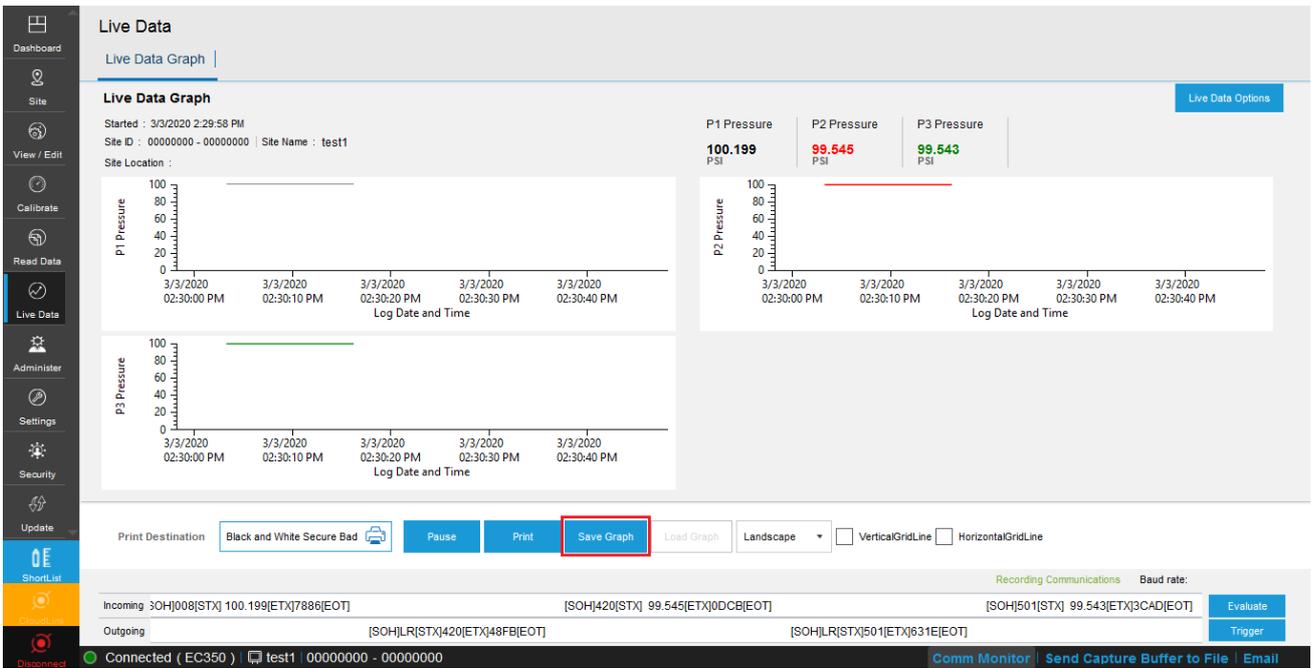
The Live Data Graph function will graph data read directly from connected instruments.



1. The computer/laptop must be connected to an instrument in order to display a live graph.
2. You select which items to graph as well as other graph configuration items.
3. The 'Live Data Graph' screen will display previously selected actual graph items in two graph sections when this function first begins. The device adjusts the upper and lower limits for each items from the settings provided.

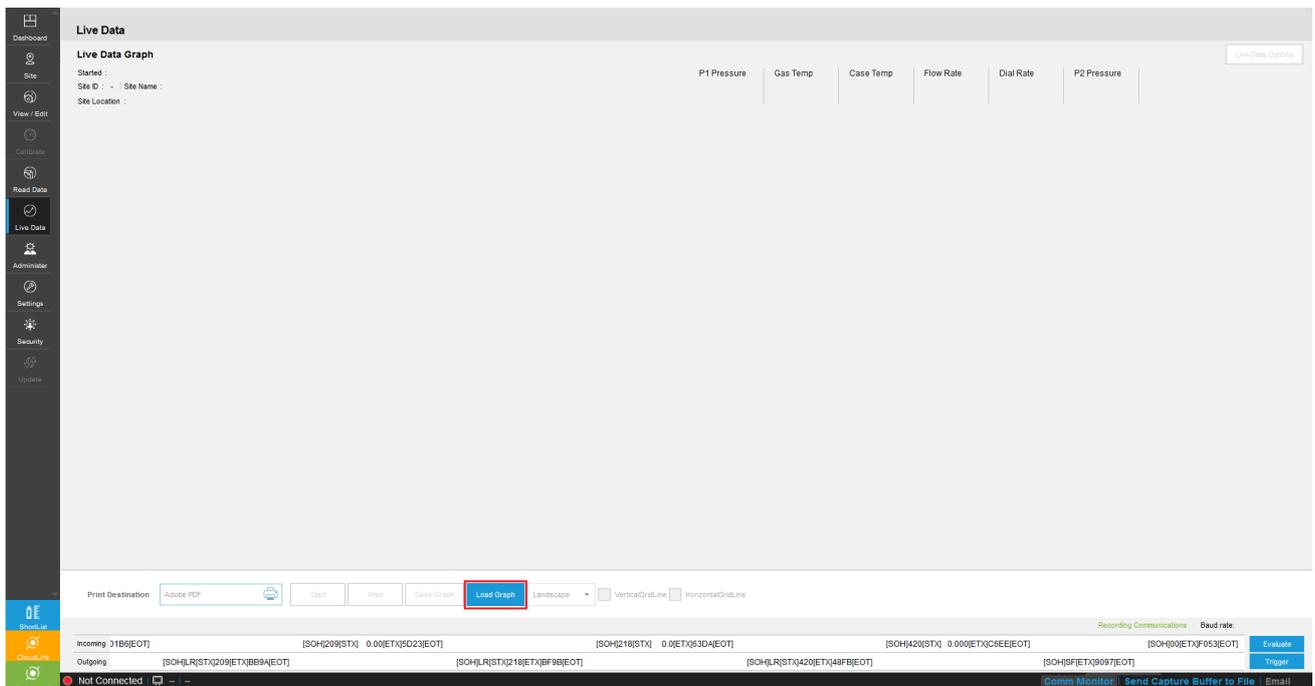


Click **Save and Plot** to view the graph.

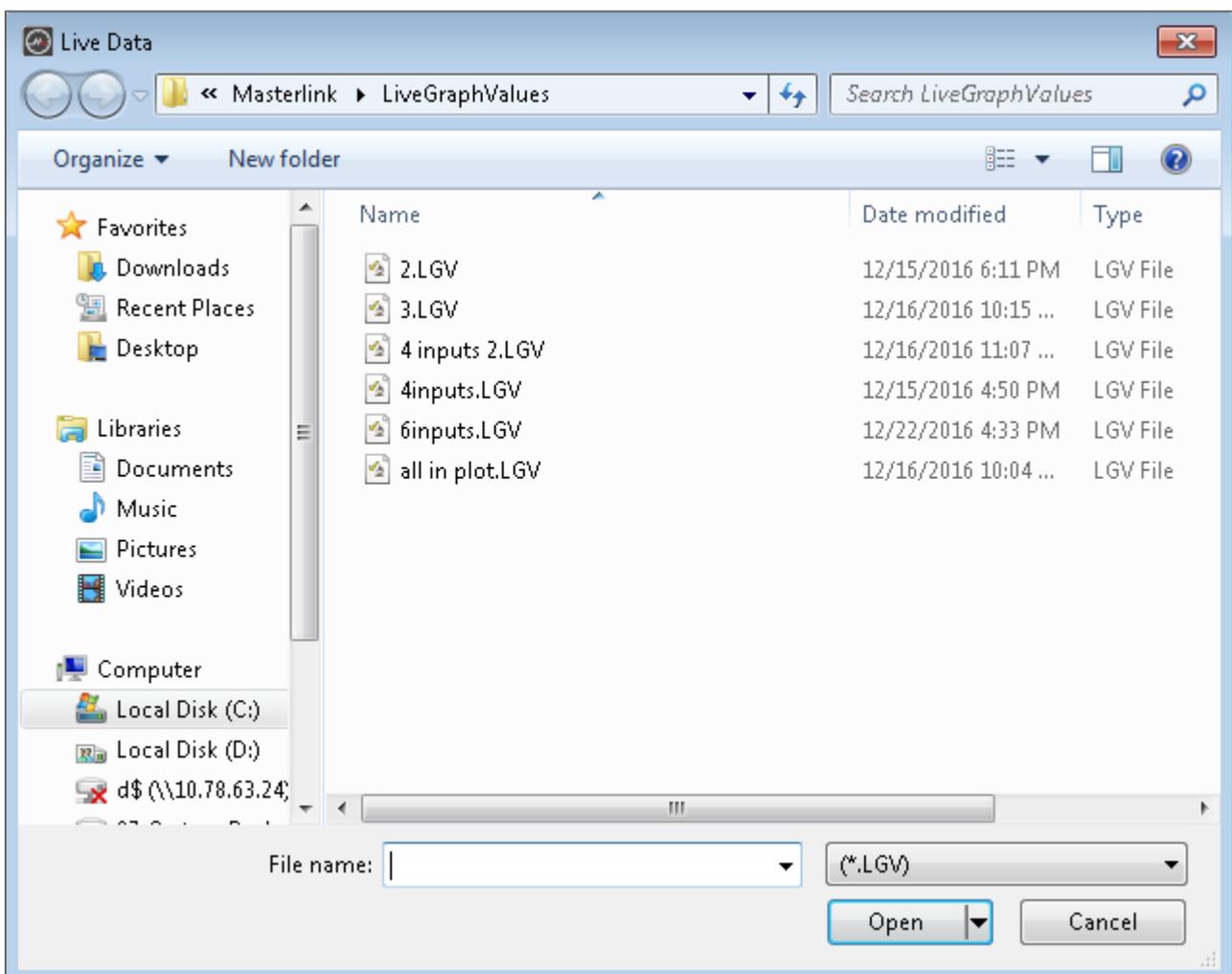


Click **Save Graph** to save the Live Graph Setup. By default, .LGV file is saved in the C:\ProgramData\Honeywell\MasterLink\LiveGraphValues folder.

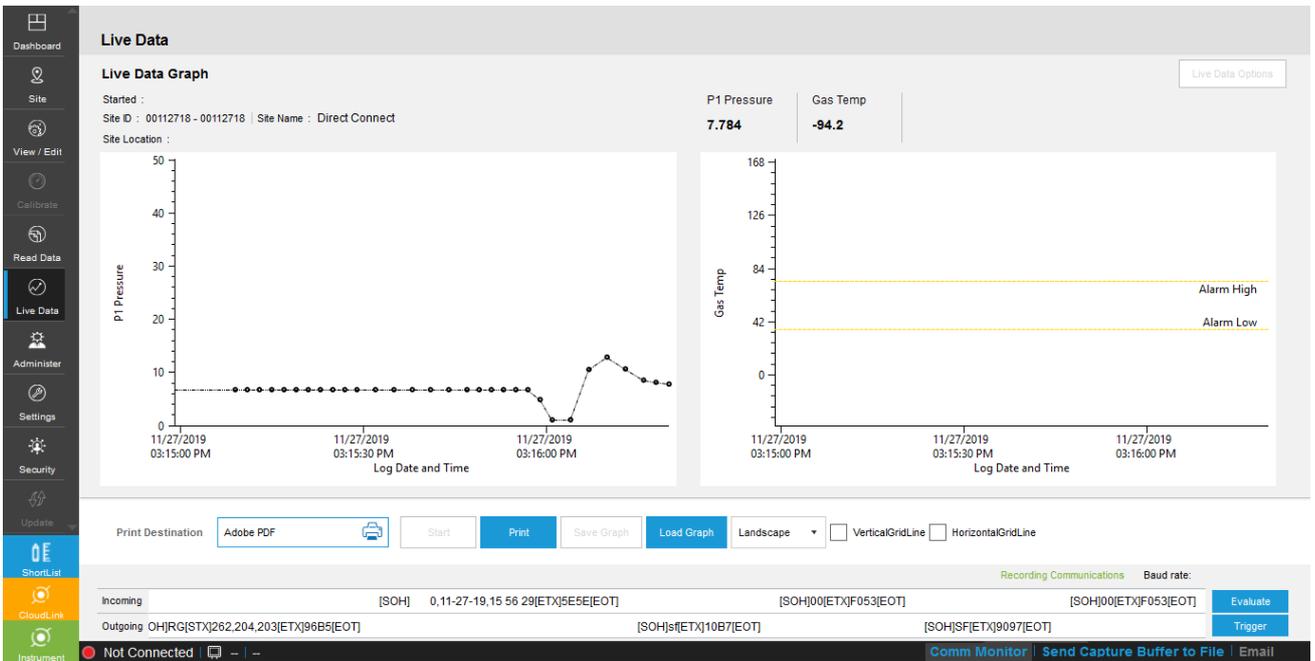
You can view graphs offline as well.



Click **Load Graph** to load saved graphs.



Select the desired graph from the new pop-up window and click **Open**.



Attention: Load Graph is disabled when we have an active connection to the instrument. Please disconnect from the instrument to use this option.

Items to Graph

The availability of items depends on the instrument linked to the computer. Toggle-click on the box to select/deselect the item(s) to graph. The default values for the minimum and maximum Y scale (vertical scale) correspond to the alarm limits. To change these defaults, click on that field and enter the new value.

Note: You can select numbers in the Graph Number column to group the items together. For example, if you want to view the Gas temperature and the Case temperature on the same graph, you can assign a value of 1 for both the items, and they will be displayed on the same graph. If you do not assign a graph number, then all 4 items will be displayed on the same graph. Viewing all 6 inputs is possible in 2 or more graphs.

Graph Configuration

Pressure 1, Pressure 2, Gas Temperature, Case Temperature, Dial Rate, and Flow Rate items are available for graph configuration. For each of the 6 items, click on the down arrow next to the color or line style fields for selectable options, then click on the selection. Dashed or dotted line styles will not be noticeable on data lines unless the data points are fairly far apart. Toggling this box next to the following options on the Live Graph Setup dialog screen can activate other selections that affect the display of the graph.

Log selection

1. **Each item on separate graph:** Checking this box will draw one item per graph. If this is unchecked, more than one item will be drawn on a graph. A graph can have two Y scales (vertical); on each side. If two (up-to 4) items have the same unit of measure, they can share a Y scale. The Y scales are located along the left and right side of the graph.

