Honeywell | MasterLink Software Application R500.1



MasterLink Software Application User's Guide 80-1058 | 1.0 | 2017

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1 About MasterLink Software Application

MasterLink R500.1 Software Application is a configuration and diagnostic software designed for Electronic Volume Corrector EC 350 and Cloud Link 4G Modem. The primary purpose is to configure, calibrate and download data from EC 350 and MasterLink Software Application R500.1. MasterLink R500.1 Software Application is supported on Windows environment and is also available to download from Apple iStore and Google play store.

CHAPTER 1

1.1 Scope

This version of MasterLink Software Application has support for both Cloud Link 4G Modem and EC 350 Gas Volume Corrector devices only. It is recommended to use Suite SQL for Configuration and diagnostics of Mercury metering devices other than EC 350 and Cloud Link 4G Modem.

1.2 Features

Mobile version of MasterLink Software Application can be used to connect to EC 350 over BLE (Low Energy Bluetooth). The mobile app auto discovers a paired/added site (integrated EC 350 or stand alone Cloud Link) when the technician is within the BLE range, thus enabling the technician download predefined set of dashboard data based on auto download settings.

Windows version of Master Software application can be used to connect to EC 350 over Serial, IrDA, Messenger Modem and Cellular interface. MasterLink software enables a technician to download predefined set of dashboard data as soon as the application connects to the instrument based on the auto download settings.

Both EC 350 and Cloud Link 4G Modem can be configured as a single site allowing the user to perform configuration and collect diagnostic information under a single site.

Dashboard data is a quick summary of key parameters of a site. This includes critical instrument data, list of active alarms, power source information, audit trail data, configuration check, time sync and firmware details.

MasterLink Software Application allows users to:

- Define dashboard data (auto) download settings
- Provides a wizard based configuration and calibration approach
- Enable SSL encrypted communication with site Over the Air (OTA)
- Enable BLE security
- Secure critical site data
- Download audit, event and alarm log data
- Generate reports such as:
 - Item report
 - Site report
 - Calibration report
 - Short List report
 - Audit Trail reports
 - Event Log report
 - Alarm Log report
 - Activity Log report
 - Cellular Log report
 - Diagnostic Log report

- Perform Database Administrative tasks such as
 - CSD (Comma Separated Data) Conversion
 - Import/Export instrument data
 - Import/Export site data
- · Perform instrument and modem firmware updates
- Capture live data and plot graphs
- Plot graph over Audit Trail data
- Perform role based user administration for MasterLink software application
- Administer access privileges for device level functions by sending user table
- Configure communication settings
- · Perform offline log-in configuration and send to instrument when connected

1.3 Security Considerations

- It is recommended to use the Cloud Link 4G modem in integrated mode with EC 350 for better Bluetooth security during pairing
- For data protection, it is recommended to provide full privileges to the *ProgramData\Honeywell\MasterLink* Software Application folder only to appropriate MasterLink Software Application users
- All files transferred to an Android device for use by MasterLink Software Application must be deleted after use to ensure that there is no data loss / leak
- It is recommended to keep the Android phone or iPhone used for MasterLink Software Application updated with the security patches released by the respective platforms
- It is also recommended to enable SSL for secure communication with MasterLink Software Application R500.1

1.4 Technical Assistance

For further technical assistance, email at <u>RMG-TAC-Support@Honeywell.com</u>.

2 Installation

This chapter describes the installation of MasterLink Software Application software.

Related topics:

Interoperability with SuiteSQL

Before you install

Installing MasterLink Software Application with SQL Server Installing MasterLink Software Application with remote SQL Server

Installing MasterLink Software Application with SQLite

CHAPTER 2

2.1 Interoperability with SuiteSQL

MasterLink Software Application R500.1 can coexist with Suite SQL.

New MasterLink Software Application R500.1 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 MasterLink R500.1 installation.

2.2 Before you install

Here are the recommended system specifications:

	Windows Server 2008, 2008 R2 [32, 64 bit]
	Windows Server 2012 [64 bit], 2012 R2 support [64 bit]
Windows	Windows 7 [32, 64 bit]
WINDOWS	Windows 8 [32 bit, 64 bit]
	Windows 8.1 [32 bit, 64 bit]
	Windows 10
	SQL Server 2008 [32, 64 bit]
SQL Server	SQL Server 2008R2 [32, 64 bit]
SQL Server	SQL Server 2012 [32 bit, 64 bit], 2012 SP2 [32 bit, 64 bit]
	SQL Server 2014 [32 bit, 64 bit]

Screen Resolution	XGA (1024 x 768) WXGA(1280 x 800) WXGA+ (1440x900) HD (1366 x 768) HD+ (1600 x 900) FHD (1920 x 1080)
RAM	4GB or higher is recommended
Storage	40 GB or higher is recommended
Processor Speed	Dual-core or higher is recommended

Mobile Recommendations

Android

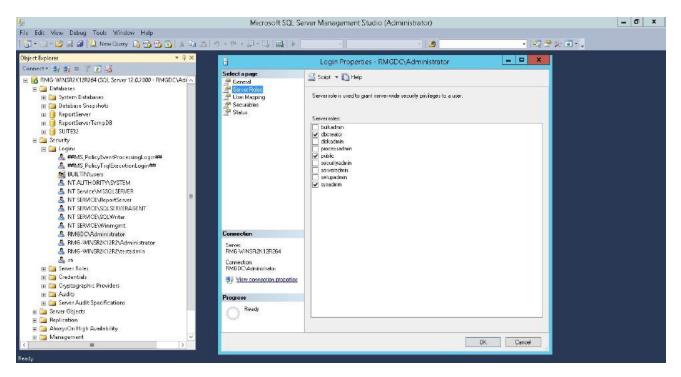
Android OS	4.3x, 4.4.0-4.4.4, 5.0.0-5.0.2, 5.1.x, 6.0
RAM	1 GB onwards
Memory	8 GB onwards
Processor Speed	Dual-core 1 GHz onwards
Communication	BLE capability
General availability of Mail Cli- ent	Required

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
Processor Speed	Dual-core 1 GHz onwards
Communication	BLE capability
Android OS	7.1.x Onwards
Both 32 and 64 bit should be supported	Yes
General availability of Mail Cli- ent	Required

Other Prerequisites

- SQL Server instance needs to be installed if MasterLink Software Application uses SQL Server as database.
 - SQL Server is not required if MasterLink Software Application uses SQLite as database.
- Users must have DBO access to the Database instance. This is to enable them to use an existing database instance or a network SQL database instance.
- The path for creating database files on a network needs to be created upfront if MasterLink Software Application uses remote database instance, and the path must not exist on the machine where the installer is running.
- For network installation of MasterLink Software Application database, the systems must be in the same domain, and domain administrative credentials are needed to create the database.
 - The domain administrator needs have access to the path where the user intends to create the database files.
 - The domain administrator also needs to have System Admin permissions to create and administer the database.



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

2.3 MasterLink Software Application Installation with SQL Server

Prerequisites:

If you are using SQL Server, then a SQL Server instance must be installed before installing MasterLink Software Application.

Administrative Privileges are required to install the application.

1. Launch the installer.

The MasterLink Software Application - InstallShield Wizard appears.

🛃 MasterLink - InstallShield	Wizard
2	Welcome to the InstallShield Wizard for MasterLink
	The InstallShield(R) Wizard will install MasterLink on your computer. To continue, dick Next.
	WARNING: This program is protected by copyright law and international treaties.
	< Back Next > Cancel

The License Agreement page appears.

📸 MasterLink - InstallShield Wizard			
License Agreement Please read the following license agreement carefully.			
END USER LICENSE AGREEMENT			
IMPORTANT: READ THIS END USER LICENSE AGREEMENT ("LICENSE") CAREFULLY BEFORE INSTALLING OR USING THE SOFTWARE (AS DEFINED BELOW) ACCOMPANYING THIS LICENSE. THIS LICENSE IS A BINDING AND ENFORCEABLE LEGAL AGREEMENT BETWEEN THE BUYER AND HONEYWELL INTERNATIONAL INC. ("HONEYWELL"). YOU ACKNOWLEDGE YOU ARE BINDING THE BUYER, AND REPRESENT YOU HAVE THE AUTHORITY TO DO SO, OR IF YOU DO NOT HAVE THE AUTHORITY, YOU WILL BE PERSONALLY LIABLE FOR ANY DAMAGES RESULTING FROM A BREACH OF THIS LICENSE. HONEYWELL LICENSES THE SOFTWARE TO BUYER ONLY UPON THE CONDITION THAT BUYER ACCEPTS ALL OF THE TERMS AND CONDITIONS CONTAINED IN THIS LICENSE. BY OPENING THE SEALED SOFTWARE PACKAGE, INDICATING ASSENT ELECTRONICALLY, OR DOWNLOADING, INSTALLING, COPYING, OR USING THE SOFTWARE, BUYER REPRESENTS THAT IT READ, UNDERSTANDS AND AGREES TO BE BOUND BY THE TERMS AND CONDITIONS OF THIS LICENSE. IF BUYER DOES NOT AGREE TO THE TERMS AND CONDITIONS			
I accept the terms in the license agreement Print I do not accept the terms in the license agreement			
InstallShield < Back Next > Cancel			

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

The Database Selection page appears.

Database Selection Please select the type of database for installation		と
	Select the type of Database for installation:	
	Sqlite DB	
stallShiek	< Back Next >	Cancel

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.

4. Click **Next** to continue.

The Database Server page appears.

MasterLink - InstallShield Wiz	zard		X
Database Server Select database server and au	thentication method		と
Database server that you are in:	stalling to:	▼ Brow	se
stallShield			
Stalionicia	< Back	Vext > Ca	ancel

5. Click Next.

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

😸 MasterLi	ink - InstallShield Wizard	23	
Database Folder Click Next to install to this folder, or click Change to install to a different folder.			
	Install MasterLink database to: C:\ProgramData\Honeywell\MasterLink Char	ige	
InstallShield -	< Back Next > Ca	ncel	

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



7. Click Next.

The Ready to install the Program page appears.

討 MasterLink - InstallShield Wizard	x
Ready to Install the Program The wizard is ready to begin installation.	3
Click Install to begin the installation.	
If you want to review or change any of your installation settings, click Back. Click Cancel exit the wizard.	to
InstallShield < Back Cance	2

8. Click Install to continue.

	g MasterLink gram features you selected are being installed.
ß	Please wait while the InstallShield Wizard installs MasterLink. This may take several minutes. Status:

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

4	InstallShield Wizard Completed
	The InstallShield Wizard has successfully installed MasterLink. Click Finish to exit the wizard.
	Show the Windows Installer log
	Show the Windows Installer log

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

2.3.1 Installing MasterLink Software Application with remote SQL Server

Prerequisites:

If you are using SQL Server, then a SQL Server instance needs to be installed before installing MasterLink Software Application on Windows 8/8.1 or higher machines.