Live Data

Live Data Graph

Item to Graph

Y Axis Item	Y Min	Y Max	Alarm Low	Alarm High	Graph Number
<input checked="" type="checkbox"/> P1 Pressure	0	100	-1	99999.99	1
<input checked="" type="checkbox"/> Gas Temp	-40	170	-35	165	1
<input checked="" type="checkbox"/> Case Temp	-40	170	NA	NA	1
<input checked="" type="checkbox"/> Flow Rate	0	500	NA	99999	1
<input checked="" type="checkbox"/> Dial Rate	0	20000	NA	NA	1
<input checked="" type="checkbox"/> P2 Pressure	0	100	-1	99999.99	1
<input type="checkbox"/> P3 Pressure	0	100	-1	-1	1

Graph Configuration

Y Axis Item	Color	Line Style
P1 Pressure	Black	Solid Line(Thick)
Gas Temp	Blue	Solid Line(Thick)
Case Temp	Green	Solid Line(Thick)
Flow Rate	Magenta	Solid Line(Thick)
Dial Rate	Orange	Solid Line(Thick)
P2 Pressure	Red	Solid Line(Thick)
P3 Pressure	Green	Solid Line(Thick)

Log selection

Each item on separate graph Show Data Point on Lines Draw alarm lines

Reading Interval: 2 Seconds X Axis Width: 50 Seconds

Save and Plot

Incoming: 37 14[ETX]7[BE7][EOT] [SOH]99999 99, 0.99999 99, 0.165 00, 0.99999 00, 6[ETX]7114[EOT] [SOH]-1.000, 0, -1.000, 0, -35 00, 0[ETX]994[EOT] Evaluate Trigger

Outgoing: [SOH]RG[STX]10.087.455.408.028.089.164.090[ETX]E2E8[EOT] [SOH]RG[STX]11.087.456.408.027.088[ETX]744[EOT]

Recording Communications Baud rate:

Connected (EC350) Direct Connect: 00000000 - 00000000 Comm Monitor Send Capture Buffer to File Email

Live Data

Live Data Graph

Started: 11/27/2019 3:14:55 PM

Site ID: 00112718 - 00112718 | Site Name: Direct Connect

Site Location:

P1 Pressure **Gas Temp**

7.784 PSI -94.2 C

Log Date and Time

Print Destination: Adobe PDF Start Print Save Graph Load Graph Landscape VerticalGridLine HorizontalGridLine

Incoming: [SOH]026[STX]-94.18[ETX]D5CF[EOT] [SOH]008[STX] 7.784[ETX]9B2E[EOT] [SOH]026[STX]-94.20[ETX]0536[EOT] Evaluate Trigger

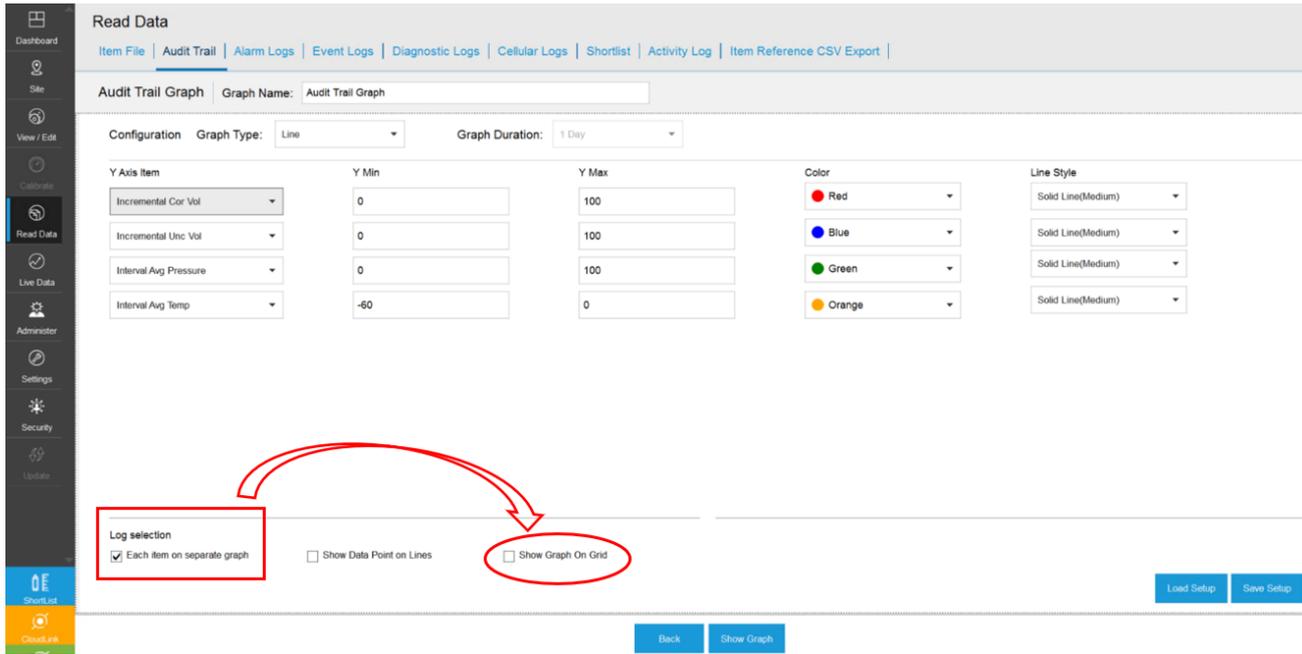
Outgoing: [SOH]LR[STX]008[ETX]65C3[EOT] [SOH]LR[STX]026[ETX]28AC[EOT]

Recording Communications Baud rate:

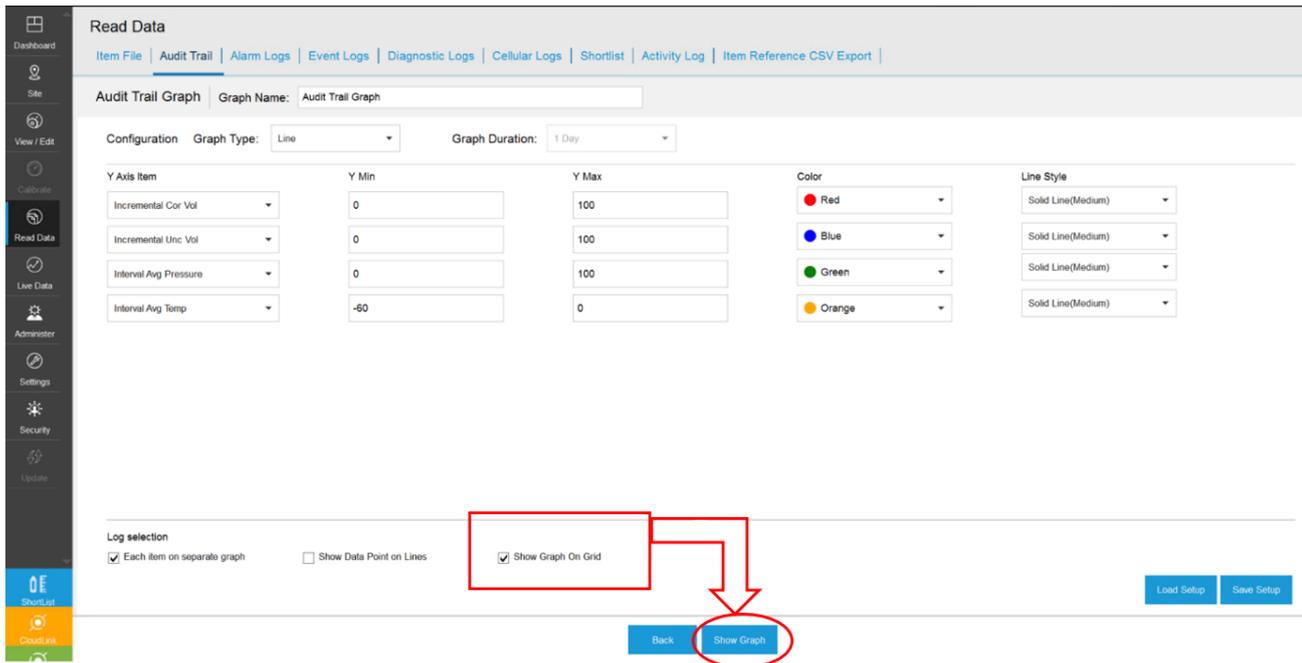
Connected (EC350) Direct Connect: 00112718 - 00112718 Comm Monitor Send Capture Buffer to File Email

2. **Show data points on lines:** Data lines may be drawn with or without dots.
3. **Show Graph on Grid:** To make the data in a chart that displays axes easier to read.

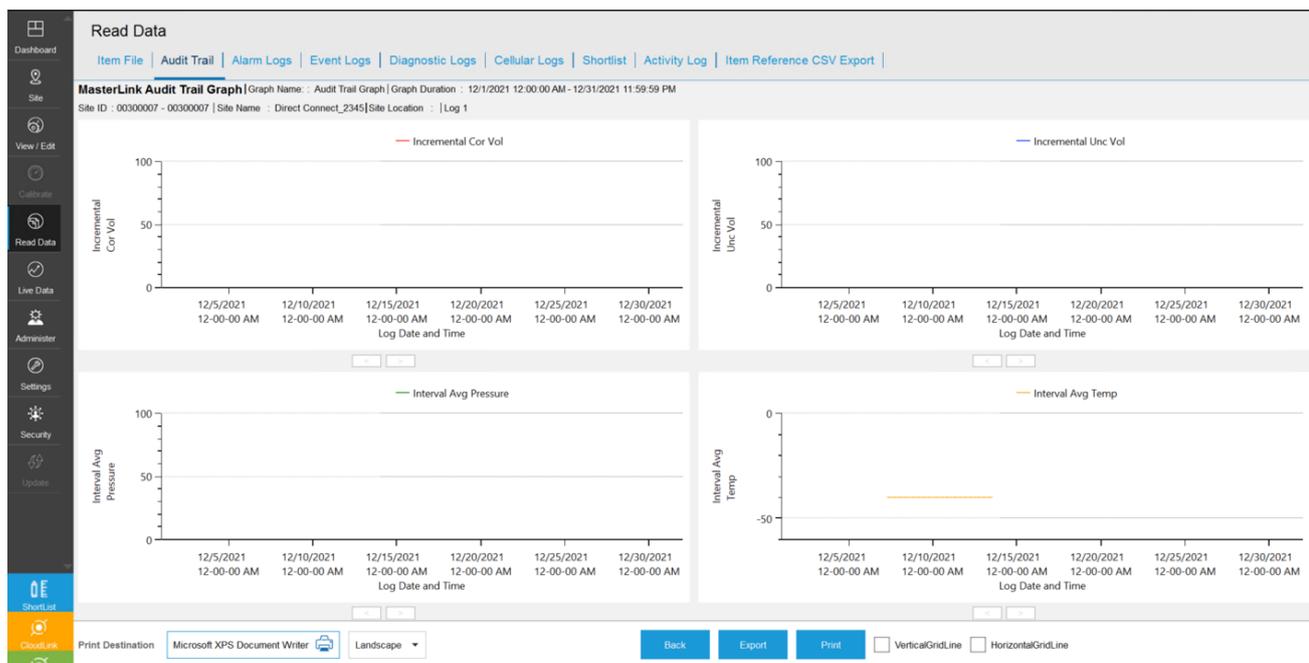
1. To enable the **Show Graph on Grid**, first click on **Each item on separate Graph** check box.



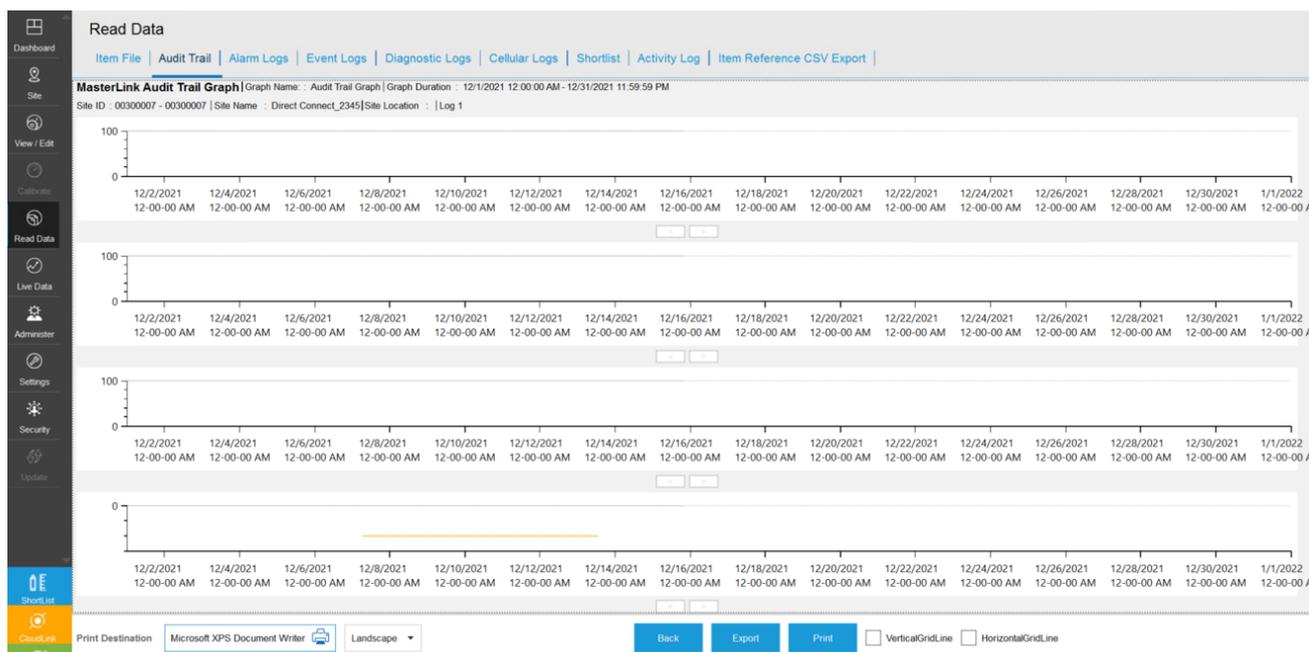
1. Select the check box **Show Graph on Grid**, then click on **Show Graph** to view the graphs.