1. Right-click Setup file and then click Run as administrator.

The MasterLink Software Application - InstallShield Wizard appears.

2	Welcome to the InstallShield Wizard for MasterLink
	The InstallShield(R) Wizard will install MasterLink on your computer. To continue, dick Next.
	WARNING: This program is protected by copyright law and international treaties.

The License Agreement page appears.

😸 MasterLink - InstallShield Wizard
License Agreement Please read the following license agreement carefully.
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I accept the terms in the license agreement Print I do not accept the terms in the license agreement
InstallShield < Back Next > Cancel

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

The Database Selection page appears.

🛃 Master	Link - InstallShield Wizard	×
	se Selection select the type of database for installation	と
	Select the type of Database for installation:	
	SQL DB Server	
	Sqlite DB	
	·	
InstallShield	< Back Next >	Cancel

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.

4. Click Next.

The Database Server page appears.

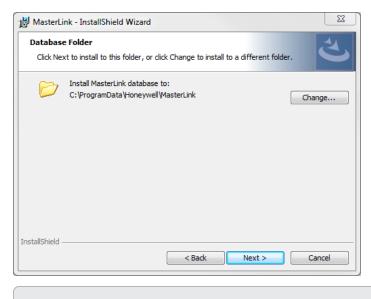
Database Server				44
Select database server a	and authentic	ation method		C
Database server that you	are installing	to:		
localhost			•	Browse
stallShield				

You can browse and select a database on your network.

🙀 MasterLink - InstallShield Wizard		×
From the list of servers below, select the databa would like to target.	ase server you	
(local)		
(local)\SQLEXPRESS		
(localdb)\v11.0 HPSIE1ACMBV1		
HPSIE1ACMBV1		
HPSIE1AOPTVBLD2		
HPSIE1APTBLD1		
HPSIE1APTBLD1\SQLSER2014STD HPSIE1APTBLD2		
HPSIE1APTBLD3		
HPSIE1APTBLD4		
HPSIE1APTBLD7		
HPSIE1APTBLD7\SQLSER2014STD HPS-IE1A-S003TO		
HPS-IE1A-5003TO\ESX2K8R2		
HPS-IE1A-S003TO\SQL2K8R2	•	
InstallShield		-
ОК	Cancel	

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

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 must not exist on the machine where the installer is running



Note: The path selected on remote machine should not exist on remote machine.

6. Click Next.

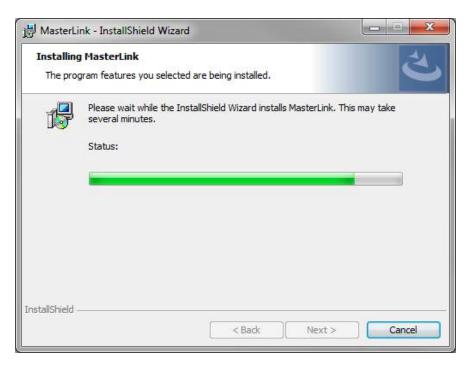
The *Destination folder* page appears, displaying information about the default destination folder. The path selected on remote machine should not exist on current machine where installer is running

😸 MasterLi	ink - InstallShield Wizard	23
	tion Folder ext to install to this folder, or click Change to install to a different folder.	4
	Install MasterLink to: C:\Program Files (x86)\Honeywell\MasterLink\ Change	
InstallShield -	< Back Next > Cance	1

The Ready to install the Program page appears.

MasterLink - InstallShield Wi	izard		×
Ready to Install the Progra	m		1
The wizard is ready to begin in	nstallation.		
Click Install to begin the install	ation.		
If you want to review or chan exit the wizard.	ge any of your installation	n settings, click Back. Click C	ancel to
nstallShield			
is callor inclu	< Back	Install	

8. Click Install to continue.



9. Click Finish to complete.

4	InstallShield Wizard Completed
	The InstallShield Wizard has successfully installed MasterLink. Click Finish to exit the wizard.
	Show the Windows Installer log
	< Back Finish Cancel

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

2.4 Installing MasterLink Software Application with SQLite

1. Right-click Setup file and then click Run as administrator.

The MasterLink Software Application - InstallShield Wizard appears.

🛃 MasterLink - InstallSl	nield Wizard
2	Welcome to the InstallShield Wizard for MasterLink
	The InstallShield(R) Wizard will install MasterLink on your computer. To continue, dick Next.
	WARNING: This program is protected by copyright law and international treaties.
	< Back Next > Cancel

The License Agreement page appears.

HasterLink - InstallShield Wizard						
License Agreement Please read the following license agreement carefully.						
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I accept the terms in the license agreement Print I do not accept the terms in the license agreement						
InstallShield < Back Next > Cancel						

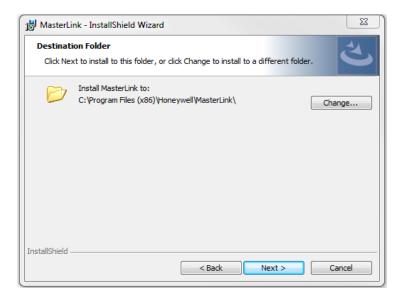
3. Click I accept the terms in the license agreement and then click Next.

The Database Selection page appears.

Database Selection Please select the type	of database for installation	と
Select the typ	pe of Database for installation:	
Ø	SQL DB Server	
۲	Sqlite DB	
nstallShield	< Back Next >	Cancel

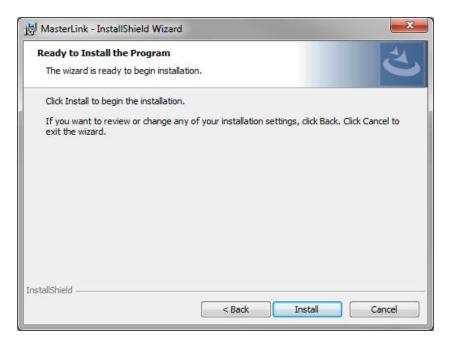
By default, SQL DB Server is selected. User is required to select SQLite DB. By default, SQL DB Server is selected. User is required to select SQLite DB

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



5. Click Next.

The Ready to install the Program page appears.



6. Click Install to continue.

	g MasterLink gram features you selected are being installed.
P	Please wait while the InstallShield Wizard installs MasterLink. This may take several minutes. Status:

7. Click **Finish** to complete.

Vizard has successfully installed M the wizard.	lasterLink.
Windows Installer log	
	e Windows Installer log

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

3.1 Post Installation Steps

 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.

eneral	Sharing	Security	Previous Versions	Customize
Object r	name: C	:\Program	Data\Honeywell\Ma	asterLink
<u>G</u> roup a	rusernan	nes:		
SA CF	REATOR	WNER		
SY SY	STEM			
			D7N6C2\Administra	ators)
St Us	ers (IE1FL	T1D7N6C	2\Users)	
- 2	8			-
To change permissions, click Edit.		c Edit.	<u>E</u> dit	
Domioo	ions for Us		Allow	Denv
-		sers	Allow	Deny
Full control		~		
Modify			~	
Read & execute			1	
List folder contents			~	
Read		~		
Write	10		~	
For spe	cial permis	sions or ad	vanced settings,	Advanced
click Ad	lvanced.			Mulanced
		and the state of the		
	DOUL ACCE	SS CONITOL (and permissions	

2. 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.

3.2 Software/Hardware Compatibility

This version of MasterLink software works with EC350 and CloudLink 4G Modem devices.

Instrument	Hardware Version	Firmware Version
EC350	Rev E	1.1032
CloudLink 4G Modem	Rev D	1.0001

4 MasterLink Software Application User Interface

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

Related topics: Getting Started Sites Dashboard View /Edit Calibrate Read Data Live Data Administration Settings Security

CHAPTER 4

4.1 Getting Started

On launching the MasterLink Software Application, you will see a splash screen followed by a screen to log on.



4.1.1 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.

4.1.1.1 Site Administrator Creation

The Site Administrator should get a MasterLink license from Honeywell Process Solutions. This license key can be used to register a Site Administrator in the MasterLink Application. Contact <u>TAC team</u> to get your license key.

4.1.1.2 Creating Users

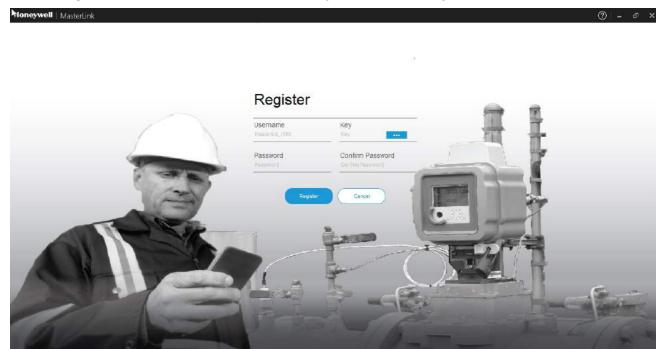
Once site administrator is registered, they can create new users using <u>Security</u> feature. To know more on passkey generation refer to <u>User Configuration</u>.

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

4.1.1.3 User Registration

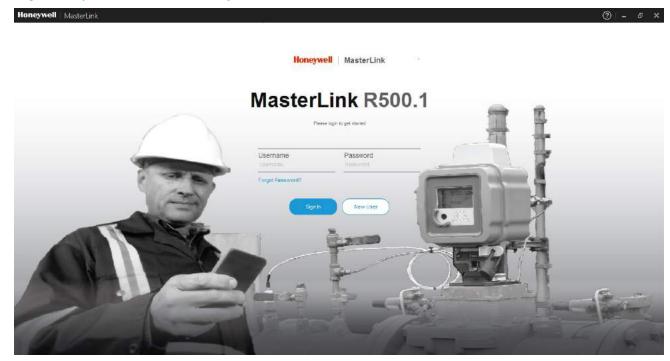
For a first time user, click **New User** and register. User is required to register with license key provided by the site Administrators. The **Username** you enter while registering must match with the user name used while creating the license key.

Enter the login 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:

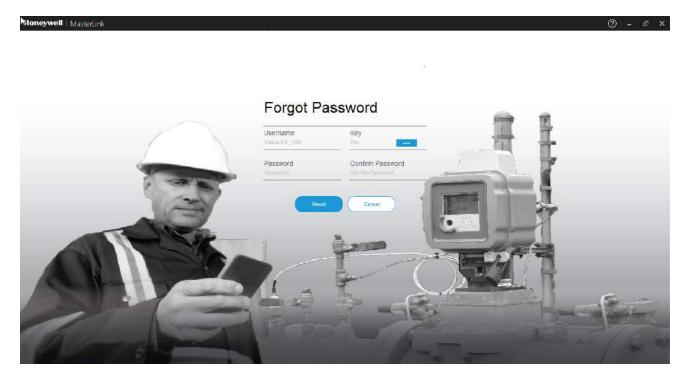
Honeywell	Masterlink				0	🕅 🖗 🕅 🕅 🕅	- 0	×
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2 57#								
(S) View' Edit								
Calibratio								
Baad Data			YOU ARE OFFLI	NE				
\otimes			Currently no devices are conr	nected.				
Live Date Administer			Connect to a site.					
Ø Settings								
Security								
49								
O Connect O	Not Connected 📮 – – Release: R50	00.1 Build Version: 9.2.3.0			Comm Monitor Se	nd Capture Bu	itter to File	

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

4.1.1.4 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 username, browse and select the license key, and finally enter your new password. Click **Reset** to login with the new password.



4.2 Sites

The 'Sites' screen lists all sites configured in the MasterLink application. A Site refers to:

- Integrated EC 350 (EC 350 with Cloud Link 4G Modem)
- Standalone EC 350
- Cloud Link 4G Modem

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 Software Application. It also explains how to connect and communicate with existing sites.

Note: In Coexistence scenario, any Cloud Link related sites that are added using New Master link will be displayed as "Unknown" sites in MasterlinkSQL.

Related topics:

Direct Connect

Add Site

Connecting to a Site

4.2.1 Direct Connect

The Direct Connect feature lets the application 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 <u>Settings > Com</u>munications <u>Setup</u>.

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. Click Connect located at the bottom left, and then connect to an instrument using the Direct Connect pop-up.

Honeywell	MasterLink	⑦ ② admin	- 6 X
Deshiboard			
2 51+			
(S) Viewe ^r Edit			
O Taillies	Direct Connect 🛞		
Beed Date	Device Type : EC 350 + User (D : *		
Cive Dats	Access Code : *		
Administer	Connect Cancol		
Settings			
© Suitings Scauthy Scauthy			
÷?			
Comment / D A	lot Connected 📮 - - Release: R500.1 Build Version: 9.2.3.0 Comm Monitor	or Send Capture Bu	inter to File

- 4. Select the device type (EC 350, Cloud Link 4G Modem, or Integrated EC 350)
- 5. Type a **User ID** and **Access Code** and click **Connect**. (User ID and Access code is provided by System Administrator).
- 6. After connecting to an instrument users must manually add it to the site list.

4.2.2 Add Site

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

A Site refers to:

- Integrated EC 350 (EC 350 with Cloud Link 4G Modem)
- Standalone EC 350
- Cloud Link 4G Modem

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

- Modem
- Serial
- Internet
- IrDA

	ec350site	and the second sec		DA
	EC 350			
	Stand Alone			
Instrument Type	FC 350 ·	Internet/Phone	None	
Site Name *	ec350site		UDP SSL	
Site Location	hyd	Site Phone/IP Address		
Site ID *		SSL Private Key		
Sile ID 2*	0000000	Modem ID	0	
User ID *	0	Modern Port	None	
Instrument Access	*****	Post Modern Command		
	Site Name * Site Lossion Site ID * User ID *	EC 350 Stand Alone Instrument Type Site Name* site Location hyd Site ID* B8890000 User (D*) InstrumentAccess	EC 350 Stand Alone Instrument Type Site Name* ec350site Site Name* Site Location hyd Site ID* Bite Location Site ID 2* Bite ID 3* Bite ID 4* Bite ID 5* Bite ID 5* Bite ID 5*	EC 350 Senal Internet In Instrument Type fC 359 Internet/Phone None Site Name* ec350eite Internet/Phone None Site Name* ec350eite Internet/Phone None Site Location hyd Site Phone/IP Address Site Phone/IP Address Site ID* B0000000 SSL Private Key SSL Private Key Site ID 2* B0000000 Modern ID 0 User ID* 0 Modern Port Hone

Note: Before adding a new site, ensure that you have configured your communication settings under <u>Settings ></u> Communications Setup. Click Add Site to create a new site or a field device. This function is used to add site information to the Site List.

Hone	ywell Maste	erLink					() Q	admin] 🖷	ъ х
	Site Managem	ent								
Site Site Viewr Edit		C350 + loud Link grated Mode								
Ocalibrate	instrument Type	EC350 + Cloud Link •	InternetPhone	None	1.					
6	Site Name *	13 		III vor III s	si.					
Read Data	Site Location		Site Phone/IP Address *							
Live Data	Site ID *	R	SSL Private Key	7						
Administer	Site ID 2 *		Modem ID	0		Configure the site details and click Save				
Ø	User ID *		Modern Port	None						
Settings Security	Instrument Access Code *	3 <u></u>	Post Modem Command							
Discontect	Connected	(EC 350) 🔲 ec350site		Save	Cancel	Build Version: 9.2.3.0 Comm Mon				

While entering your site information, you must provide a Site Name, Site ID1 and ID2, and Instrument Access Code before the entry is accepted. Ensure the correct Instrument Type is selected. The instrument type can be **EC 350**, **Cloud Link**, and **integrated EC 350 + Cloud Link**.

Click Save to add site.

Click Cancel to abort this entry and return to the Site Management.

Honeywell	MasterLink		k		⑦ ② admin	– ø ×
Deshboard	Site Management	Filt	er or Search Si	ite Al	7 Q. Search site	
Site Site View' Edit	C 350 Stand Abne		ec350site EC 350 Stand Alone	Coni	At EC 350 Cloud Link EC350 + Cloud Link	DA
Casterate Sales Read Data		Instrument Type Site Name * Site Location	40 353 + ec350site	Internet/Phone Site Phone/IP	None	• SSL
Live Date		Site ID 2 *	88800000 88800000	Address SSL Private Key Modern ID	0	
Sertings Security		User ID * Instrument Access Cade *	0 	Modern Port Post Modern Command	Nime	*
Ø	Not Connected 💭 – – Release: R500.1 Build Version: 9.2.3.0	Pdu site		Comm Monitor	Send Capture B	utter to File

Note: It is recommended to use cellular modems instead of land-line modems for more secure communication.

For sites using the Communications / Special Connection setup (which use TCP/IP modems), enter the following details based on the selection of Internet/Phone dropdown:

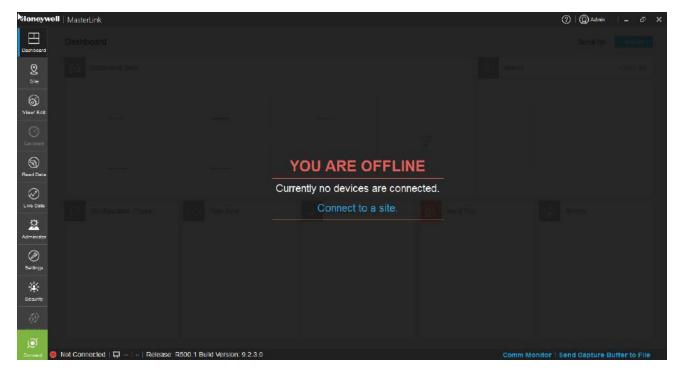
- If IPv4 is selected, enter IP address and port number in the respective fields.
- If a Land Line Modem is used, user should provide the site phone number in the Site Phone / IP Address field.

After adding the site, the new site appears in the list of sites.

	Management							V	Q Search site	
	CL_Device1		cloudlink 10	1		device1	$\overline{\boxtimes}$		device10	
1	Cloud Link	Stand Alone	Cloud Link	Stand Alone	Ŧ	EC 350	Stand Alone	Ŧ	EC 350	Stand Ak
	device2	$\overline{\boxtimes}$	device20	X		device3	×		Device4	7
	EC 350	Stand Alone	EC 350	Stand Alone	7	EC 350	Stand Alone	7	EC 350	Stand Alc
	Device7		Device8	1		device81			devicec120	r
	EC 350	Stand Alone	EC 350	Stand Alone	Ŧ	EC 350	Stand Alone	1	Cloud Link	Stand Alc
	EC_CL_Device5		EC_CL_Device6	x		Varun EC350	$\overline{\boxtimes}$			
	EC350 + Cloud Link	ntegrated Mode	EC350 + Cloud Lin	k Integrated Mode	Ŧ	EC350 + Cloud Link	Integrated Mode			
i										
65										
8										

4.2.3 Connecting to a Site

When you log on to MasterLink Software Application 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.

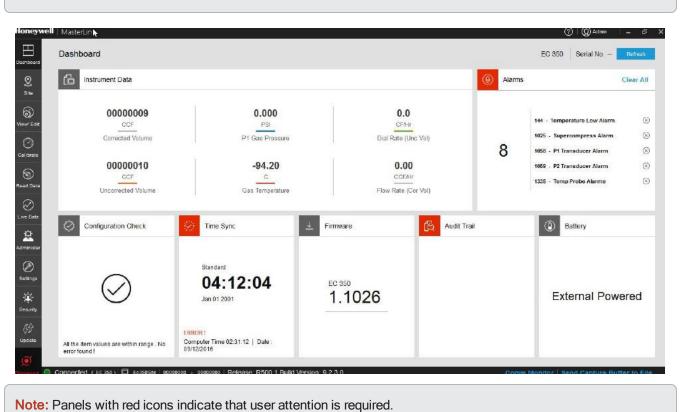
Configured sites can be connected using the 'Site Management' screen of MasterLink Software Application.

Site Management Cased Link Site Management Site Management Site Cased Link Site Cased Link <th>Honeywell MasterLink</th> <th></th> <th>⑦ ② Admin = r^p ×</th>	Honeywell MasterLink		⑦ ② Admin = r ^p ×
Image: Second secon			All 💎 🛛 Q. Search site
Sealings Sealinty	Site Site Site Site Viewr Edit Site Site		
Add 5ie Comm Monitor Send Capture Buffer to Fi Comm Monitor Send Capture Buffer to Fi	ø	and the second s	Comm Monitor ⊡Send Capture Butter to File

Following interfaces can be used to connect a site based on deployment (device type configured).

- Modem EC 350 EC 350
- Serial EC 350 EC 350 or EC 350 CloudLink
- Internet Integrated EC 350, EC 350 EC 350 or EC 350 CloudLink
- IrDA EC 350 EC 350 or Integrated EC 350

Note: To connect an instrument through serial interface or modem configure the communication settings in the <u>Set</u>tings 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.