1. Click on **Show Graph** to see the side-by-side graphical view by selecting the **Show Graph on Grid** check box.



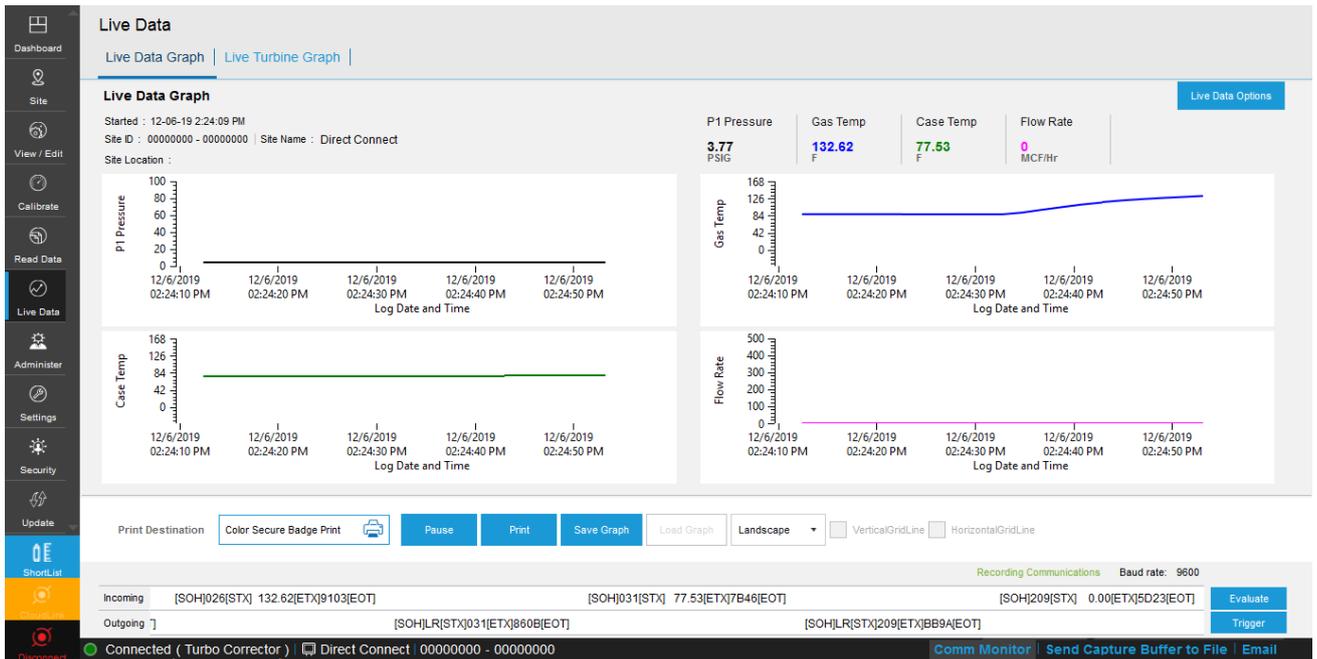
- Alternatively, you can view the graphs by not selecting the “**Show Graph on Grid**” check box. Click on “**Show Graph**” to see the extended graphical view of x-axis for individual parameter.



- Draw alarm lines:** Check this box if the alarm lines are to be drawn on the graph.
- Reading Interval:** Enter a number for the Reading Interval (in seconds). This option controls the frequency when data is read from the instrument and thus, how often points are plotted. Please note that point-to-point spacing may vary somewhat due to rounding and screen resolution.
- X-Axis Width:** Enter a number for the X-Axis Width (in seconds). The X-axis is located across the bottom of the graph. This option controls the number of data points shown on the graph at one time. Please note that a slightly different number of data points may actually be shown due to rounding and screen resolution.

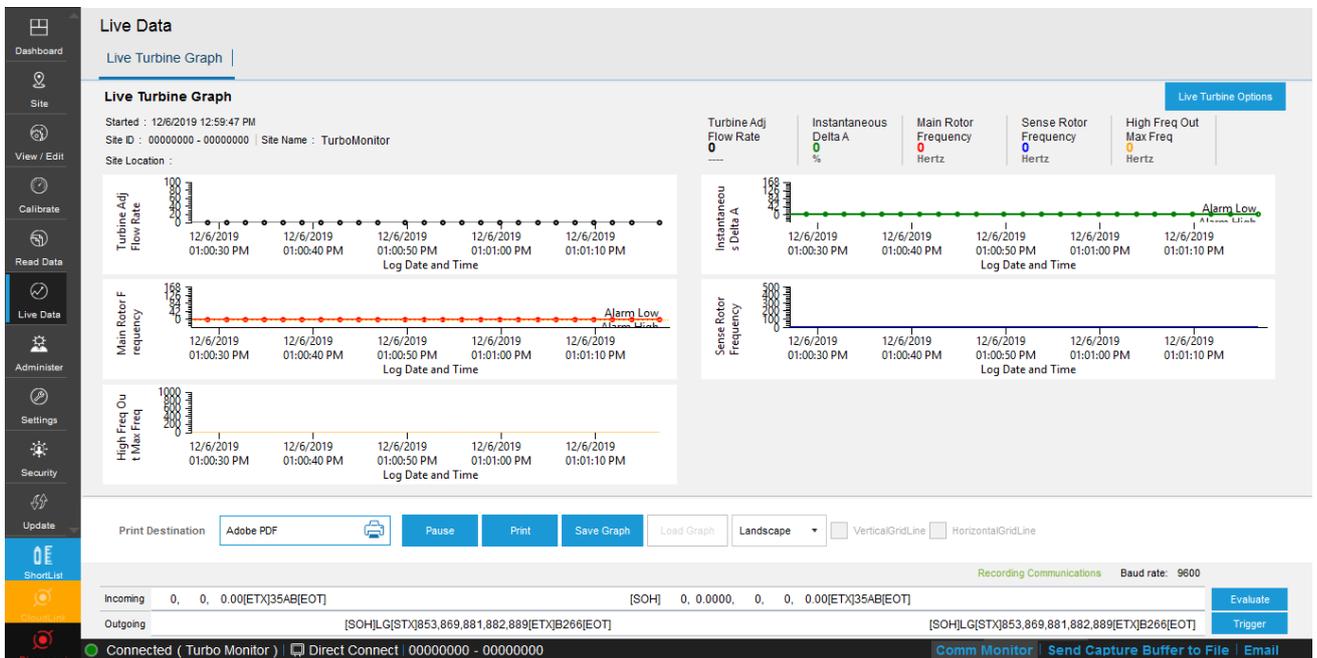
Click **Save and Plot** to view the graph.

For Legacy devices, Turbo Corrector and Turbo Monitor the live graph views are as below:



Note: When Turbo Corrector is connected, the '[Live Turbine Graph](#)' view will be of Turbo Monitor.

However, when Turbo Monitor is connected the 'Live Turbine Graph' is as below:



3.8 Administer

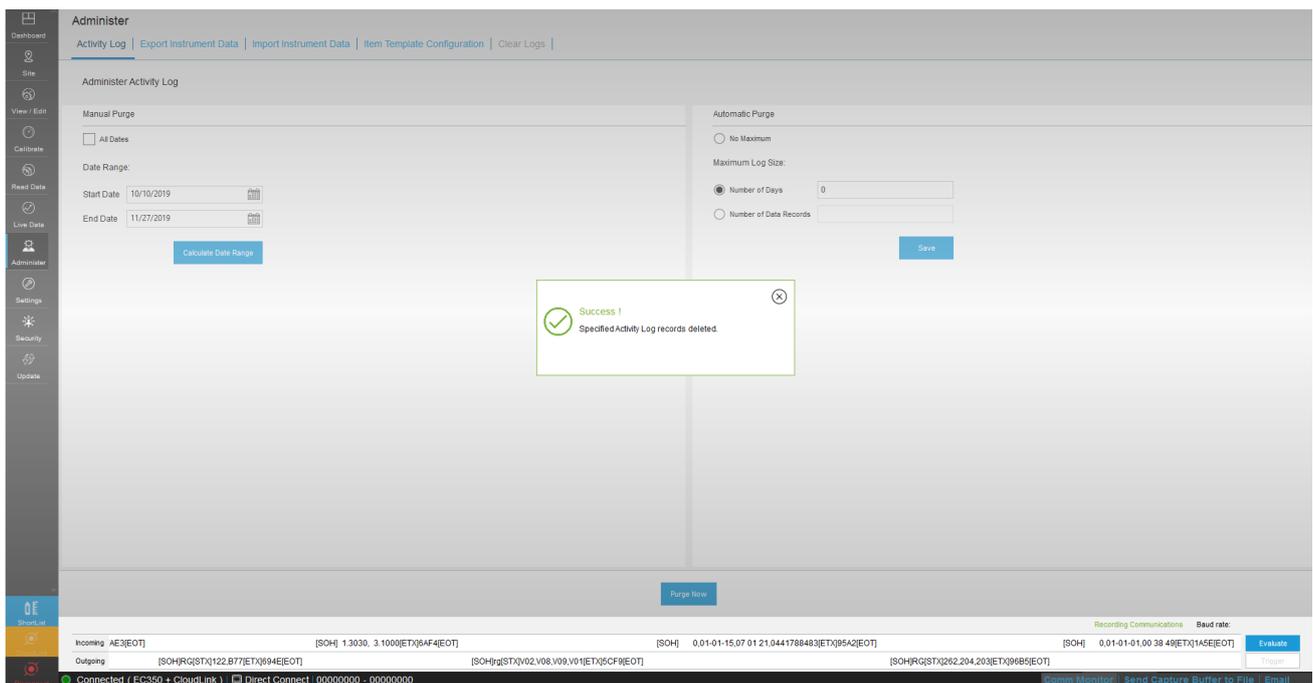
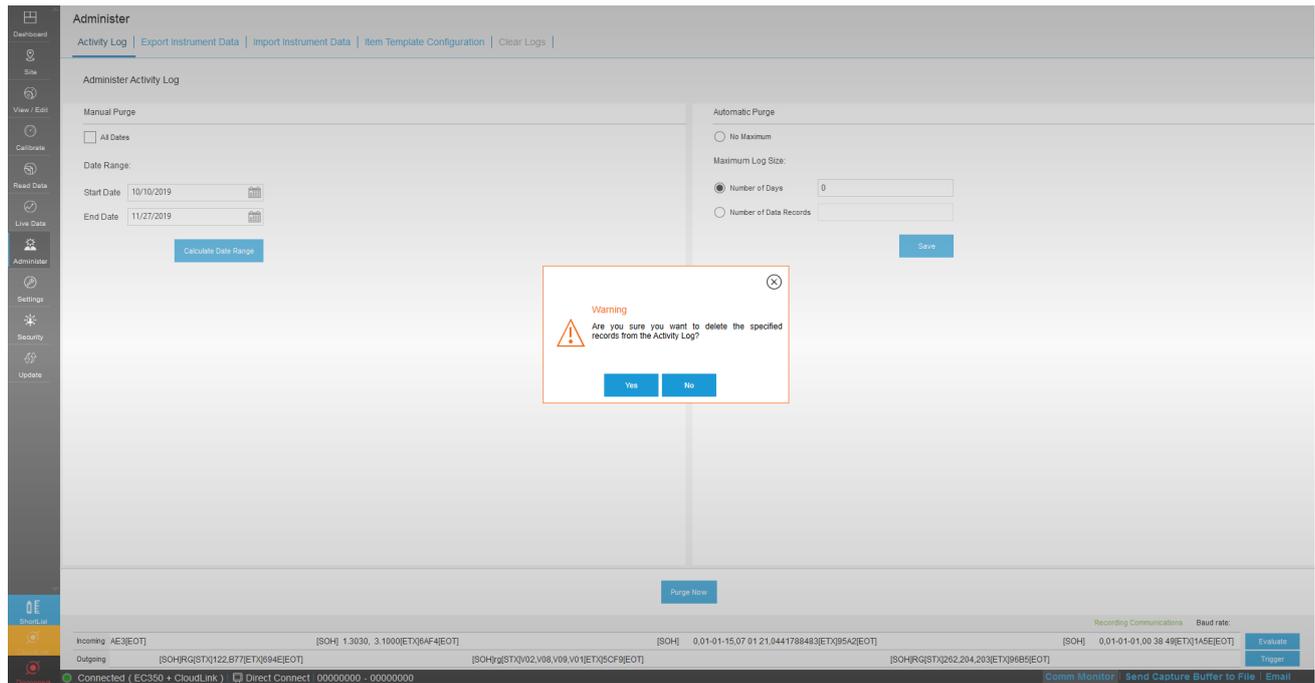
3.8.1 Activity Log - Purge

Use Activity log - Purge to permanently delete the activity logs of the MasterLink. Please note that this log is different from the Event Log because this log mainly focuses on software activity (and some firmware activity) where the Event Log function records activity that is directly linked to and maintained within the instrument.

Manual Purge - This method requires that a date parameter be set. The default setting is *All Dates*. If this is set, every record in the activity log will be purged. To de-select this option and open the fields for starting and ending date entries, uncheck on the **All Dates** box. Enter the desired dates, or click the **Calculate Date Range** button to automatically retrieve the database starting and ending dates. After the date range has been set, click the **Purge Now** button to execute this function.

Automatic Purge - Although the default setting is No Maximum (which means that no records are removed until the manual method is executed), records may be automatically removed without user intervention. Records can be removed after the file has reached a set number of days or number of data records. To set one of these two limits, de-select the No Maximum option by clicking on that radio button, and then select the radio button next to *Number of Days* or *Number of Data Records*. Next, enter the number of days for data records in the box for the option that was chosen. Finally click **Save**.

Click **Purge Now**, to manually remove activity logs.



3.8.2 Export Instrument Data

The 'Export Instrument Data' tab can be used to export instrument data.

The screenshot shows the 'Export Instrument Data' tab in the MasterLink interface. The interface includes a sidebar with navigation options like Dashboard, Site, View/Edit, Calibrate, Read Data, Live Data, Administrator, Settings, Security, and Update. The main content area is divided into several sections:

- File Type:** Radio buttons for LAN, SQLite (selected), and CSV. (Callout 1)
- Export to:** A text input field and a 'Browse' button. (Callout 2)
- Export Options:** Radio buttons for 'Only Site Data' and 'Instrument Data' (selected). Below are checkboxes for 'Log Data' and 'Shortlist Data'. (Callout 3)
- Instrument Selection:** A list of instrument types with checkboxes. A 'Select All' checkbox is checked. (Callout 4)
- Site List:** A table with columns for Site ID, Type, and Site Name. It contains several rows of instrument data. (Callout 5)
- Selected Sites:** An empty table with columns for Site ID, Type, and Site Name. (Callout 5)
- Date Range:** Fields for Start Date (11/27/2019 00:00:00) and End Date (11/27/2019 23:59:59). (Callout 6)

At the bottom, there is an 'OK' button and a status bar showing 'Connected (EC350 + CloudLink)' and 'EC350_CL_Device: 00000000 - 00000000'.