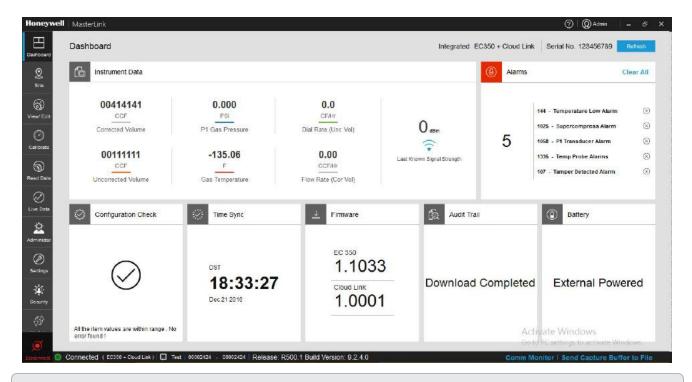
4.3 Dashboard

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. The dashboard automatically reads and displays the following data:

- Critical instrument data
- Last call details (when MasterLink Software Application R500.1 is used)
- Active alarms
- Configuration checks based on the item template file
- Time Sync
- Firmware
- Audit Trail data
- Battery status

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



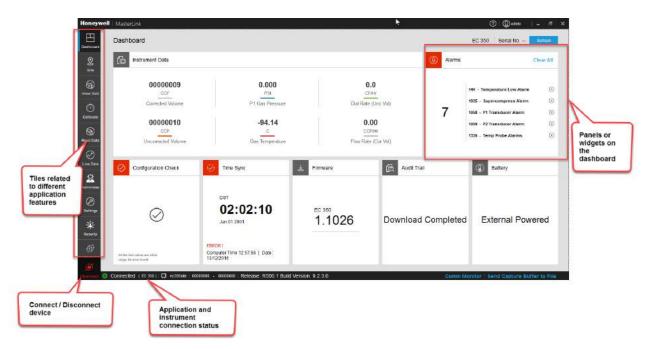
Note: The instrument data can vary based on the connected device type.

The dashboard has various panels containing instrument data, organized in panels. User can further drill down to see relevant data by clicking on respective panels.

4.3.1 User Interface

User Interface consists of the following sections:

- Tiles related to the application features include:
 - Dashboard
 - Site
 - View/Edit
 - Calibrate
 - View Data
 - Live Data
 - Administrator
 - Settings
 - Security
 - Updates

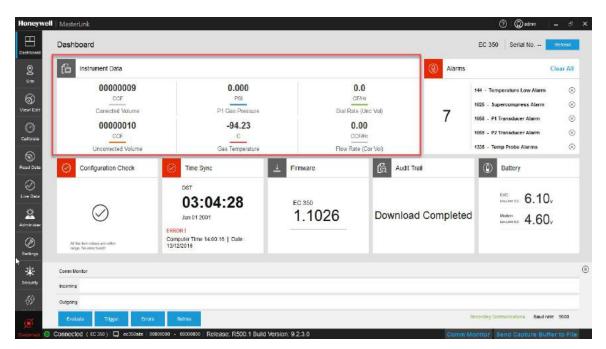


- Header contains application information and user options
- Footer contains the following information:

	The icons displayed on the footer is used to illustrate the following:
laana	Not connected to any site
Icons	Connecting to a site
	Connected to a site
Release number	R500.1
Build version	9.2.4.0
Comm Monitor	Displays all the communications (command/responses) between MasterLink application and the connected site.
Send Capture Buffer to File	Allows the user to save all the communication into a file for analysis.

4.3.2 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.



On clicking any value, further details are displayed.

Honeywell	MasterLink R500.1						0 0
Deshboard	Dashboard					Integrated EVC + MiCell	Senal No 12343234
Q Site	Instrument Data					() Alarms	
(S) Vew Edt	80.48 ccr	60.93 pst	1 O Corrected Vol		_		Pressure High 123/15 15-65
\odot	Corrected Volume	P1 Pressure	Item Code	Description	Value	0.5	Pressure Low Unit's 22:50
Calibrate			000	Corrected Volume	0000100 (m3)	05	Pressure Low UTINS 12:00
9	59.03 ccf	58.2 ⊧	113	High Res Cor Value	100.8739 (m3)		Pressure Low UITINS 12:00
Read Data	Uncorrected Volume	Gas Temperature	043	Total Correction Factor	0.9075		
\oslash	Uncorrected volume	Gas remperature	116	Squared Super	1.0000		Pressure Low 111/15 12:09 (8)
Live Data	and the second se	and the second	053	Specific Gravity	0.62		
2	Configuration Check	Time Sync	054	% N2	0.42 (%)	Trail	Battery
Administer			055	% CO2	0.01 (%)		
Ø		Standard	140	Energy	134 (Therms)		
Settings	\bigcirc			Close		000/	EVC LINE LINE 6.10
Security	\bigcirc	3:24:1		_		00%	
Security		March 1, 2016		Modem 1.0	4		Modem 4.60v
				1.0	T		LOW LOWE ED 4.00V
~	All the dam values are within tange. No error found!	Actual Time 1/20-14 Ex	ne. 03/02/2016	Recommended version (EVC)		ems are downloaded	
Disconnect	Connected (EC 350)		1.0.1		100	. Comm'N	Ionitor Send Capture Buffer to File

4.3.3 Alarms

MasterLink a l ⑦ Q admin onev 田 Active Alarms **2** 5110 Active Alarms List 6 144 - Temperature Low Alarm 1025 - Supercompress Alar 1058 - P1 Transducer Alarm đ A A 01/01/01 00:00 01/01/01 00:00 01/01/01 00:00 lew/Ed () Calibrat 1059 - P2 Transducer Alarm 1335 - Temp Probe Alarms 104 - System Alarms D 01/01/01 00:00 01/01/01 00:00 01/01/01 00:00 107 - Tamper Delected Alarm 11/25/16 16:45 A Ø 2 doninist Ø Sattings R500 1 Build Version: 9.2.3

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 alarms and event log reports from the Dashboard.

port Name:		og Report				Alarm Log Report			
port Selectio	ns: 1 site ,F	rom : 10-12-2016	07:19:58 To	: 21-12-2016 16:41:47				Site info :	00000000:00000000
e ID: 00 Si	te Name: ec3	50site Site Loc	ation: hyd						
Date	Time	Alarm Type	Item #	Alarm Desc	Alarm Value	Alarm Limit			
12/10/2016	07:19:58	Alarm	99	Battery Low Alarm	3.092	4.600			
01/01/2001	00:00:02	Alarm	107	Tamper Detected Alarm	11111111	00000000			
01/01/2001	00:00:02	Alarm	1058	P1 Transducer Alarm	8	00000000			
01/01/2001	00:00:02	Alarm	1059	P2 Transducer Alarm	8	00000000			
01/01/2001	00:00:02	Alarm	1335	Temp Probe Alarms	4	00000000			
01/01/2001	00:00:02	Alarm	144	Temperature Low Alarm	-94.56	-37.22			
01/01/2001	00:00:02	Alarm	1025	Supercompress Alarm	10	0000000			
01/01/2001	00:00:31	Alarm Ack	144	Temperature Low Alarm	-94.11	-37.22			
01/01/2001	00:00:31	Alarm Ack	1025	Supercompress Alarm	10	0000000			
01/01/2001	00:00:31	Alarm Ack	1058	P1 Transducer Alarm	8	0000000			
01/01/2001	00:00:31	Alarm Ack	1059	P2 Transducer Alarm	8	0000000			
01/01/2001	00:00:31	Alarm Ack	1335	Temp Probe Alarms	4	0000000			
01/01/2001		Alarm Ack	107	Tamper Detected Alarm	1111111	0000000			
			<u>600 - 00000</u>	000 Release: R500.1 Bi	Back uild Version: 9	Preview Print	Co	mm Monit	tor Send Capture
nt Destination nected (E asterLink				000 Release: R500.1 Bt		230	Co	mm Monif	tor Send Capture
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asterLink ort Name: ort Selectio ID: 0 0 Si hate 12/10/2016	Alarm Li Alarm Li ns: 1 site ,F te Name: ec3 Time 07:19:58	ec350site 000000 og Report rom : 10-12-2016 50site Site Loc Alarm Type Alarm	000 - 00000 07:19:58 To ation: hyd Item # 99	: 21-12-2016 16:41:47 Alarm Desc Battery Low Alarm	Alarm Value 3.092	2.3.0 Alarm Log Report Alarm Limit 4.600	Co		⑦ @ Admin
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ected (E sterLink ort Name: ort Selectio ID: 0 0 Si late 2/10/2016 1/01/2001 1/01/2001	Alarm Li Alarm Li Stee, F te Name: ec3 Time 07:19:58 00:00:02 00:00:02 00:00:02	og Report rom : 10-12-2016 50site Site Loc Alarm Type Alarm Alarm Alarm	000 - 00000 07:19:58 To ation: hyd Item # 99 107 1058 1059	21-12-2016 16:41:47 Alarm Desc Battery Low Alarm Tamper Detected Alarm P1 Transducer Alarm P2 Transducer Alarm	Alarm Value 3.092 1111111	2.3.0 Alarm Log Report	Co		⑦ @ Admin
ected (E sterLink ort Name: ort Selectio ID: 0 0 Si late 2/10/2016 11/01/2001 11/01/2001 11/01/2001	Alarm Li Alarm	og Report rom : 10-12-2016 50site Site Loc Alarm Type Alarm Alarm Alarm Alarm Alarm	000 - 00000 07:19:58 To ation: hyd 107 1058 1059 1335	21-12-2016 16:41:47 Alarm Desc Battery Low Alarm P1 Transducer Alarm P2 Transducer Alarm Temp Probe Alarms	Alarm Value 3.092 11111111 8 8 4	2 3 0 Alarm Log Report	Co		⑦ @ Admin
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ected (E asterLink ort Name: ort Selectio ID: 0 0 Si hate 12/10/2011 01/01/2001 01/01/2001 01/01/2001 01/01/2001	Alarm L Alarm L 1 site ,F te Name: ec3 Time 07:19:58 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02	ec350site 000000 og Report rom : 10-12-2016 50site Site Loc Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm	000 - 00000 07:19:58 To ation: hyd 107 1058 1059 1335 144 1025	21-12-2016 16:41:47 Alarm Desc Battery Low Alarm Tamper Detected Alarm P1 Transducer Alarm P2 Transducer Alarm Temp Probe Alarms Temperature Low Alarm Supercompress Alarm	Alarm Value 3.092 11111111 8 8 4 -94.56 10	2 3 0 Alarm Log Report Alarm Limit 4 600 00000000 00000000 00000000 000000	Co		? Q Admin
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nected (E asterLink ort Name: ort Selectio ID: 0 0 Si Date D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001	Alarm L Alarm L 1 site ,F te Name: ec3 07:19:58 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02 00:00:02	ec350site 000000 og Report rom : 10-12-2016 50site Site Loc Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm	000 - 00000 07:19:58 To ation: hyd 107 1058 1059 1335 144 1025 144 1025	21-12-2016 16:41:47 Alarm Desc Battery Low Alarm Tamper Detected Alarm P1 Transducer Alarm P1 Transducer Alarm P2 Transducer Alarm Temp Probe Alarms Temperature Low Alarm Supercompress Alarm Temperature Low Alarm	Alarm Value 3.092 11111111 8 4 -94.56 10 -94.11 10	2.3.0 Alarm Log Report Alarm Limit 4.600 00000000 00000000 00000000 000000	Co		⑦ @ Admin
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nected (E asterLink nort Name: nort Selectio ID: 0 0 Si Date D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001 D1/01/2001	Alarm L Same and the second Alarm L Alarm L 1 site ,F te Name: ec3 Time 07:19:58 00:00:02 00:00 00	ec350site 000000 og Report rom : 10-12-2018 50site Site Loc Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm Alarm	000 - 00000 07:19:58 To ation: hyd 1058 1059 1335 144 1025 144 1025	21-12-2016 16:41:47 Alarm Desc Battery Low Alarm Tamper Detected Alarm P1 Transducer Alarm P2 Transducer Alarm Temperature Low Alarm Supercompress Alarm Temperature Low Alarm Supercompress Alarm P1 Transducer Alarm	Alarm Value 3.092 11111111 8 -94.56 10 -94.11 10 8	2.3.0 Alarm Log Report Alarm Limit 4.600 0000000 0000000 0000000 0000000 00000	Co		

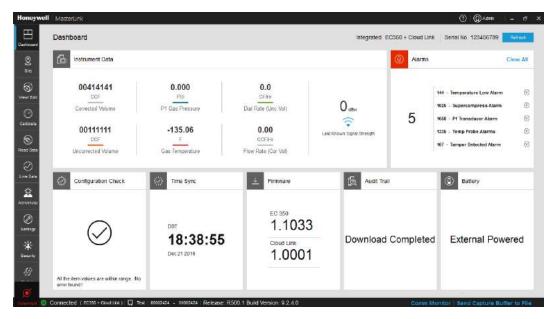
Refer Auto Download Settings page for more details.

4.3.4 Configuration Check

After connecting to the instrument, application compares values of items defined in the template with actual values in the instrument and reports the status of Config check widget on Dashboard. User can correct the values from the drilldown screen.

Description Corrected Volume Uncorrected Volume	Default 9	Actual	
CONTRACTOR OF THE REPORT	9	0	
Uncorrected Volume		0	
	4	00000000	
Ch-A Pulses Waiting	24	00090800	
Base Pressure	12	14.7300	
Atmospheric Pressure	45	14,7300	

When all the values are corrected, the Config Check widget reports status as 'All Items found are within range'.

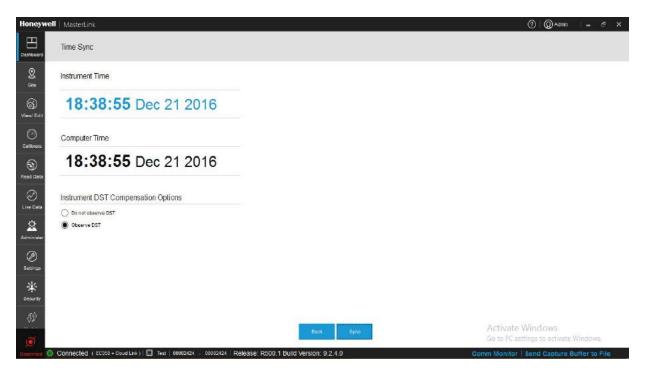


Read more: Item Template Configuration

4.3.5 Time Sync

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

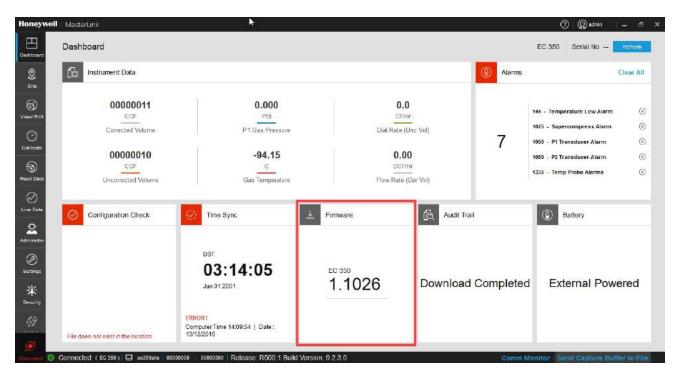
Alternatively, time can be synchronized manually by clicking on Sync.



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

Refer Time Sync Properties page for more details.

4.3.6 Firmware Update



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

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

Update						
EVC 1.1026	Modem Certificate					
				Step	Status	
Firmware Filename:	File Location:		Browse	Validate FW file	Status	
				Send Firmware		
				Validate Firmware		
Versions		Selected Firmware De	tails	Sync date and time		
Current Firmware	1.1026	Firmware Type				
Loader	2.0012	New Firmware				

The Update screen consists of three tabs:

- EC 350 Firmware Upgrade
- Cloud Link 4G Modem
- 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 Software Application R500 Application (Windows & Mobile) supports firmware upgrade to the EC 350 and Cloud Link 4G Modem, only if the devices have the following firmware versions:

Cloud Link 4G 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.

4.3.7 Audit Trail

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

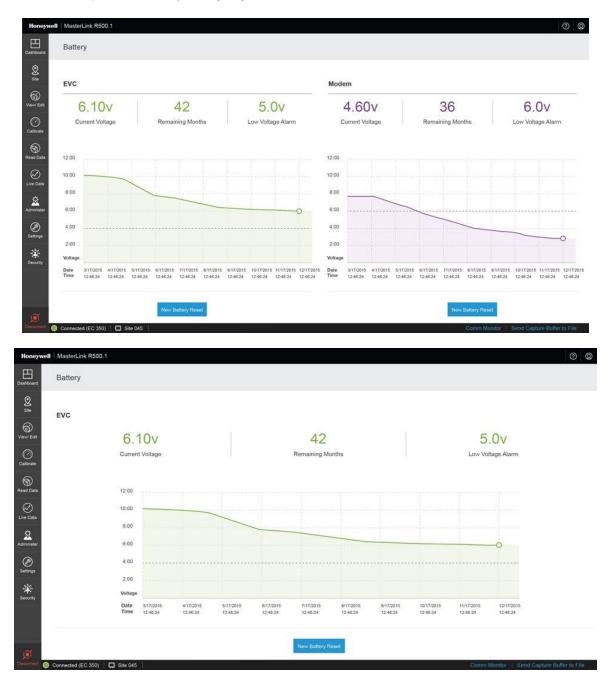
Item File Audit T						L or area	L. A. Barrison and				
	rail Alarm	Logs Even	t Logs Dia	ignostic Logs	Cellular Logs	Snortlist	Activity Log	1			
					Audit Tr	ail Report					
Report Name: Auc Report Selections: 1 si	lit Trail Report	12 10 07:15:00 To 1	0016 10 10 14:00	-0.2				Site info :	0000000:00000000	✓ Log #: 1	•
Report Selections. 1 si	le , Floil 2010-1	12-10 07.15.00 10.	2010-12-13 14.32	.02						209 // .	
Site ID: 0 0 Log1 Site N	lame: ec350site	Site Location: hy	1								
	Incremen	Incremen	P1 Interval	Interval	Battery	Correcte	Uncorrec	P1 Gas	Gas	Case	Batte
Log Date and Time	tal Cor Vol (CCF)	tal Unc Vol (CCF)	Avg Press (PSI-G)	Avg Gas Temp (C)	Voltage Reading (VOLTS)	d Volume (CCF)	ted Volume (CCF)	Pressure (PSI-G)	Temperat ure (C)	Temperat ure (C)	Low Limit (VOL
12/10/2016 7:15:00 AM	0	0	.000	-94.24	3.091	9	10	.000	-94.25	22.11	4.600

Refer Auto Download Settings for more details.

4.3.8 Battery

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

Dashboard battery drill down is not allowed if the site is externally powered. However, if the site is battery powered the Dashboard drill down plots the battery voltage against time.

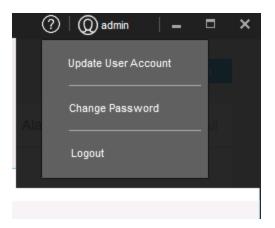


Note: For integrated EC 350 power source type is displayed based on EVC but not on MasterLink Software Application R500.1.

4.3.9 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 and select Update User Account.



The Update User Account pop-up appears.

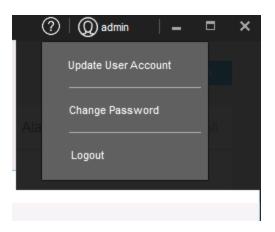
Username		
Admin		
Current Password	ł	
XXXXXXXXXXXXX		
Key		
Кеу		

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

4.3.10 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.

ange Password			\otimes
Current Password			-
New Password			-
Confirm Password			-
	Change	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.

4.4 View and Edit

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

Related topics:

Configure by Item

Configure by Group

Send Item File

Manage Logging Configuration

Manage User Table

Manage Shortlist

4.4.1 Configure by Group

MasterLink Software Application 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 button.

Honeywell	MasterLink			9	5				() ()	*n = ∂ X
Deshtoord	View/ Edit									
2 30 •	Contigure by Group	lonfigure b	yttem 1	Send Item File	Logging Configuration Man	age User Table Manage t	hortist	I	Q Search item b	y number or description
69	Volume & Energy	Þ	Volume 8	L Energy					Read Barr Write	tem Expant
View' Edit	Correction Factors			Item Number	Description	Value		Unit		N
0	P1.Pressure	_		000	Corrected Volume	00000011		COF	Read item	
Celibrate	Firesaue			002	Uncorrected Volume	00000010		COF	values	Write item values to the
9	P1 Pressure Calibration	- 21		113	Hi Res Cor Vol	11.0000		CCF	from the	connected
Read Data	Temperature	- F		892	HI Res Unc Vol	0.0090		CCF	connected device	device
\otimes				090	Cor Volume Units	CCF	•	-		
Live Data	Temperature Calibration			096	Corr Vol # of Digits	8 Digits	*	_		
2	Flow & D(a) Rates	2		092	Unc Volume Units	CCF	•	-		
idminisler	Site Information	1		097	Unc Val # of Digits	8 Digita		-		
\oslash		10		098	Neter Index Rate	10 CF		-		
Settings	P1 Pressure and Temperature St	atistics		114	Neter Scaling Factor	1.000000		_		
*	Volume and Flow Statistics	×.		433	Volume Input Mode	LF-UWB/instrument Drive				
Security	Data & Tana Garda	b.		432	Weter Model	Other	•			
<i>69</i>	Date & Time Config	P		439	Weter Displacement (CF)	1.009000		CF/rev		
-	Audit Trail Log Configuration	×.		434	Daily Backup Volume	00000000		COF		
JO .	Connected (EC350) D 6035	Ŧ					-	10000	Monitor Spod Cantu	v

4.4.2 Configure by Item

MasterLink Software Application 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.