Relate the steps highlighted in the image with the instructions for exporting instrument data.

1. Select the export file type. **LAN**, **SQLite**, and **CSV** are supported when MasterLink is installed.
2. Browse and select the **Export to** location.
3. Select the **Only Site Data** option to export only the site data or select the **Instrument Data** option to be able to export log and Shortlist data for the selected sites.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to export instrument data.

Note: In all of the supported exported file types, if Only Site data is chosen, only sites are exported but not Log/Shortlist Data.

Export instrument or Site Data to a remote SQL Server over LAN:

1. Select the **LAN** option. The application would load all available SQL Server on the same network. The user performing this operation must have **db_admin privileges** on the remote SQL Server.

The screenshot shows the 'Administrator' interface for 'Export Instrument Data'. The 'File Type' is set to 'LAN'. The 'Select a LAN Server Name' dropdown is open, showing 'E1FLT8Y37MC2'. The 'Instrument' list is checked, and the 'Selected Sites' table is populated with data. The 'Date Range' is set from 11/27/2019 00:00:00 to 11/27/2019 23:59:59. The 'Only Site Data' option is selected.

Instrument	Type	Site Name
Turbo Corrector	414TOC	
00448131 - 00448131	EC350	431site
00055555 - 00055555	ERX	555ex
00616141 - 00616141	Mini-Max	616minimax
00414555 - 00414555	Accutest	accutest414
00448132 - 00448132	EC350	atardev

Site ID	Type	Site Name

2. Choose appropriate SQL Server. The selected SQL Server must have the MasterLink Database for successful export.
3. Select the **Only Site Data** option to export only the site data or select the **Instrument Data** option to be able to export log data for the selected sites.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to export instrument data.

Export instrument or Site Data to SQLite

1. Select SQLite file type option.

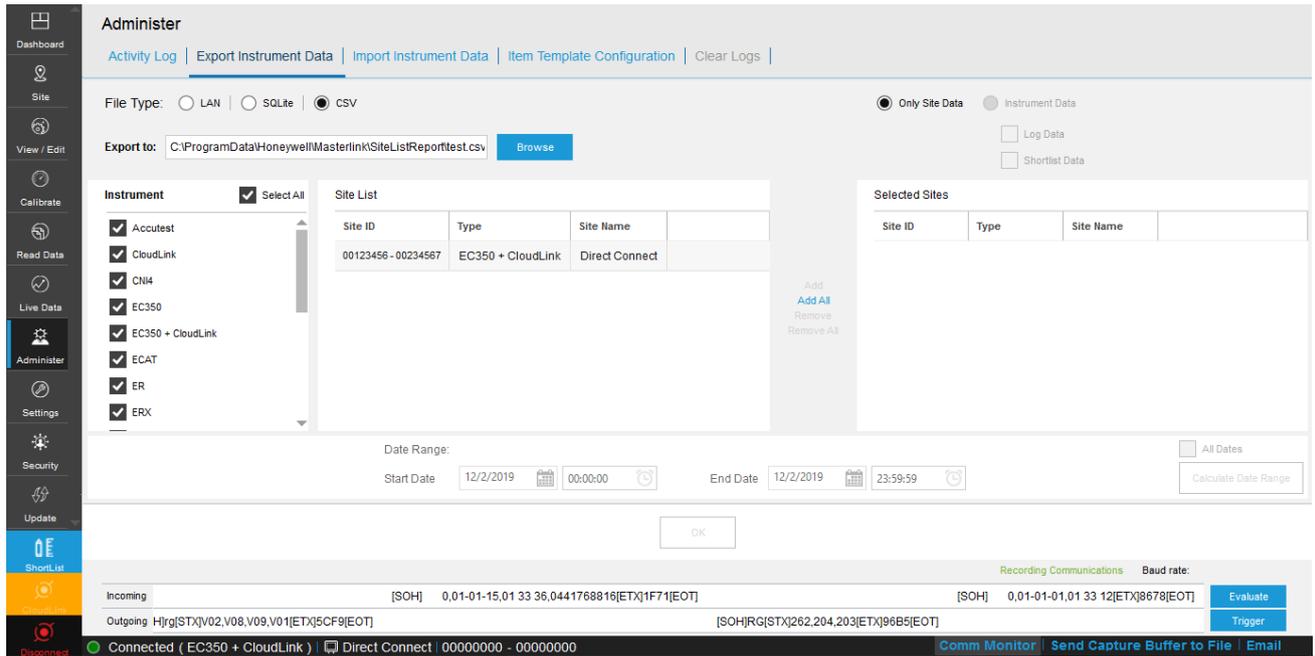
The screenshot shows the 'Administer' interface for exporting data. The 'File Type' is set to 'SQLite'. The 'Export to' path is 'C:\ProgramData\Honeywell\Masterlink\SQLite\ML_Config_Exp'. The 'Instrument' list has 'Select All' checked. The 'Site List' table is populated with 15 rows of site data. The 'Date Range' is set from 11/29/2019 00:00:00 to 11/29/2019 23:59:59. The 'Selected Sites' table is empty.

Site ID	Type	Site Name
00000001 - 13113944	Mini-Max	10th & Dewey (Line Heater)
00123456 - 00123456	EC350	123456
00000575 - 00252219	Mini-Max	3rd Coast Delveloment
00000597 - 00252201	Mini-Max	A.A.P. Corp. (Port A)
00000597 - 00252207	Mini-Max	A.A.P. Corp. (Port B)
00000615 - 00252088	Mini-Max	Accubuilt Corp
00000045 - 00000045	Accutest	Accutest
00000046 - 00000046	Accutest	Accutest_Lio
00000045 - 00000045	Accutest	Accutest-phone
00000047 - 00000047	Accutest	Accutest-UDP
00000544 - 01179361	Mini-Max	Advanced Agri-Solutions Co-op
00000748 - 11080022	Mini-Max	Advanced Comfort Products
00000929 - 01169584	Mini-Max	AEP/ Ohio Power Co.
00000560 - 00252101	Mini-Max	Agrana
00000733 - 01113271	Mini-Max	Allen Co. Board of MRDD
00000755 - 11027090	Mini-Max	Allen Co. Commissioners

2. Browse and select the location for the SQLite file. Give a name to the SQLite file. If an existing SQLite file is chosen, it will be overwritten.
3. Select the **Only Site Data** option to export only the site data or select the **Instrument Data** option to be able to export log data for the selected sites.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to export instrument data.

Export instrument or Site Data to CSV

1. Select the CSV file type.



2. Browse and select the location you need instrument data to be exported to CSN file. Give a name to the CSV file..
3. Only Sites are exported to CSV file. Instrument data cannot be exported to CSV file and hence disabled.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to export instrument data.

3.8.3 Import Instrument Data

The 'Import Instrument Data' tab can be used to import instrument data.

The screenshot shows the 'Administer' interface with the 'Import Instrument Data' tab selected. The interface includes a sidebar with navigation options and a main content area with various controls. Seven red boxes with numbers 1 through 7 highlight specific steps in the process:

- File Type: Access File LAN SQL File SQLite
- Import From:
- Only Site Data Instrument Data
 - Log Data
 - Shortlist Data
- Instrument Select All
- Selected Sites table
- Date Range: Start Date 12/2/2019 00:00:00 End Date 12/2/2019 23:59:59
-

Relate the steps highlighted in the image with the steps below:

1. Start by selecting select the import file type. Access File, LAN, SQL File and SQLite file types are supported when MasterLink is installed.
2. Select the physical location of the file to be imported.
3. Select the type of data source.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to import instrument data.

Import from Access File

1. Select Access file type option and browse the access file (.ARC or .mdb file).

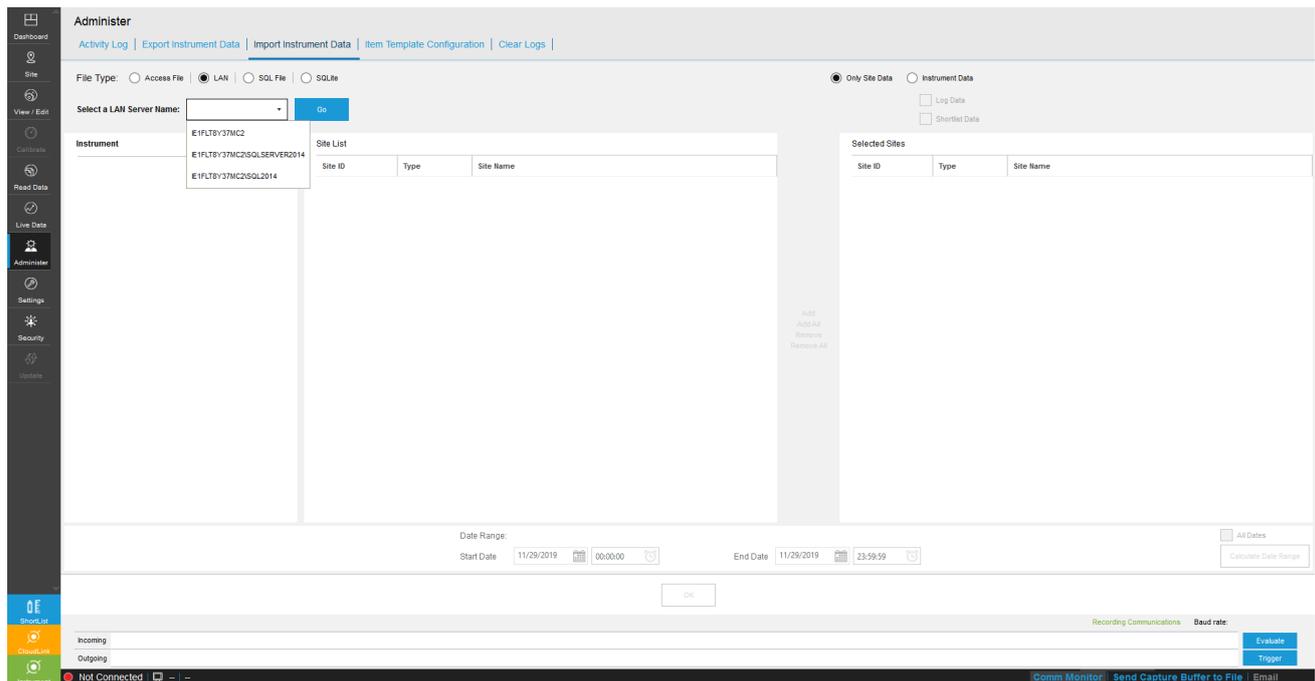
The screenshot shows the 'Administer' interface with the 'Import Instrument Data' tab selected. The 'File Type' is set to 'Access File'. The 'Import from' field shows a file path: 'C:\ProgramData\Honeywell\Masterlink\Archives\WIDev...'. The 'Instrument' list on the left has 'Select All' checked. The 'Site List' table is populated with 16 rows of site data. The 'Date Range' is set from 12/2/2019 00:00:00 to 12/2/2019 23:59:59. The bottom status bar shows 'Recording Communications' and 'Baud rate: 0.01-01-01.03 56 47|ETX|B3A0|EOT|'.

Site ID	Type	Site Name
00000001 - 00000001	ECAT	ECAT-Serial
00000002 - 00000002	ECAT	ECAT-IP
00000003 - 00000003	ECAT	ECAT-UDP
00000004 - 00000004	ECAT	ECAT-PortA
00000005 - 00000005	ER	ER-Serial
00000006 - 00000006	ER	ER-IP
00000007 - 00000007	ER	ER-UDP
00000008 - 00000008	ER	ER-PortB-phone
00000009 - 00000009	Mini	MINI-Serial
00000010 - 00000010	Mini	MINI-IP
00000011 - 00000011	Mini	MINI-UDP
00000012 - 00000012	Mini	mini phone
00000013 - 00000013	Mini-AT	MINI AT serial
00000014 - 00000014	Mini-AT	MINIAT-IP
00000015 - 00000015	Mini-AT	MINIAT-UDP
00000016 - 00000016	Mini-AT	MINI-AT phone-PORC

2. Sites in the selected archive access database would be listed out.
3. By default, site data option is selected. If sites in the archive file does not have logs only Site Data options is enabled.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to import instrument data.

Import from LAN

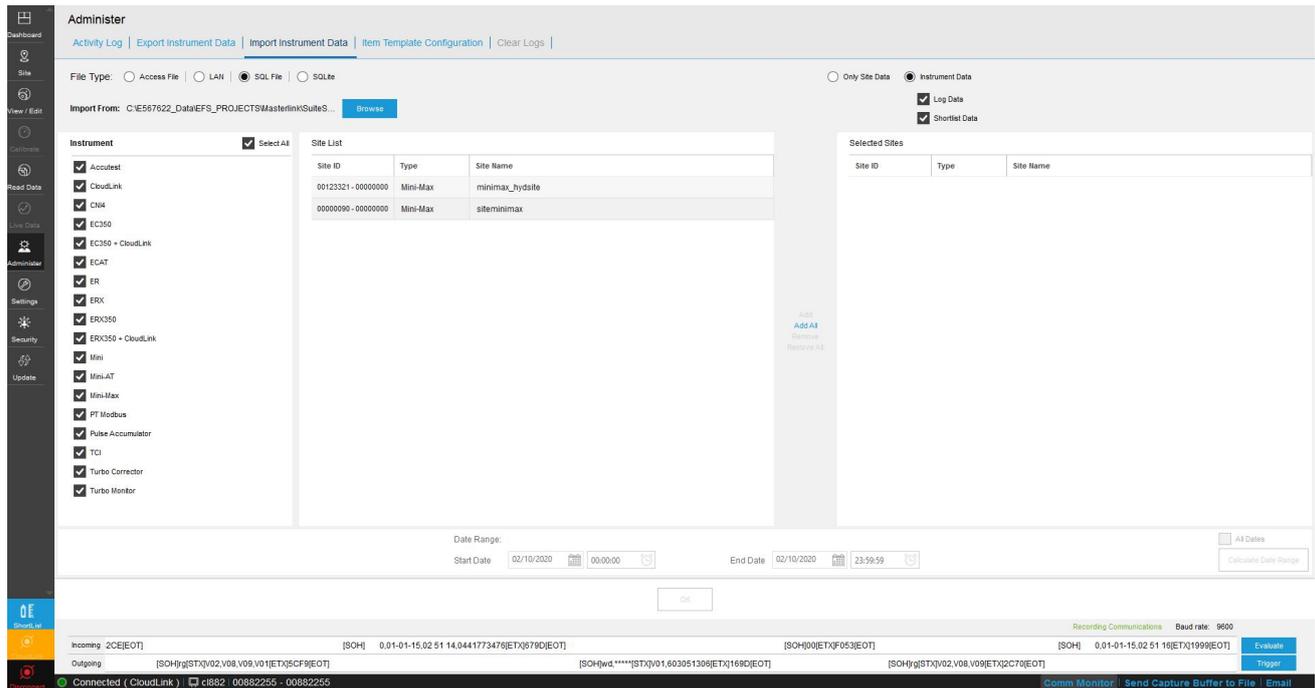
1. Select LAN option, application would list out the SQL Server over LAN.



2. Select appropriate server or type in the right SQL Server and click on **Go**.
 1. Make sure the SQL Server chosen has proper MasterLink Database
3. Sites from the LAN would be listed out.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to import Site/instrument data.

Import from SQL File

1. Select the **SQL File** option.



2. Browse an appropriate .MDF file to import sites.
3. Pre-requisite for importing from SQL file to MasterLink application installed with Sqlite.
 1. Make sure there is a proper SQL Server is running and able to attach the SQL .mdf file chosen.
 2. Make changes in MLR510 config file AppSettings.xml file. It should have proper SQL Server connection string with master as the default. initial catalogue. This is mandatory to connect to that SQL Server and attach the selected .mdf file to perform Import.
 3. **Note:** Do not try to import from any SQL .mdf which is already attached to SQL Server.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to import Site/instrument data.

Import from SQLite

1. Select the SQLite File option.

The screenshot shows the 'Administer' interface with the 'Import Instrument Data' tab selected. The 'File Type' is set to 'SQLite'. The 'Instrument' list on the left has 'Select All' checked. The 'Site List' table in the center shows various sites with columns for Site ID, Type, and Site Name. The 'Selected Sites' table on the right is currently empty. At the bottom, there are date range selection fields for Start Date (12/2/2019) and End Date (12/2/2019).

Site ID	Type	Site Name
00090001 - 13113844	Mini-Max	10th & Dewey (Line Heater)
00123456 - 00123456	EC350	123456
00000575 - 00252219	Mini-Max	3rd Coast Delveloment
00000597 - 00252201	Mini-Max	A.A.P. Corp. (Port A)
00000597 - 00252207	Mini-Max	A.A.P. Corp. (Port B)
00000615 - 00252088	Mini-Max	Accubuilt Corp
00000045 - 00000045	Accufest	Accufest
00000046 - 00000046	Accufest	Accufest_Ljp
00000048 - 00000048	Accufest	Accufest-phone
00000047 - 00000047	Accufest	Accufest-LUDP
00000544 - 01179361	Mini-Max	Advanced Agri-Solutions Co-op
00000748 - 11080022	Mini-Max	Advanced Comfort Products
00000629 - 00169584	Mini-Max	AEP/ Ohio Power Co.
00000569 - 00252101	Mini-Max	Agrana
00000733 - 01115271	Mini-Max	Allen Co. Board of MRDD
00000755 - 11027690	Mini-Max	Allen Co. Commissioners

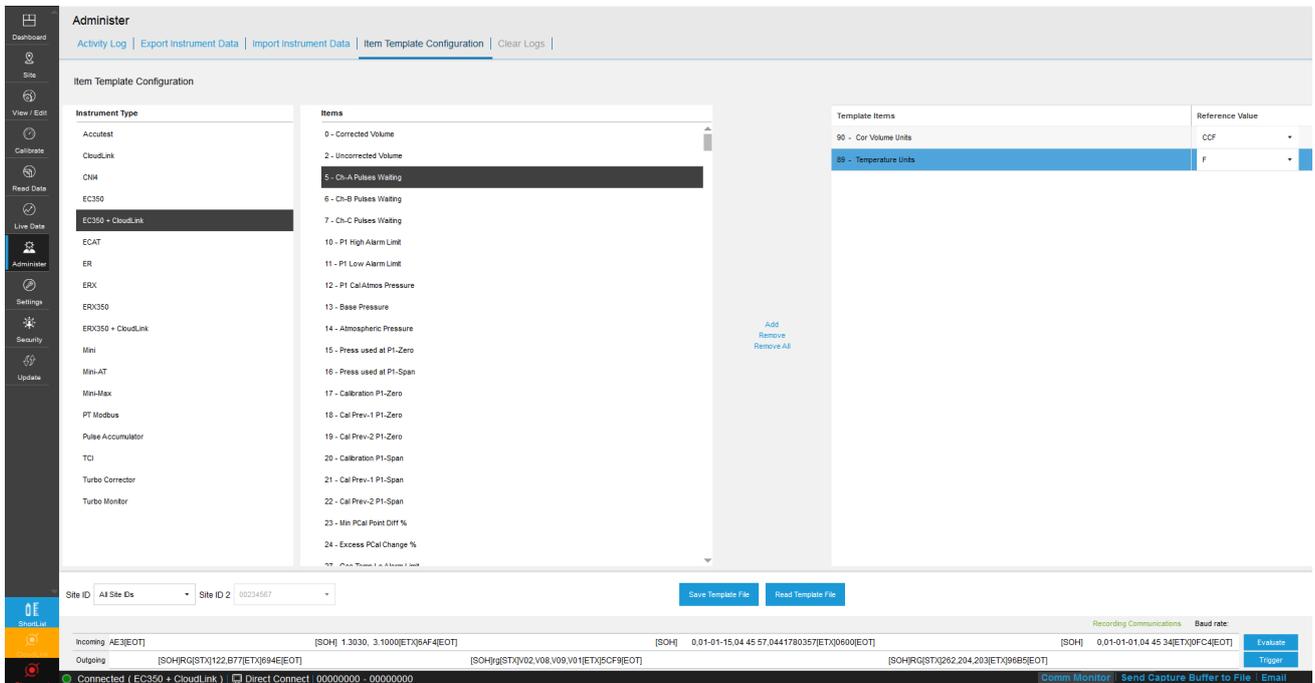
2. Browse an appropriate .sqlite file to import sites.
3. Select the type of data source.
4. Select **Instrument** type. To select all instruments, click **Select All**.
5. A **Site List** gets populated based on your selected instruments. Select the site(s) and use **Add/Add All/Remove/Remove All** to add or remove sites.
6. Select the **Date Range**.
7. Click **OK** to import Site/instrument data.

Note: While importing or exporting shortlist Data, only shortlist Item Data is exported/imported but not the shortlist items configuration.

3.8.4 Item Template Configuration

Item Template Configuration screen can be used to create and save a template containing item numbers (related to the device integrity) along with reference values.

Note: By default, the connected site (here, EC 350+CloudLink) will be selected in the Instrument Type list.

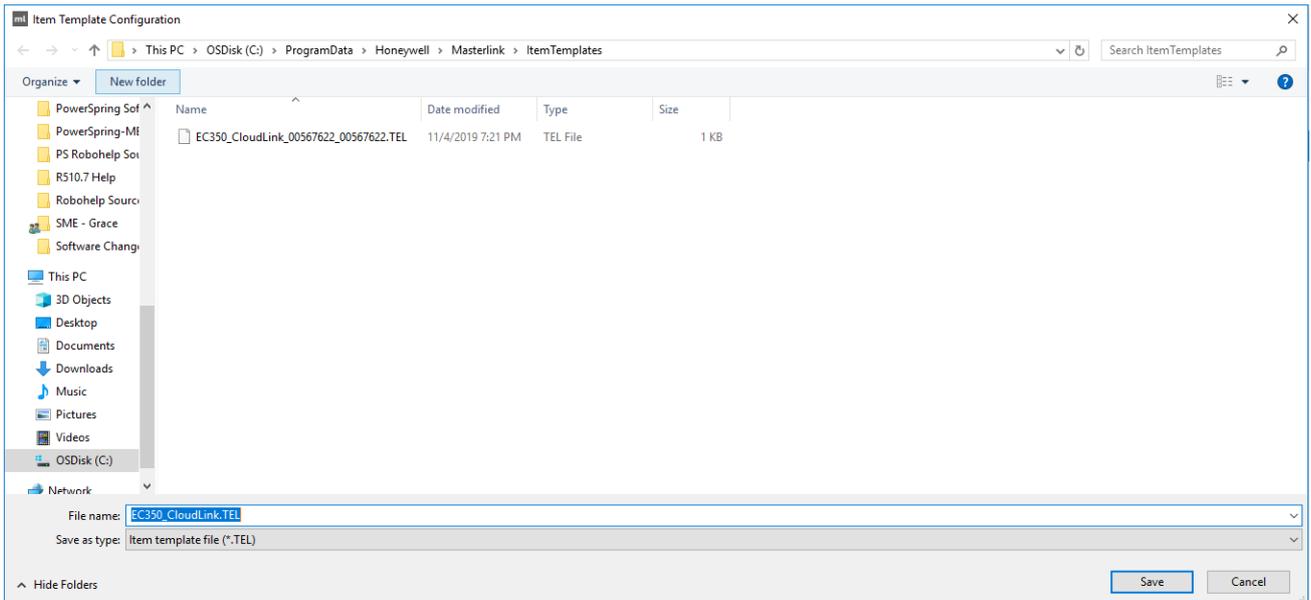


While MasterLink is connecting to an instrument, the values (default) from this template are compared with the values(actual) read from the instrument. If there is a mismatch, then an error is displayed on the *Dashboard - Config Check* widget, and drill down on the widget will display further details.

Refer [Dashboard Configuration check](#) for more details.

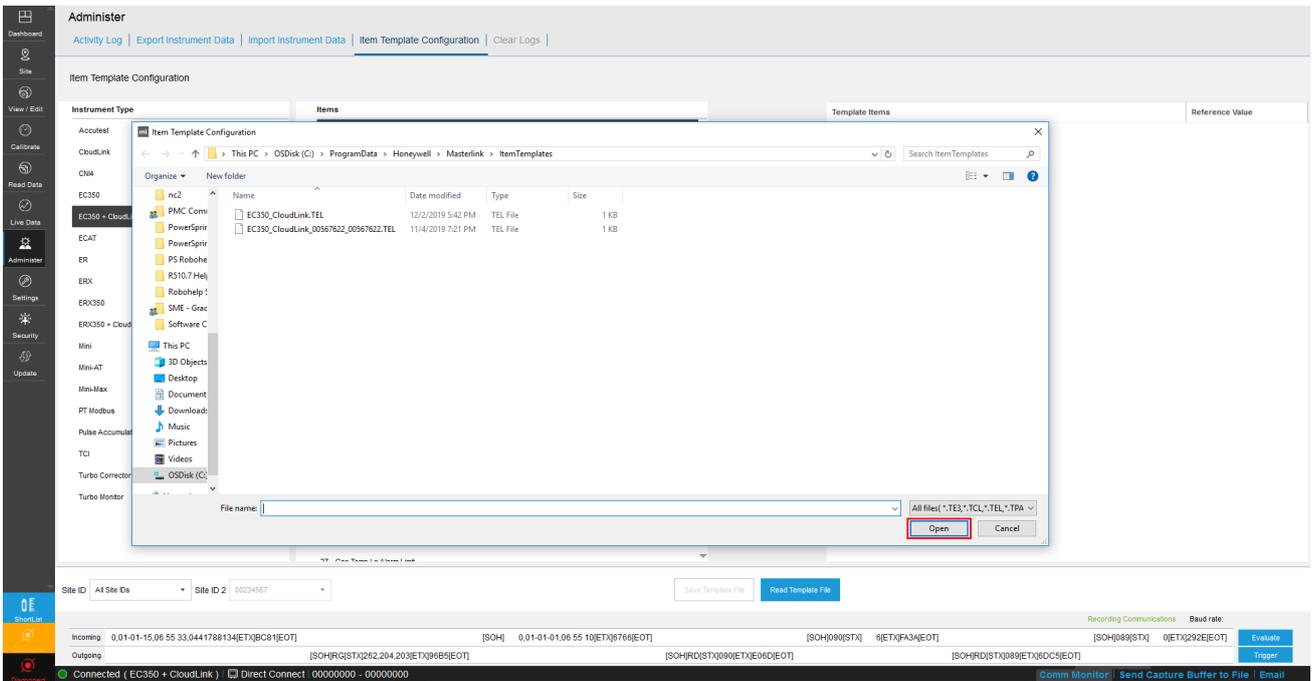
Start by selecting the instrument type. Based on the selected instrument type, the applicable items appear on the screen. Select and **Add** the required items to your list. Add a reference value for the selected items.

Click **Save Template File** to save a copy of the template that you just created.

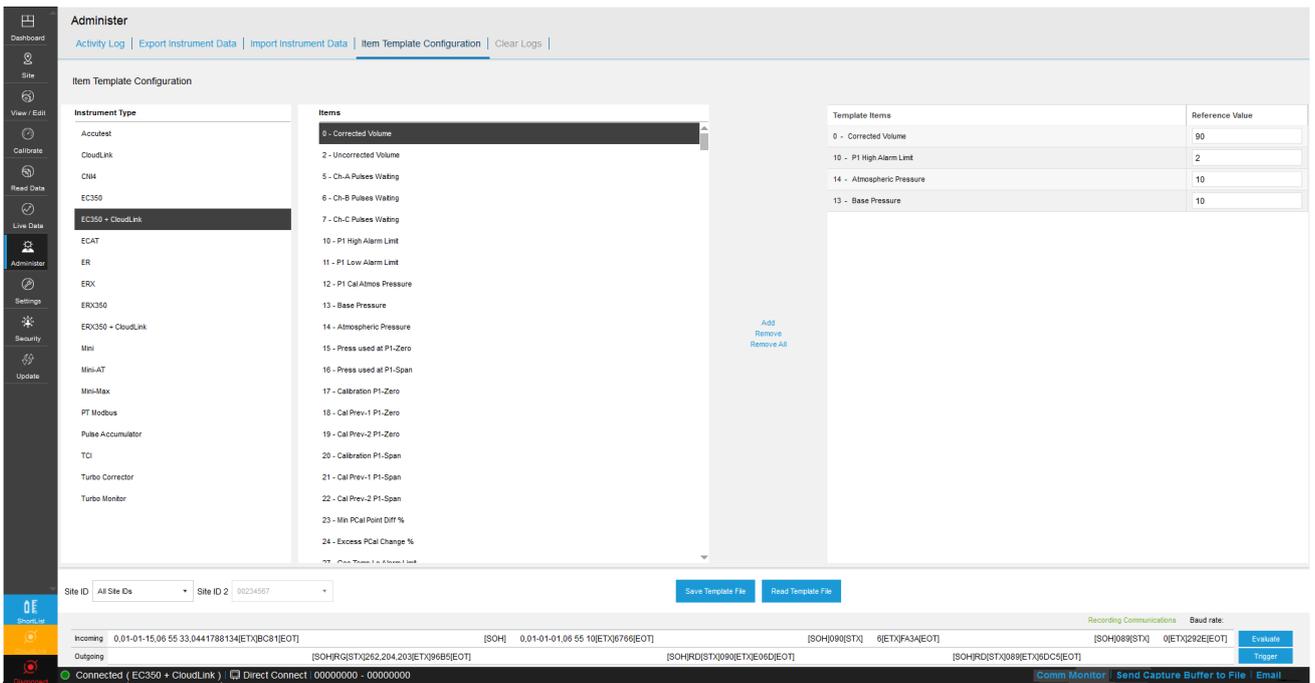


Note: By default, instrument specific Item Templates are created (EC 350.TE3, CloudLink.TE3, EC 350_CloudLink.TE3). Use the Site ID 1 and Site ID 2 fields to create site specific Item templates. The item template files are named as <SiteID1>_<SiteID2>.TE3 file. However, you can customize the File Name with any variable (Custom.TEL, EC 350_configure.TEL). Ensure that the files are saved in *C:\ProgramData\Honeywell\MasterLink\ItemTemplates* folder.