Configur	re by Group C	configure by Item Send Item F	File Logging Configuratio	n Manage User Tabi	e Manage Shortlist	
						Q. Search Item by number or
	Item Number	Description	Value	Unit	Read	Tem Write Tem Advance
	000	Corrected Volume	00000012	CEF		
	002	Uncorrected Volume	00000010	CCF	Read item values	Write item value:
	005	Ch-APulses Waiting			from the connected device	to the connected
	006	Ch-B Pulses Waiting		e de la companya de l	connected device	device
	007	Ch-C Pulses Waiting		-		-
	008	P1 Gas Pressure	0.000	PSI		
	010	P1 High Alarm Limit	1422335.	PSI		
	011	P1 Low Alarm Limit	-71.117	PSI		
	012	P1 Cal Atmos Pressure		PSI		
	013	Base Pressure	1234.000	PSI		
	014	Atmospheric Pressure	14.6960	PSI		
	015	Press used at P1-Zero		PSI		
-	040	Owner word at D# Owner		001		

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

Note: Selecting a check box against an item after modifying the search criteria would refresh the previous selections.

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

O Connected (EC 350) 📮 ac350ata 000000000 - 00000000 Release R500 1 Build Version 9.2.3.0

View/ I	Edit							
Configure	e by Group C	onfigure by Item Send Item F	le Logging Configurati	tion Mar	nage User Table Manage	Shortlist		
							Q Search item Read Item Write Item	Advance Opt
	Item Number	Description	Value		Unit			Raw Item Acc
	111	Temperature Factor Mode	Fixed	•				Shut Down
	112	P1 Transducer Type	Gauge	v				
	113	Hi Res Cor Vol	387.7509		CF			
	114	Meter Scaling Factor	1.000000					
	116	Squared Supercompress	0.9999					
	118	Reference Number 1						
	119	Reference Number 2						
	120	Calibration Date P1 Press	1/1/0001	<u></u>	MM-DD-YY			
	121	Calibration Date Temp	1/1/0001	<u></u>	MM-DD-YY			
	122	Firmware Version	1.1102					
	127	Instrument Type Code						
	130	Scroll List Item 1						

Search for a particular item either by number or description.

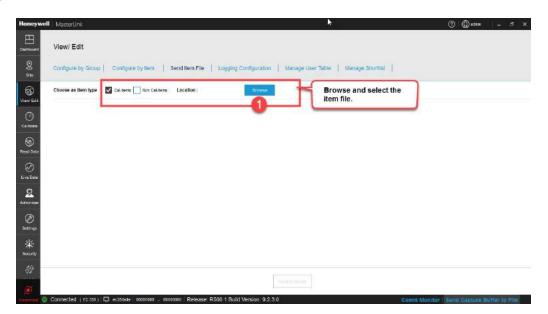
	View/ I					
.0			onfigure by item Soud Item Fi			Manage User-Table Manage Bhotlast Q Search room by numbers
		-				- Neas Eam - Mats Eam - Advance
-		Item Humber	Description	Value		Unit
		111	Temperature Factor Mode	Fixed	*	
		112	P1 Transducer Type	Gauge	Raw Item Access	s 🛞
		113	Hi Res Cor Val	387.7509	Item Number *	114
		114	Meter Scaling Factor	1.00000		
		116	Squared Supercompress	0.9999	Value	2
		118	Reference Number f			and the second se
		119	Reference Number 2			Read item White item
		120	Calibration Date P1 Press	1/1/0001		MM-DD-YY
		121	Calibration Date Temp	1/1/0001	(iii)	ND4-DD-YY
		122	Firmware Version	1.1182		
		127	Instrument Type Gode			
		130	Scroll Listitem 1			1 miles
1	1					

Clicking on Shut down will shut down the device.

4.4.3 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 Cloud Link 4G Modem, .ECL for EC 350 + Cloud Link 4G Modem)



View the values configured for different item numbers.

View/ Edit								
Configure by	Group Configure by Item	Send Item File Ma	inage Logging Configuration	Manage User Table	Manage Shortlist	Q Search item	by number or des	criptic
Location: We	10nt3ks015\RMG\MasterLinkR500.1	E1_Build_9_Nov_2015	Browse					
Item Number	Item Description	Value	Unit	Item Number	Item Description	Value	Unit	
0000	Corrected Volume	00242990	CF	0013	Excess TCal Change %	2,0000	CF	
0002	Uncorrected Volume	00266559	CF	0014	Total Correction Factor	1.0000	CF	
0005	Ch-A pulses waiting	00000000	(4)	0015	Press Correction Factor	1.0000	-	
0006	Ch-B pulses waiting	00000000	-	0016	Temp Correction Factor	1.0000	-	
0007	Ch-C pulses waiting	00000000	PSI	0017	Aux Correction Factor	1.0000	PSI	
0008	P1 gas pressure	13.775	PSI	0018	Unsquared Supercompress	1,0000	PSI	
0010	P1 high alarm limit	99999.99	PSI	0019	Battery Voltage Reading	2.372	PSI	
0011	P1 low alarm limit	-1.000	PSI	0020	Battery Low Volt Limit	4.600	PSI	
0012	P1 Cal atmos pressure	0.0000	PSI	0021	Shutdown Voltage Limit	4.000	PSI	
0012	P1 Cal atmos pressure	0.0000	PSI	0021	Shutdown Voltage Limit	4.000	PSI	
0012	P1 Cal atmos pressure	0.0000	PSI	0021	Shutdown Voltage Limit	4.000	PSI	
0012	P1 Cal atmos pressure	0.0000	PSI	0021	Shutdown Voltage Limit	4.000	PSI	
0012	P1 Cal atmos pressure	0.0000	PSI	0021	Shutdown Voltage Limit	4.000	PSI	

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

4.4.4 Logging Configuration

Using MasterLink Software Application 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.

Configure by Grou	p Configure by Item Send Item File	Logging Configuration Manage User Table Man	age Shortlist	
Select Items	Allocate Log Memory	Log Configuration Up Down	N	
appropriate items lis	 mover to the Log Configuration tree and drop it onto the t or ired item to add to the selected items list. 	□ 目 Audit Trail Logs	100	Log 1
ltem Number	Description	© 5 minutes v	80 -	
0	Corrected Volume	- 58 tems (11 of 20)	-	
2	Uncorrected Volume	225 - Incremental Cor Vol		
113	Hi Res Cor Vol	() 225 - Incremental Vinc Val	60-	
892	Hi Res Unc Vol	O 206 - P1 Interval Avg Press		Log 4
90	Cor Volume Units	(*) 200 - Fri Merval Avg Gas Temp	40 -	
96	Corr Vol # of Digits	(*) 48 - Battery Votage Reading	- 1	
92	Unc Volume Units	(7) 0 - Corrected Volume	-	Log 5
97	Unc Vol # of Digits	(3 2 - Uncorrected Volume	20	
98	Meter Index Rate	(7) 8-P1 Gas Pressure		
114	Meter Scaling Factor	A serie construction	- <u>1</u>	

View items by number sorts all items supported by the connected instrument. View items by function sorts all items related to the function / group. Users can also click on the headers (item number and description) to sort the list of item numbers. Filter text-box can be used to search item by number or description. Time interval displayed in the 'Log Configuration' tree can be right clicked to configure the period at which log records are recorded.

From the 'Select Items' tab, drag and drop or double click the desired items from the Select Items list over to the log configuration tree.

Configure by Grou	p Configure by item Send item File	Logging Configuration Manage User Tat	ole Manage Shortlist	
Select Items	Allocate Log Memory	Log Configuration U	Ip Down 🕅	
appropriate items lis	- m over to the Log Configuration tree and drop it onto the st or ired item to add to the selected items list.	三 III Audit Trail Logs	100	Logi
Item Number	Description	S minutes v	80 -	
226	Incremental Unc Vol	- 58 tems (11 of 20)	-	
		🔿 225 - Incremental Cor Vol	60 -	Log 2
		② 225 - Incremental line Vol		Log 4
		💛 206 - P1 Interval Avg Press	40 -	
		 48 - Battery Votage Reading 0 - Corrected Volume 	ہ - 20 –	Log 5
		O 2 - Uncorrected Volume		
		🗇 8 - P1 Gas Pressure		

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.

Configure by G	sroup Co	nfigure by Ite	m Send	Item File	Logging Configuration Manage User Table	Manage Shortlist	
Select Items	Allo	cate Log Me	emory	-	Log Configuration 0p	Dewn 🗑	
	Percent	Days	Records	Enable	Audit Trail Logs In Log1	· 100	Log 1
Log 1	20.0 🔻	10	2898	2	- 18 Log2 (7) 10 minutes -	80 -	
Log 2	15.0 +	18	2609		Terms (9 of 20) (3) 225 - Incremental Cor Vol	60-	Logi
Log 3	10.0 •	16	1581	2	 3 228 - Incremental Linc Vol 3 208 - P1 Interval Avg Press 	- - - - 04	
Log 4	5.0 🔹	33	790	7	(2) 207 - Interval Avg Gas Temp (2) 48 - Battery Voltage Reading		
Log 5	50.0 •	7905	7905	~	0 - Corrected Volume (?) 6 - P1 Gas Pressure	20 – - -	

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 day's 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 Software Application. 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.

4.4.5 Manage User Table

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

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

			Add User	Delete Role Nar	tester Droilean	Add Role	Update
Enable	User ID	Password	Role	• teste	tester - Privilege Modify Open Hems	Modify Event tems	Modify Sealed Items
	3	•••••	tester	• Tech	 Can Read Event Log	Can Change User Table	HMI Level 2 Access
			~		 HMI Level 3 Access	Cloud Link Write	
			2	QA.	 Current Privilege 65609		
					1		
				1			

To configure a user table:

1. Start by creating a role. To create a role, click Add Role. The Add New Role pop-up window appears. assign a name to the role, and then assign user privileges. Click Add to complete.

Add New Role			1	\otimes
Add Role *				
Privilege	0			
	Add	Cancel		

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

		Add Role Update Dele	te
Role Name	Technitian - Privilege		
Technitian 🕨	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	Cloud Link Write	
	Current Privilege 8		

- 2. Click the check box under previleges to assign permissions to the role.
- 3. After a role is created, click Add User to create a new user.
- 4. 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.

Add New User	\otimes
User ID	11
Password	•••••
Role	Manager 🔹
	Add Cancel

2. User IDs and Passcodes are used to login to an instrument. When creating a user account, assign User ID, and a Passcode, and assign a role to the new user.

- 3. Valid User IDs are 0 through 99 (decimal numeric). Valid passcodes are 00000 through 99999 (decimal numeric). The Passcode must be 5 digits in length.
- 4. Assign a role or change the role of an existing user by selecting a different role from the **Role** drop-down.
- 5. 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.

4.4.6 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.

Honeywell	MasterLink			0	(Q) admin	-	d₽ ×
	View/ Edit						
2 98-	Configure by Group Configu	rre by litem Send Item File Logging Configuration Manage User Table	Ma	anage Shortlist			
Vauri Edit	Shortlist item file download configura	iton		<i>u</i> :			
0	Instrument Type	Hems		Selected Rema			
Calibrate	EC 350	0 - Corrected Volume		0 - Corrected Volume			
କ୍ତ	Cloud Link	2 - Uncorrected Yoluma		8 - Ch-8 Pulses Weiting			
Read Dote	EC350 + Cloud Link	5 - Ch-A Pulses Walting					
\otimes		6 - Ch-S Pulses Waking	3				
Live Date			101				
2		201 No. 201 Oracle State (201	ove A3				
Administer		10 – Pt High Alacit Limit					
0		11 - P1 Lew Alarm Lind					
Settings		12 - Pf CelAtrop Pressure					
· 🔆 Security	0	14 - Atmospheric Pressure					
100000							4
<i>(</i> }	e D Alista Da • Site	ID2 ATSN Da *		Read actup from the	Serve setup to fi		Same .
(I) Sh	e ID All Sto Da • Site	U2 ALDELA		Histo Security From Tile	Serve set up to th		Save
Deserved (O	Connected (EC 359) 📮 ec350ab	a 00040000 - 00004000 Release: R500.1 Build Version: 9.2.3.0		Comm Monitor 5em	d Gasture B	utter to	File

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>_yymmddhhmmss.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 Software Application* *ShortListFiles*.

4.5 Calibrate

Related topics:

Pressure Calibration

Temperature Calibration

4.5.1 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:

- Pressure Calibrator
- Pressure Unit Code (unit of measure)
- Transducer Serial Number (assigned at the factory)
- 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.

Calibrate Pressure 1 Zero Calibration Pressure 1 Zero Calibration Pressure 1 Zero Calibration Apply any term reference, pressure in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and work for the orthogenee in the instrument's pressure input and the instrumen	_										
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13 Base Pressure 14.6660 P0 14 Arcoganese Pressure 1000 P0 15 Catabrace Pressure 1000 P0 16 Catabrace Pressure 1000 P0 18 Catabrace Pressure 1000 P1 19 Catabrace Pressure 1000 P0 19 Catabrace Pressure 1000 P1 19 Catabrace Pressure 1000 P1 10 Catabrace Pressure 1000 P1 20 Catabrace Pressure 1000 P1 21 Catabrace Pressure 1000 P1 22 Catabrace Pressure 1000 P1 23 Mon PCat Panth PS Base Base Base Panth PS Base Pressure Pressure Panth PS Base Pressure Pant	Pressure 1 Zero	Calibration									
13 Base Pressave 14.660 PE 14 Athogs are fires and in 1600 PE 13 Calibrate Pri-Size 17.201 PE 14 Athogs are fires and in 1600 PE Interviewer and Pri-Size 17.201 14 Calibrate Pri-Size 4.664 PE Interviewer and Pri-Size 17.201 PE 14 Calibrate Pri-Size 4.664 PE Interviewer and Pri-Size 17.201 PE 14 Calibrate Pri-Size 4.664 PE Interviewer and Pri-Size Interviewer and Pri-Size <th>Item Humber</th> <th>Description</th> <th>Value</th> <th>Unit</th> <th></th> <th>يىس</th> <th>Apply any 'zero n</th> <th>eference' pre</th> <th>ssure to the ins</th> <th>tument's pressur</th> <th>e input and wait for th</th>	Item Humber	Description	Value	Unit		يىس	Apply any 'zero n	eference' pre	ssure to the ins	tument's pressur	e input and wait for th
14 Amonganess Pressure 1.0000 PRI 17 Catabraste Prison 1.100 PRI 18 CallPres (Prison 1.101 PRI 19 CallPres (Prison 1.000 PRI 20 CallPres (Prison 1.000 PRI 21 CallPres (Prison 1.000 PRI 22 CallPres (Prison 0.000 PRI 23 Min PCal Painto H% 0.0000 PRI 24 Brows FGE (Prison PRI PRI 23 Min PCal Painto H% 0.0000 PRI 24 Brows FGE (Prison PRI PRI 25 PRI Pressure Units PRI PRI 24 Brows FGE (Prison PRI PRI 25 PRI Pressure Units PRI PRI 26 Brows FGE (Prison PRI Pressure CallPrison PRI Pressure CallPrison 27 CallPrison PRI Pressure CallPrison PRI Pressure CallPrison PRI Pressure CallPrison 28 CallPrison PRI Pressure CallPrison PRI Pressure CallPrison PRI Pressure CallPrison	13	Base Pressure	14.6960	PSI	1	TIT	to stabilize before	e pressing th	e AVERAGE NO	W button. After th	ne laveraiged pressure
10 Collinear 11 - Colling 11 - Collin	14	Atmosphene Pressure	1 0000	PSI		240					
13 Caltree2 Pri-Zeo -4.0014 PSI 20 Caltree1 Pri-Zeo 5.960	17	Calibration P1-Zero	-1.7918	PSI			Live Pressure		0.35064	PSI	
13 Calinder Pr-Clean 40014 Fis 24 Calinder Pr-Clean 8806	18	Cal Prev-1 P1-Zero	-1.B145	PSI				-10 - 10			
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22 CAP Prev2PI-Span 1000 23 Min PCa Point Drff % 50000 24 Breess PCal Change % 1000 87 P1 Prevaule Units P3 112 P1 Transdueri Tys 9 wage 112 P1 Transdueri Tys 9 wage 000 rger Generor Commonitor in the instruction of the instruc	20	Calibration P1-Span	0.9966								
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Apply any two reference pressure to the instance it is ins				e: R500.1 Build V		en Collection			Comm	-	
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13 Base Pressure 1234 000 PSI 14 Atmospheric Pressure 14 6960 PSI 17 Calibration P1-Zero 0.0000 PSI 18 Cal Prev-1 P1-Zero 0.0000 PSI 19 Cal Prev-2 P1-Zero 0.0000 PSI 20 Calibration P1-Span 1.0000 21 Cal Prev-2 P1-Span 1.0000 22 Cal Prev-2 P1-Span 1.0000 23 Min PCal Point Diff % 50.0000 87 P1 Pressure Units PSI	MasterLink Calibrate	٤				er (eltination			Comm	-	
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14 Atmosphrant Pressure 14.6660 PGI 17 Cellbration P1-Zero 0.0000 PSI 18 Call Frev-1 P1-Zero 0.0000 PSI 19 Call Prev-2 P1-Zero 0.0000 PSI 20 Cellbration P1-Span 1.0000 21 Call Frev-1 P1-Span 1.0000 22 Call Frev-2 P1-Span 1.0000 23 Min PCal Point Diff % 50.0000 24 Excess PCal Change % 25.0000 87 P1 Pressure Units PSI	MasterUnk Calibrate P1 Calibration Pressure 1 Zero	P2 Calibration Tempo Celibration	erature Celibrat	uon						0) (Q) admit
N Example Force F	MasterLink Calibrate P1 Calibration Pressure 1 Zero Item liumber	P2 Calibration Tempo Celibration Description	erature Colibrat Volue	ION Unit			to stabilize before	e pressing th	voure to the inte	Contraction of the second) (Q) edmit
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19 Call Prev-2 P1-Zero 0.0000 P31 P1000 match 20 Call braton P1-Span 1.000 Dates 21 Call Frew-1 P1-Span 1.000 Dates 22 Call Frew-2 P1-Span 1.000 Dates 23 Min PCal Point Diff % 50.000 Dates 24 Excess PCal Change % 25.0000 Dates 87 P1 Pressure Units P31 Dates	MasterLink Calibrate P1 Calibration Pressure 1 Zero Item Number 13 14	P2 Calibration Tempo Cellbration Description Base Pressure Atmospheric Pressure	Velue 1234.000	ion Unit PSJ PSJ			to stabilize befor press the NEXT b	e pressing th autton to ente	ssare to the int e AVERAGE HO r a new ZERO o	turment's pressu W botton, Arter tr af point.) (Q) edmit
21 Cal Prev-1 P1-3pan 1.0000 22 Cal Prev-2 P1-Span 1.0000 23 Min PCal PointDiff % 50.0000 24 Excess PCal Change % 25.0000 87 P1 Pressure Units P3t	MasterLink Calibrate P1 Calibration Pressure 1 Zero Item Number 13 14 17	P2 Calibration Tempo Calibration Description Base Pressure Amesphane Pressure Calibration P1-Zero	Verue 1234 000 14 6960 0.0000	ton brut PSI PSI			to stabilize befor press the NEXT b	e pressing th autton to ente	ssare to the int e AVERAGE HO r a new ZERO o	turment's pressu W botton, Arter tr af point.) (Q) edmit
21 Cal Prev-1 P1-Span 1.0000	Mastertink Calibrate P1 Calibration Pressure 1 Zero Item liumber 13 14 17 18	P2 Calibration P2 Calibration Celibration Description Base Pressure Atmospheric Pressure Celibration P1-Zero Cel Prevs1 P1-Zero Cel Prevs1 P1-Zero	Velue 1234.000 14.6560 0.0000	ton Unit PSI PSI PSI	Persion: 9.2.3.0		to stabilize befor press the NEXT b	e pressing th outton to ente	scare in the Inn 4 AVERAGE HO 4 a new ZERO C Averaging	turnent's pressu W button, After th al point. PSI) (Q) edmit
22 Cal Prev2P1-Span 1.000 23 Min PCal Point Diff % 50.0000 24 Excess PCal Change % 25.0000 87 P1 Pressuré Units P3I	MasterLink Calibrate P1 Calibration Pressure 1 Zero Item liumber 13 14 17 18 19	Calibration Tempo Calibration Description Base Pressure Atmospheric Pressure Calibration P1-Zero Cal Prev-1 P1-Zero Cal Prev-2 P1-Zero	Volue 1234.000 14.6560 0.0000 0.0000	ton Unit PSI PSI PSI	Version: 9.2.3.0		to stabilize befor press the NEXT b	e pressing th outton to ente	scare in the Inn 4 AVERAGE HO 4 a new ZERO C Averaging	turnent's pressu W button, After th al point. PSI) (Q) edmit
23 Min PCal Point Diff % 50.000 24 Excess PCal Change % 25.000 87 P1 Pressuré Units P3I	MasterLink Calibrate P1 Calibration Pressure 1 Zero Rem Number 13 14 17 18 19 20	Calibration Tempe Calibration Description Base Pressure Atmospheric Pressure Calibration P1-Zero Cal Prev-1 P1-Zero Cal Prev-2 P1-Zero Calibration P1-Span	Velue 1234.000 14.6960 0.0000 0.0000 0.0000 1.0000	uon Uont PSI PSI PSI PSI PSI	Version: 9.2.3.0		to stabilize befor press the NEXT b	e pressing th outton to ente	scare in the Inn 4 AVERAGE HO 4 a new ZERO C Averaging	turnent's pressu W button, After th al point. PSI) (Q) edmit
24 Excess PCal Change % 25.0000 87 P1 Pressure Units P31	Masterfunk Calibrate P1 Calibration Pressure 1 Zero Item Number 13 14 17 18 19 20 21	P2 Calibration Tempe Cellbration Bescription Base Pressure Atmospheric Préssure Calibration P1-Zero Calibration P1-Zero Calibration P1-Zero Calibration P1-Span Cellbration P1-Span	Velue 1234.000 14.6960 0.0000 0.0000 1.0000 1.0000	una l Unat PSJ PSJ PSJ PSJ PSJ PSJ PSJ PSJ	Version: 9.2.3.0		to stabilize befor press the NEXT b	e pressing th outton to ente	scare in the Inn 4 AVERAGE HO 4 a new ZERO C Averaging	turnent's pressu W button, After th al point. PSI) (Q) edmit
87 P1 Pressure Units P31	Masteriunk Calibrate P1 Calibration Pressure 1 Zero item Humber 13 14 17 18 19 20 21 22	P2 Calibration Tempo Calibration Description Base Pressure Atmospheric Pressure Calibration P1-2ero Calibration P1-2ero Calibration P1-2ero Calibration P1-Span Cal Prev-1 P1-Span Cal Prev-2 P1-Span Cal P1-Span Cal P1-Span Cal P1-Span Cal P1-Span	Volue 1234.000 14.6960 0.0000 0.0000 1.0000 1.0000 1.0000 1.0000	ion Unive PSJ PSJ PSJ PSJ PSJ PSJ PSJ PSJ PSJ PSJ	Version: 9.2.3.0		to stabilize befor press the NEXT b	e pressing th outton to ente	scare in the Inn 4 AVERAGE HO 4 a new ZERO C Averaging	turnent's pressu W button, After th al point. PSI) (Q) edmit
	MasterLink Calibrate P1 Calibration Pressure 1 Zero Item Number 13 14 17 18 19 20 21 22 23		Velue 1234.000 14.6960 0.0000 0.0000 1.0000 1.0000 1.0000 1.0000 59.0000	tion Unit PSI PSI PSI PSI PSI 	Version: 9.2.3.0		to stabilize befor press the NEXT b	e pressing th outton to ente	scare in the Inn 4 AVERAGE HO 4 a new ZERO C Averaging	turnent's pressu W button, After th al point. PSI) (Q) edmit
112 P1 Transducer Type None	Masteriunk Calibrate P1 Calibration Pressure 1 Zero Item liumber 13 14 17 18 19 20 21 22 23 24	P2 Calibration Tempo Calibration Tempo Calibration Description Base Pressure Atmospheric Pressure Atmospheric Pressure Calibration P1-Zero Calibration P1-Zero Calibration P1-Zero Calibration P1-Zero Calibration P1-Span Calibration P1-Span Calibration P1-Span Cal Prev-1 P1-Span Calibration P1-Span Calibration P1-Span Calibration P1-Span	Value 1234 000 14 6960 0.0000 0.0000 1.0000 1.0000 1.0000 1.0000 2.5.0000	tion PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	Version: 9.2.3.0		to stabilize befor press the NEXT b	e pressing th outton to ente	scare in the Inn 4 AVERAGE HO 4 a new ZERO C Averaging	turnent's pressu W button, After th al point. PSI) (Q) edmit