'Read Template File' is to read the saved item configurations. Click [Read Template File](#). A new pop-up window appears.



Select a required template from the list and click **Open**.



Once opened, you can view the configured items for the respective instrument selection. If you want to make any changes to the existing configuration, add or delete the items and click on **Save Template File**.

3.8.5 Clear Logs

You can use the 'Clear Logs' screen to clear logs from the connected site. The logs are cleared from the MasterLink database, and not from the connected device or site.

Since the purpose of the 'Clear Logs' feature is to clean the MasterLink database without archiving the data, it is recommended to [Export Instrument Data](#) before performing this action.

The screenshot shows the 'Clear Logs' interface in the MasterLink Administer section. The interface includes a navigation bar, a selection area for logs or sites, a list of instrument types, a table of sites, and a date range selector. The 'Clear Data' button is highlighted in red.

To clear logs:

1. Start by selecting **Logs** or **Sites**. Then select the logs that you want to clear. If you select Sites, then all logs in the selected site will be cleared.
2. Select the instrument type, and then a list of sites will be displayed. Click on the required site (s) and click **Add**.
3. Select the required date range.
4. Finally click **Clear Data** to clear the selected logs.

3.9 Settings

3.9.1 Communications Setup

The 'Communications Setup' tab can be used to define the relevant communication settings required for connecting to the instrument.

The screenshot displays the 'Settings' window with the 'Communications Setup' tab selected. The settings are organized into four main sections, each with a red box highlighting its title:

- Instrument Serial Port Connection:** Includes dropdowns for 'Connector' (set to COM4) and 'Baud Rate' (set to 9600). There is an unchecked checkbox for 'IrDA'.
- Modem Connection:** Includes dropdowns for 'Connector' (set to COM5) and 'Baud Rate' (set to 9600). It features text input fields for 'Modem Init String' and 'Dial Prefix', a 'Modem Type' dropdown (set to 'Standard_Hayes_Compatible'), and a 'Dial Type' dropdown (set to 'Tone').
- Special Connection:** Includes dropdowns for 'Connector' (set to COM4) and 'Baud Rate' (set to 9600). It features text input fields for 'Special Init String' and 'Dial Prefix'.
- Cloudlink Serial Port Connection:** Includes dropdowns for 'Connector' (set to COM5) and 'Baud Rate' (set to 9600).

At the bottom of the settings area, there is a 'Restore Defaults' button. Below the settings, there is an 'OK' button. The status bar at the bottom shows 'Not Connected' and 'Comm Monitor'.

Communication settings can be defined for:

1. Serial Port
2. CloudLink Serial Port
3. Modem
4. Special Connectivity option

Serial Port Connection type connects the PC directly to the instrument using a serial cable. Follow the steps to communicate using a serial port connection:

1. **Connector:** Select the COM port
2. **Baud Rate:** Select the applicable baud rate from the drop down list.
3. **IrDA:** Check IrDA only for IR communication and uncheck for serial communication

CloudLink Serial Port Connection type connects the PC directly to the modem using a serial cable. Follow the steps to communicate using a serial port connection:

1. **Connector:** Select the COM port
2. **Baud Rate:** Select the applicable baud rate from the drop down list.

Modem Connection type connects the PC to a Hayes modem using POTS (plain old telephone service) to another Hayes modem then to the instrument. Follow the steps to communicate using a modem connection:

1. **Connector:** Select the COM port
2. **Baud Rate:** Select the applicable baud rate from the drop down list.
3. **Modem Init String:** Enter the modem initialization string. This string is modem specific.
4. **Dial Prefix:** If required, enter a dial prefix. These characters will precede the site list phone number in the site list. This is commonly used to access an outside line (9,) or on a portable computer, to temporarily enter an area code without modifying the site list.
5. **Modem Type:** Select either **Standard Hayes Compatible** (default) or the **Racal Radio Pad** from the drop down list.
6. **Dial Type:** Select either **Tone** (default) or **Pulse** from the drop down list. You can also chose **None** if you don't wish to set any type.

Note: Please note that a description of the modem configuration settings are detailed in the operation manual that was supplied with modem. Please refer to modem manual and find the command that turns off error control. This command, following the command to reset the modem to factory defaults, is usually all that is needed for the modem initialization string.

Attention: For Racal Radio Pad configuration, set the Modem Init String to: **&FQOEVOVOSO-0=OS12=OXO**

Special Connection type can be used to support standard modems (i.e., a second standard modem), which may have special configuration requirements. In addition, they can support some models of wireless TCP/IP modems (CDPD modems for example.) They are connections that have modems on both the PC (host) and instrument ends. Follow the steps to communicate using a modem connection:

1. **Connector:** Select the COM port
2. **Baud Rate:** Select the applicable baud rate from the drop down list.
3. **Dial Prefix:** If required, enter a dial prefix. These characters will precede the site list phone number in the site list. This is commonly used to access an outside line (9,) or on a portable computer, to temporarily enter an area code without modifying the site list.
4. **Special Init String:** Select the special initialization string from the drop down list.

The **Restore Defaults** will reset all the selected options to their original configuration.

Click **Advanced Settings** to use default settings. These are additional settings used for serial connection for all Honeywell devices. If required, change these values to establish communication with 3rd Party devices.

MasterLink strongly encourages the use of the default settings.

Parity	Data Bits
None ▼	Bit8 ▼
Stop Bits	<input type="checkbox"/> Default Setting
One ▼	

The default settings will be automatically read and entered. Click on each of the drop-down boxes and select a choice from those lists.

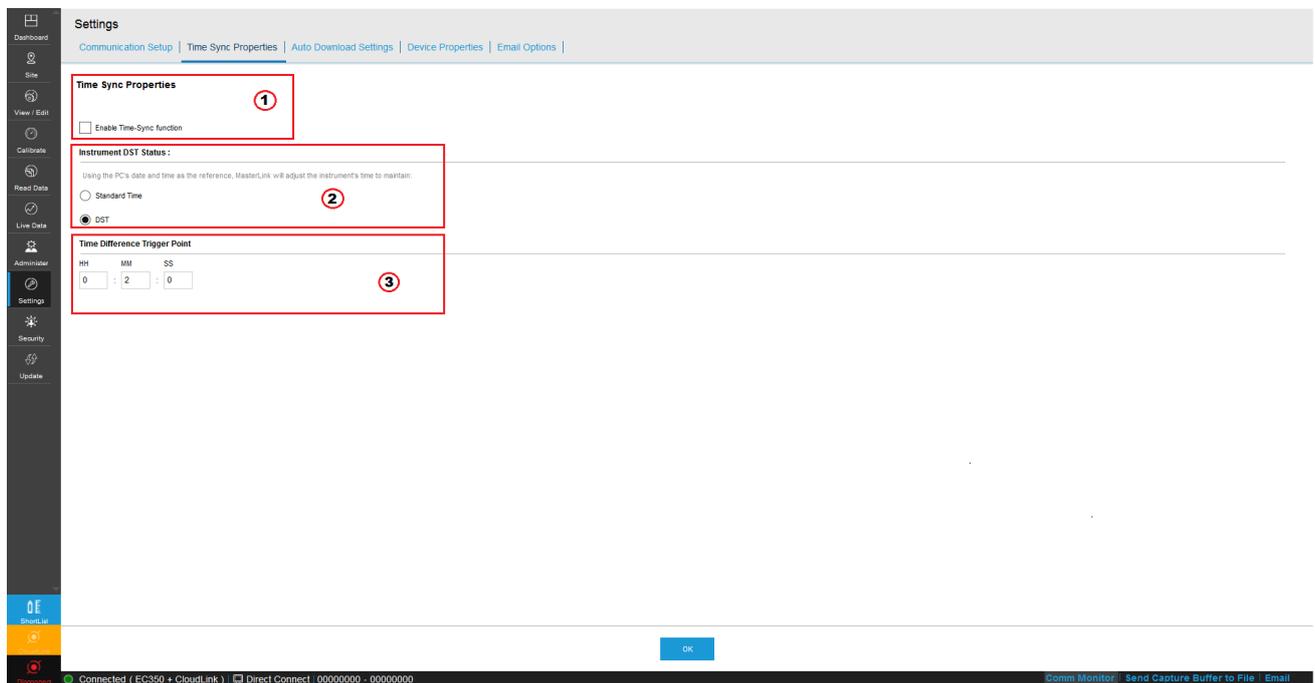
The **Default Setting** check box will reset the parity, data bits, and stop bits to their original configuration.

Note: Please note that more description of the modem configuration settings are detailed in the operation manual that should have been supplied with modem.

After configuring the communications settings, click **OK** to save the changes.

3.9.2 Time-Sync Properties

'Time-Sync Properties' tab can be used to configure the Time Sync settings. The Time Sync function is used to synchronize instrument time with host time.



To configure Time Sync properties:

1. Check **Enable Time-Sync function**
2. Select either **Standard Time** or **DST**.
3. View or modify **Time Difference Trigger Point**. A Time Sync will be triggered based on the time difference configured in this field.

Click **OK** to save the changes.

Note: It is recommended that for any change in settings, you need to disconnect and then reconnect the instrument, for the settings to take effect. You can verify time-sync from the dashboard.

3.9.3 Auto Download Settings

The 'Auto Download Settings' tab is used to configure the number of days for which dashboard data is loaded.

Note: It is applicable only for Dashboard data.

Dashboard Settings allows you to 'Disable Dashboard'. This option when checked will not download the dashboard when connecting to an Instrument or Modem.

Edit or modify the auto download settings for the following logs:

1. Alarm
2. Audit Trail and
3. Event

Check either **From Last Download** or **Number of Days** , enter the number of days and then click **OK**.

The **Save Item File** option lets you automatically download the item file from the connected device when you **Connect** or **Disconnect** a site.

Note: Configure the Number of days as 0 to disable auto download of logs on dashboard.

Note: The Auto download settings would be applicable only when the site is added. If user connects to the device using Direct Connect/Short list connect without adding a site, then the Auto Download settings won't effect. In dashboard logs download will be disabled.

3.9.4 Device Properties

The Device Properties include the **User ID** and the **Access Code** used to connect to a site in case of Direct Connect.

While using the 'Direct Connect' feature, enter the **User ID** and the **Access Code** of the instrument, and then click **Save** to continue connecting to the site.

The screenshot displays the 'Settings' page in the MasterLink User Interface, specifically the 'Device Properties' section. The page is titled 'Settings' and includes a navigation menu with options like 'Dashboard', 'Site', 'View / Edit', 'Calibrate', 'Read Data', 'Live Data', 'Administrator', 'Settings', 'Security', and 'Update'. The 'Device Properties' section is titled 'Default Auto Connect settings' and contains the following fields:

- User ID ***: A text input field containing the value '0'.
- Access Code ***: A text input field containing masked characters '*****'.
- Enable Fast Sample Settings**: A checkbox that is currently unchecked.
- Live read sample time (in milli sec)**: A dropdown menu currently set to '250'.

A blue 'Save' button is located at the bottom right of the settings area. The status bar at the bottom of the interface shows 'Connected (EC350 + CloudLink)', 'Direct Connect', and the device ID '00000000 - 00000000'. Additional options like 'Comm Monitor', 'Send Capture Buffer to File', and 'Email' are also visible in the status bar.

Note: Fast Sample settings is used to increase the sampling rate while reading packets from the device to avoid ML session disconnection. Also, note that this setting is not applicable for EC350 as it supports minimum 1 millisecond sampling rate.

3.10 Security and User Management

MasterLink supports a role based access control mechanism. A MasterLink administrator can create roles and assign permissions to the role. The administrator can then create users and assign roles to users. With this role based access mechanism, user is restricted to the operations that are associated with assigned role. This is a mechanism used to control access to different MasterLink operations.

User Management enables the utilities to secure the access to different MasterLink functionalities by its Technicians / operators. This should not be confused with the User Table functionality as User Table helps to manage access to device functionalities.

User Management is typically an administrative function. It allows an Administrator to

1. Create Users who could log into MasterLink application
2. Restrict the user's operation capabilities by assigning roles with specific privileges
3. Group different operational privileges in terms of roles.

A role defines a set of permissions that are assigned to a user, which allow them to perform a set of actions. Example of a role could be "Level 1 Technician" who can only read information from the device using MasterLink and a "Level 2 Technician" who can read and write information. The created roles can then be assigned to different users needing similar access privileges.

3.10.1 User Configuration

The 'User Configuration' screen shows a list of all existing MasterLink users and this screen also allows you to create new MasterLink users.

Attention: Before creating a new user, ensure that you have already created a user role, and necessary permissions are assigned to that role. To learn more about creating a new role, refer to the section on [Creating User Roles](#).

To create a new user:

1. On the 'User Configuration' screen, click **Add New**.
2. Type the user name of the new user.
3. Select a role from the **Assigned Role** drop-down list. Roles configured in the [User Roles](#) tab, appear in this drop-down list. If you need to change permissions assigned to this role, or if you need to create a new role, then you can make the required changes in the [User Roles](#) tab.
4. Provide your email address in the **Email ID** box.
5. Type a password for the user account, and then re-type it to confirm the password.
6. Click **Save**.

The screenshot displays the 'User Management' interface with the 'User Configuration' tab selected. The 'Add New User' form is visible, featuring a sidebar with navigation options like Dashboard, Site, View/Edit, Calibrate, Read Data, Live Data, Administrator, Settings, Security, and Update. The form is divided into 'User Information' and 'Password Information' sections. The 'User Information' section includes fields for 'User Name *' (with 'First' entered), 'Assigned Role' (with 'Admin_Role' selected), and 'Email ID *' (with 'First@abc.com' entered). The 'Password Information' section includes 'Password *' and 'Confirm Password *' fields, both containing masked characters. A 'Generate Licence File' button is located below the 'User Role' section. At the bottom of the form, there are 'Save' and 'Discard' buttons. The footer of the interface shows connection status: 'Connected (EC350 + CloudLink) | Direct Connect 00000000 - 00000000' and utility links: 'Comm Monitor | Send Capture Buffer to File | Email'.

The newly created user is added to the list of users.

3 MasterLink User Interface

The screenshot displays the MasterLink User Interface. On the left is a vertical navigation menu with icons for Dashboard, Site, View / Edit, Calibrate, Read Data, Live Data, Administer, Settings, Security, and Update. The main content area is titled "User Management" and contains two tabs: "User Configuration" (selected) and "User Roles". Below the tabs, there are two user role cards. The first card is labeled "Admin" with "Admin_Role" below it. The second card is labeled "First" with "Admin_Role" below it and is highlighted with a red rectangular border. At the bottom of the main content area, there is a blue "Add New" button. The footer of the interface shows a status bar with "Connected (EG350 + CloudLink)", "Direct Connect 00000000 - 00000000", and utility links for "Comm Monitor", "Send Capture Buffer to File", and "Email".

3.10.1.1 Passkey Generation

A Passkey contains encrypted information of user name and privileges. For a user to be effected in other MasterLink instances a Passkey needs to be generated by the Administrator and sent to the user. The site Administrator can create the following passkey files:

1. **User Registration** - This is used to create license files to allow new users to register to the MasterLink application.
1. **Update Account** - This is to change privileges of an existing user. Privileges can be added/removed based on the business requirement.
1. **Forgot Password** - If a user forgets their password, site administrator can create passkey files allowing users to reset their password.

The screenshot displays the 'User Management' interface. On the left is a vertical sidebar with icons for Dashboard, Site, View / Edit, Calibrate, Read Data, Live Data, Administrator, Settings, Security, and Update. The main area is titled 'User Management' and has sub-tabs for 'User Configuration' and 'User Roles'. Below the tabs, there are two user cards: 'Admin Admin_Role' and 'First Admin_Role'. The 'First' user card is selected, showing its details on the right. The details include a profile picture, Username 'First', and User Role 'Admin_Role'. Below this is the 'User Information' section with fields for 'User Name *' (containing 'First'), 'Assigned Role' (a dropdown menu showing 'Admin_Role'), and 'Email ID *' (containing 'abc@gmail.com'). At the bottom is the 'Passkey Generation' section with three radio buttons: 'Register', 'Update Account', and 'Forgot / Reset Password'. The 'Save' and 'Cancel' buttons are at the bottom center. The footer shows connection status: 'Connected (EC350 + CloudLink) Direct Connect 00000000 - 00000000' and utility links: 'Comm Monitor', 'Send Capture Buffer to File', and 'Email'.

To generate a passkey:

1. On the User Configuration screen, select a user account to view details of the user.
2. Under Passkey Generation, click on the key icon  next to the activity. You can generate the following keys:
 1. **Register:** A key to register a new MasterLink user
 2. **Update Account:** A key to update an existing MasterLink user account.
 3. **Forgot/Reset Password:** A key to reset a forgotten or lost password.
3. Browse and select a location to save the passkey.
4. Send the passkey as an attachment to the user through an email.

The screenshot displays the MasterLink User Management interface. At the top, the 'User Management' section is active, with sub-tabs for 'User Configuration' and 'User Roles'. Below this, two user cards are visible: 'Admin Admin_Role' and 'First Admin_Role'. The 'First Admin_Role' card is selected, and a 'User Configuration' dialog box is open over it. This dialog shows a file explorer view of the 'ProgramData > Honeywell > Masterlink > LicenseFiles' directory, with a search for 'LicenseFiles' and no results found. The 'File name' field is empty, and the 'Save as type' is set to 'PasskeyFile (*.MLK)'. To the right of the dialog, the 'User Information' form for 'First Admin_Role' is visible. It includes fields for 'User Name *' (containing 'First'), 'Assigned Role' (a dropdown menu set to 'Admin_Role'), and 'Email ID *' (containing 'abc@gmail.com'). Below these fields is a 'Passkey Generation' section with three radio buttons: 'Register', 'Update Account', and 'Forgot / Reset Password'. The 'Register' radio button is selected. At the bottom of the interface, there are 'Save' and 'Cancel' buttons. The status bar at the very bottom shows 'Connected (EC350 + CloudLink) | Direct Connect | 00000000 - 00000000' and 'Comm Monitor | Send Capture Buffer to File | Email'.

3.10.2 User Roles

A role is a collection of permissions that defines a function, such as the Administrator or a Field Service Engineer. Users who are placed in this role will inherit these permissions. Roles are created by users (usually administrators) and are used to group together privileges or other roles. They are a means of facilitating the granting of multiple privileges or roles to users.

On the 'User Roles' screen, you can view a list of all the roles configured in the system, and the list of users assigned to a selected role.

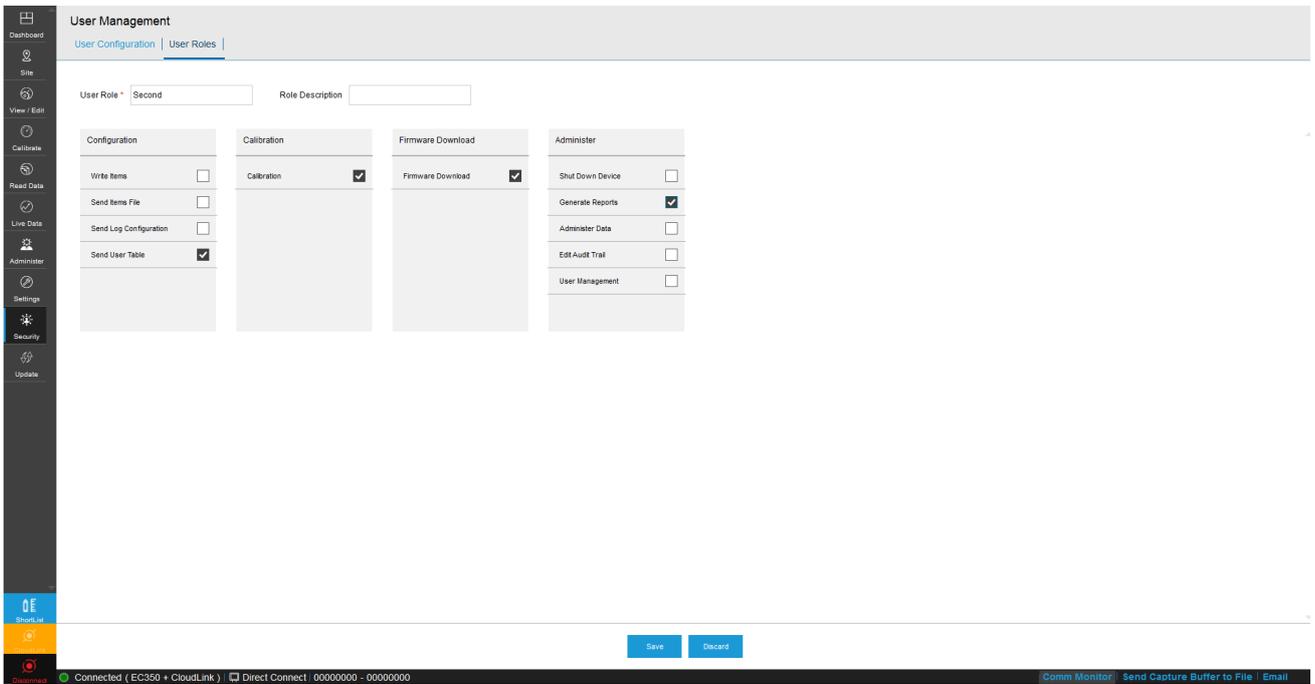
The screenshot shows the 'User Management' interface with the 'User Roles' tab selected. A table titled 'Admin_Role' is displayed with the following data:

Full Name	Email	Last Accessed
Admin		12/4/2019 10:54:29 AM
First	abc@gmail.com	12/3/2019 7:07:10 PM

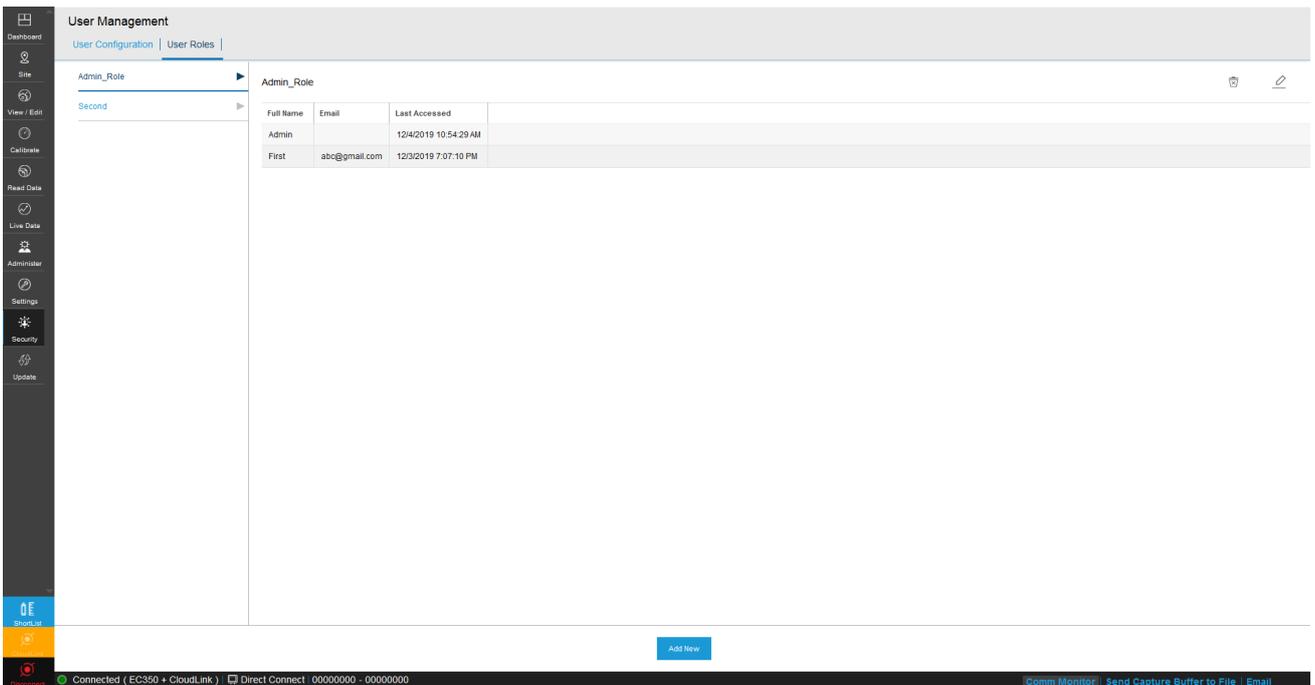
Annotations in the image include a red box around the table header, a red box around the first data row, and red arrows pointing to 'Delete the selected role' and 'Modify the selected role' icons. A blue 'Add New' button is located at the bottom center of the main content area.

To create a new role:

1. On the 'User Roles' screen, click **Add New**.
2. Type the name and description of the role.
3. Select the check-box next to a privilege to assign it to the role being created.
4. Click **Save**.



The new role will appear in the list of roles on the 'User Roles' screen.



Using the table, you can then edit  the role name, the description, and the role privileges.

To delete a role, select the role from the list of roles and then click  on the top-right corner of the screen.

4 Updates and Upgrades

You can use MasterLink to update the EC 350/ERX 350 device or Modem firmware, and can also load the instrument with security certificates. This chapter describes the process of updating field instrument firmwares and loading security certificates.

4.1 EC 350/ ERX 350 Firmware Update

You can use MasterLink to upgrade EC 350/ ERX 350 firmware.

To get started, click **Browse** and select the firmware file.

Click **Start Upgrade** to upgrade the EC 350/ERX 350 firmware. As the firmware upgrade progresses, you can observe the status on the right pane.

Note: If only a limited chunk of packets have been released for the upgrade this 'Reset' button allows you to commence the firmware upgrade from the starting point. When not clicked, the update will resume from the point where it stopped.

4.2 CloudLink Modem Firmware Update

You can use MasterLink to upgrade CloudLink Modem firmware.

To get started, Click **Browse** and select the firmware file.

The screenshot shows the 'Update' interface in MasterLink. The top navigation bar includes 'EVC 1.3030', 'Modem 1.0004', and 'Certificate'. The main area is divided into two columns. The left column contains a 'Firmware File Name' field with a file path and a 'Browse' button. Below this are 'Versions' and 'Selected Firmware Details' sections, each with 'Current Firmware' and 'New Firmware' input fields. The right column is a table with 'Step' and 'Status' headers, containing rows for 'Validate FW file', 'Send Firmware', 'Validate Firmware', and 'Sync date and time'. At the bottom, there are 'Start Upgrade' and 'Reset' buttons. The status bar at the very bottom shows 'Connected (EC350 + CloudLink)', 'Direct Connect 00000000 - 00000000', and utility links like 'Comm Monitor', 'Send Capture Buffer to File', and 'Email'.

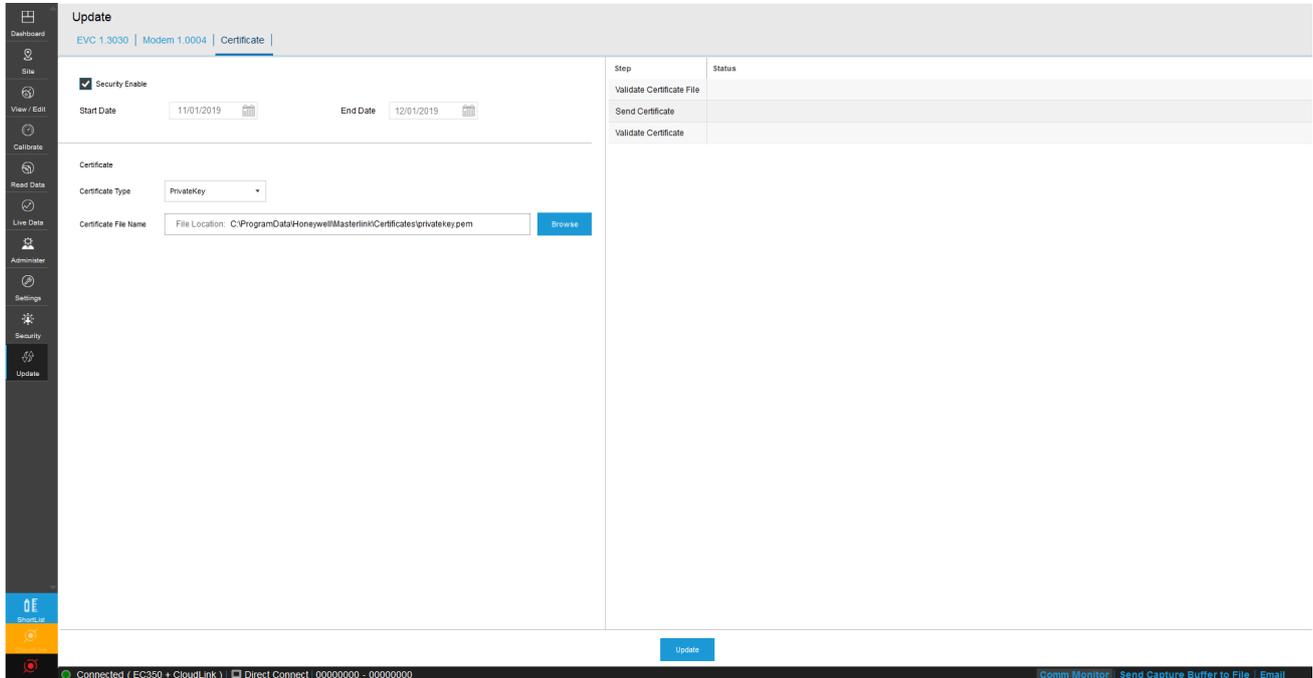
Click **Start Upgrade** to upgrade the CloudLink Modem firmware. As the firmware upgrade progresses, you can observe the status on the right pane.

Note: If only a limited chunk of packets have been released for the upgrade this 'Reset' button allows you to commence the firmware upgrade from the starting point. When not clicked, the update will resume from the point where it stopped.

4.3 Upload CloudLink Modem Certificates

This tab is enabled if application is connected to EC 350 or integrated EC 350.

To enable SSL communication, **Security Enable** check box under certificate tab must be checked. Then upload a valid security certificate to the MasterLink and host. These certificates can be self-signed or signed by a third party.



Select the certificate type from the dropdown.

Browse and select a certificate file.

The certificate can be a:

1. Private Key, or
2. Server Certificate,
3. Ca Certificate, or
4. Client Certificate

Click **Update** to send the certificate to the instrument.

Loading certificates to MasterLink

Note: It is Mandatory to load security certificates to CloudLink using Serial interface. Renewal of certificates can be done using any of the supported interfaces.

1. The following order to must be followed to load certificates to CloudLink:
 1. Key Certificate
 2. Client Certificate

3. Server Certificate
4. CA certificate
1. Configure SSL private key in CloudLink (Item Number: 3086)
2. Enable SSL in CloudLink (Item Number: 3017)
3. Restart CloudLink
4. Make sure that Time Sync is applied after restart of CloudLink. This step is not required if SIM card with static IP address is used.
5. Add/Edit site as IPv4 with SSL enable as shown in below screen.

Note: The IP address and the port number can vary based on the customer network settings.

6. Configure SSL Private Key. This key should match the one configured in CloudLink (Item Number: 3086)
7. Configure IP address and port number.

Internet/Phone	IPv4
<input type="checkbox"/> UDP	<input checked="" type="checkbox"/> SSL
SSL Private Key	*****
Site Phone/IP Address *	192.168.1.1 : 40000

Note: Place the certificates (CA, Client and Private Key file) in `C:\ProgramData\Honeywell\MasterLink\Certificates`. Certificate names should match with following naming convention:

CA Certificate SiteId1_SiteId2_ca.pem

Client Certificate SiteId1_SiteId2_clientcertificate.pem

Private Key file SiteId1_SiteId2_keyfile.pfx

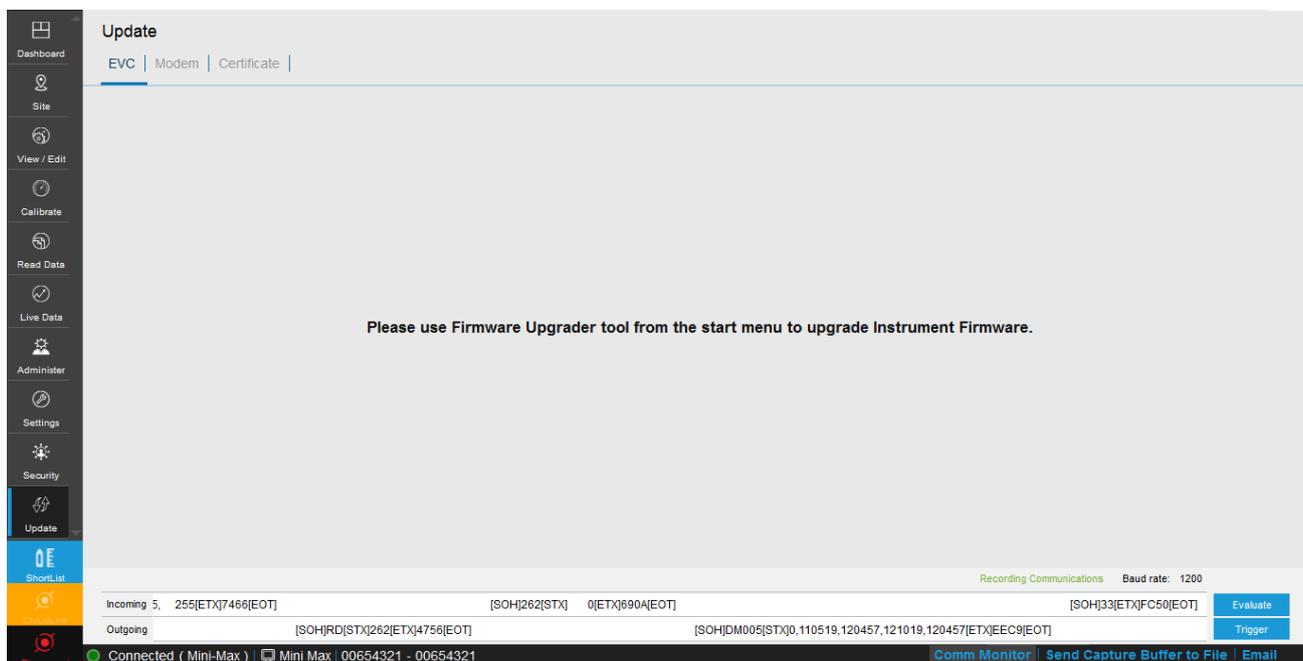
4.4 Legacy Devices Firmware Upgrades

Mercury Instruments legacy devices include:

1. Accutest	8. Mini-Max
2. CNI4	9. PT Modbus
3. ECAT	10. Pulse Accumulator
4. ER	11. TCI
5. ERX	12. Turbo Corrector
6. Mini	13. Turbo Monitor
7. Mini-AT	

For Mercury Instruments legacy devices, you need to use the **Firmware Upgrader** tool to upgrade firmware.

MasterLink displays the following message if you try to update firmware of legacy devices:



The **Firmware Upgrader** tool is installed along with MasterLink 515.1, and an icon will be available on your desktop.

Firmware Upgrader [Close]

Firmware Filename:

Versions

Current firmware:

New firmware:

Loader:

Upgrader:

Instrument Type:

Serial Port:

Baud Rate:

Set instrument's date and time

Restore saved item values

External flash memory copy

Access Code:

Step	Status
Validate FW file	
Send firmware	
Validate firmware	
Sync date and time	

Unlinked OK

5 Glossary

A

Activity Log

This function is used to quickly view the Activity Log on screen. Please note that this log is different from the Event Log because this log mainly focuses on software activity (and some firmware activity) where the Event Log function records activity that is directly linked to and maintained within the instrument.

Alarm Log

The alarm log contains descriptions of all significant problems detected by the system

Audit Trail

You can use the 'Audit Trail' tab to view and download Audit Trail data from the instrument. The term "Audit Trail" has different meanings in MasterLink Software Application that depend on the type of connected instrument.

D

DBO

Database Owner. dbo is the default schema in SQL Server. You can create your own schemas to allow you to better manage your object namespace.

Diagnostic log report

Displays log files containing messages that record all types of events, including startup and shutdown information, errors, warning messages, and access information

E

Event Log

The Event Log records activity that is directly linked to and maintained within the instrument.

I

Item File

An Item File stores the current instrument's item code values on your computer in a file.

Item Report

Displays comprehensive information for items

K

key

Passkey generated by the site Administrator

L

Load Graph

Loads saved graphs when offline

Log trigger

A log trigger is an action that caused a record to be written to the audit trail log in the instrument.

S

Serial port

Port of your system to which the device is connected

Short List

A Short List is the same as the standard Item List (stores the current instrument's item code values), except that you can customize it.

Site Report

Displays the number of workers/employees and work equipment at the construction site

SSL

SSL (Secure Sockets Layer) is the standard security technology for establishing an encrypted link between a web server and a browser. This link ensures that all data passed between the web server and browsers remain private and integral.

5.1 Troubleshooting scenarios

Scenario	001
Problem	MasterLink stops communication with EVC over IrDA though Link is connected.
Environment	All OS
Resolution	Remove IrDA link and connect back.

Scenario	002
Problem	Connection fails over serial.
Environment	All OS
Resolution	<ol style="list-style-type: none">1. It could be mismatch of baud rate of MasterLink and device.2. It could be mismatch of comm port selection.

Scenario	003
Problem	Load graph button is disabled when a user is connected to the site.
Environment	All OS
Resolution	Disconnect the instrument to activate the Load Graph button.

Scenario	004
Problem	User is unable to view certain dash board and Instrument data when connected to Android mobiles.
Environment	All OS
Resolution	Double tap the item to view the details.

Scenario	005
Problem	Application does not display device ID in 'Add/Pair' tab of MasterLink Android application once instrument session is timed out .
Environment	All OS
Resolution	Use Site Management screen to connect to the device.

Scenario	006
Problem	Application does not display device ID in "Add/Pair tab of MasterLink Android application once instrument session is timed out .
Environment	All OS
Resolution	Use Site Management screen to connect to the device.

Scenario	007
Problem	Item value/description is not completely visible in the Dashboard/Configure by Group screens.
Environment	All OS
Resolution	Tap the item value field to view the data

Scenario	008
Problem	User is unable to abort send log configuration file transfer.
Environment	All OS
Resolution	The transfer would be completed in a minute. Please wait till the operation is done.

Scenario	009
Problem	Sometimes site id's are duplicated in Add/Pair site screen.
Environment	iOS and Android
Resolution	<p>This issue usually happens if site ID's CloudLink 4G Modem are changed after an instrument is paired with the mobile. Advised to not to change the site IDs of CloudLink 4G Modem once they are installed in the field.</p> <p>To resolve the issue:</p> <ol style="list-style-type: none"> 1. Download any Bluetooth Low Energy app from App Store / Play Store 2. Scan for CloudLink 3. Still you can see the CloudLink site id as previous names. 4. Try to connect the CloudLink 5. Scan once again. You will able to see new site id's

6. Now connect from MasterLink

Scenario	010
Problem	In TCP/IP connection, the device is not responding
Environment	All OS
Resolution	Then check the session timeout. By default the item is set to 30 seconds. Increase the session timeout.

Scenario	011
Problem	Device connectivity issue after a application is force closed or hanged
Environment	All OS
Resolution	If the device is not connecting, wait for 10-15 minutes until the communication session timeout of CloudLink expires.

Scenario	012
Problem	Post uninstallation of MasterLink installed with SQL Server, if the user wants to delete existing MasterLink Database
Environment	All OS
Resolution	Perform the following steps: <ol style="list-style-type: none">1. Detach the SUITE32 Database from the SQL Server (make sure you know the path for database files).2. Delete the SUITE32 database files (both .mdf & .ldf) physically from the disk.

Scenario	013
Problem	Post uninstallation of MasterLink installed with SQLite, if the user wants to delete existing MasterLink SQLite Database
Environment	All OS
Resolution	Delete MLConfig.sqlite file from the below locations: <ol style="list-style-type: none">1. C:\Program Files (x86)\Honeywell\MasterLink2. C:\ProgramData\Honeywell\Masterlink\Sqlite

Scenario	14
Problem	Configuration check functionality not working for Integrated EC350 and CL
Environment	Desktop and Mobile
Resolution	Ensure you have the template file with new file extensions

Scenario	15
Problem	Preview of log data results in error or truncation of report data
Environment	All OS
Resolution	Change the default printer to “Microsoft XPS Document Writer” or ensure the default printer page size is configured as A4

Scenario	16
Problem	Communication buffer is not showing any data
Environment	Desktop
Resolution	Open the Communication Buffer window to start capturing the communication log in the file

Scenario	17
Problem	Edit Audit Trail button disabled
Environment	All OS
Resolution	Ensure user has the privilege to edit audit trail data. If user has privilege but still disabled then logoff and login to get it enabled.

Scenario	18
Problem	Memory allocation options for Log 4 and Log5 are not visible
Environment	All OS
Resolution	Ensure user has the privilege to edit audit trail data. If user has privilege but still disabled then logoff and login to get it enabled.

Scenario	19
Problem	When Bluetooth Security Type is set as Passkey Entry, MasterLink is not connecting to Integrated site
Environment	MasterLink Mobile Application
Resolution	Please retry 3-4 times by switching the device bluetooth ON and OFF. It may take some time for the CloudLink device to start bluetooth communication if the security type is set as Passkey Entry.

Scenario	20
Problem	When the user searches for an item (e.g. "Corrected Volume"), cancels the search, then searches for a different item (e.g "Uncorrected Volume"), cancels it again, and finally searches for the item in the original search (Which was "Corrected Volume"), they are unable to write a value for the originally searched item (Which was "Corrected Volume").
Environment	MasterLink Mobile Application
Resolution	Search for the item number again. Switch between tabs. This is a page-refresh issue. If the page gets refreshed, the item value can be edited.