The averaged pressure appears.

3. Click **Change** to enter a zero cal point.

eywell	Master⊔nk						⊘∣©Admin – ć
l •ard	Calibrate						
	P1 Calibration	P2 Calibration Tempo	erature Calibra	tion			
e att	Pressure 1 Zero (Calibration					
	Item Humber	Description	Value	Unit		يس	Apply any 'zero reference' pressure to the instrument's pressure input and wait for the instru-
) ato	13	Base Pressure	14,000	DCI		YIY	to stabilize before pressing the AVERAGE NOW button. After the everaged pressure is displa
si .	14	Atmospheric Pressure	1 Chang	je Pressure Ca	alibration Value		in to enter a new zero/ car point:
) Data	17	Calibration P1-Zero	-1		Reference Pressu	e	8.35064 PSI
	18	Cal Prev-1 P1-Zero	-1		0.35064	951	
) oata	ing.	Cal Prev-2 P1-Zero	:a				Average Dow: Change
	20	Calibration P1-Span	5.03		ERROR I Apply	Gencel	
501	21	Cal Prev-1 P1-Span	1 Source		1412	-	
	22	Cal Prev-2 P1-Span	1.0000				
) 197	23	Min PCal PointD(#%)	58.0000	-			
	24	Excess PCal Change %	2 0000				
Ç. Hiy	87	P1 Pressure Units	PSI				
0.00	112	P1 Transducer Type	Gauge				

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

	Calibrate											
	P1 Calibration	P2 Calibration Temps	erature Calibrat	tion								
	Pressure 1 Zero (Calibration										
	Item Number	Description	Value	Unit		July .	Apply	any 'zero re	ference' pressure	to the instru	ment's pressure input ar	nd wait for the inst
	13	Base Pressure	14.6960	PSI					pressing the AV itton to enter a n		button. After the averag	ed pressure is disp
	14	Atmospheric Pressure	1.0000	PSI		111		1				
	17	Calibration P1-Zero	-1.9424		_		\otimes	ressure	0.1	965	PSI	
	18	Cal Prev-1 P1-Zero	-1.7918		Success I Zero Calibration Successful.							
	19	Cal Prev-2 P1-Zero	-1.8146						Average Now	Change		
	20	Calibration P1-Span	0.9966]				
,	21	Cal Prev-1 P1-Span	0.9989									
	22	Cal Prev-2 P1-Span	1.0000									
	23	Min PCal Point Diff %	50.0000									
	24	Excess PCal Change %	2.0000									
	87	P1 Pressure Units	PSI									
	112	P1 Transducer Type	Gauge			-						

5. 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 Calibrat	on P2 Calibration Temps	erature Calibrat	ion						
Pressure 1	Zero Calibration								
Item Num	ber Description	Value	Unit		July	Apply any 'zero re	eference' pressure to th	e instrumen	t's pressure input and wait for the instru
13	Base Pressure	14.6960	PSI	1	(1)	to stabilize before press the NEXT bi	pressing the AVERAG utton to enter a new ZE	E NOW butt RO cal poin	on. After the averaged pressure is displa t.
14	Atmospheric Pressure	1.0000	PSI		· • ·				
17	Calibration P1-Zero	-1.9424	PSI			Live Pressure	0.2053		PSI
18	Cal Prev-1 P1-Zero	-1.7918	PSI						
19	Cal Prev-2 P1-Zero	-1.8146	PSI				Average Now		
20	Calibration P1-Span	0.9966							
21	Cal Prev-1 P1-Span	0.9989							
22	Cal Prev-2 P1-Span	1.0000							
23	Min PCal Point Diff %	50.0000							
24	Excess PCal Change %	2.0000							
87	P1 Pressure Units	PSI							
112	P1 Transducer Type	Gauge		-					

6. Click Apply.

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

Calibrate								
P1 Calibration	P2 Calloration Tempe	cature Calibrat	tion]					
Pressure 1 Spa	n Calibration							
Item Number	Description	Value	Unit	sec a	naly a pressure reference i	hat exceeds that zero	reference by atles it 50% a	nd wait for th
18	Cal Prev-1 P1-Zero	-1.9424	PBI	- { } "	stalsi lize.			
19	Cal Prev-2 P1-Zero	Restor	e Line Pressure		\otimes	120.0046	PSI	
20	Calibration P1-Span	0.		ess, first restore normal line pressure turn to calibration click Recalibration	to the			
21	Cal Prev-1 P1-Span	0.	P1 Gas Pres	sure : 100.0046 PSI	Avera	ellow Coxee		
22	Cal Prov 2 P1-Span	.0	-					
23	Min PCal Point Diff %	50	Recalifira	ste Done				
24	Excess PCal Change %	2 0000	1777					
87	P1 Pressure Units	PSI	1777					
112	P1 Transducer Type	Gauge						
120	Calibration Date Pt Press	12-22-16	MM-DD-YY					
B7	P1 Pressure Units	PSI						
112	P1 Transducer Type	Oauge		*				

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

9. For Recalibration, click Recalibrate and repeat the same process.

4.5.2 Pressure Calibration P2

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

Honeywell	MasterLink									? Q Admin = #	×
Dashboard	Calibrate										
© Site	P1 Calibration	P2 Calibration Temper	ature Calibrati	on							
G Viewe∕ Edit	Pressure 2 Zero (Calibration									
Ø	Item Number	Description	Value	Unit		~		Apply any 'zero re	ference' pressure to the instru	ument's pressure input and wait for the instrum	hent
Calibrate	13	Base Pressure	14.6960	PSI		^ <u>{</u>]}		pressing the AVERAGE NOW atton to enter a new ZERO cal	button. After the averaged pressure is displaye point.	؛d,
9	14	Atmospheric Pressure	1.0000	PSI		- `	• •				
Read Data	23	Min PCal Point Diff %	50.0000					Live Pressure	100.006	PSI	
	24	Excess PCal Change %	2.0000								
C Live Data	407	P2 Transducer Type	Gauge						Average Now Chang		
	408	P2 Pressure Units	PSI								
Administer	410	Calibration Date P2 Press	12-14-16	MM-DD-YY							
	414	Calibration P2-Zero	-1.9972	PSI							
Ø Settings	415	Cal Prev-1 P2-Zero	-1.7918	PSI							
	24	Excess PCal Change %	2.0000								
Security	87	P1 Pressure Units	PSI								
	112	P1 Transducer Type	Gauge			Ŧ					
Ч£											
Ĩ					Done		ation				
Disconnect 🔵	Connected r EC 350)) 🔲 EC350 00000000 - 0000	0000 Release	: R500.1 Build Ve	rsion: 9.2.3.0				Comm N	Aonitor Send Capture Buffer to Fil	<u> </u>

4.5.3 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:

- 1. 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.
- 2. Click **Average Now**. MasterLink Software Application averages the reading and displays the average temperature.

1	Calibrate							
it	P1 Calibration	P2 Calibration Temp	erature Calibr	ration				
	Temperature Zero	Calibration						
	Item Number	Description	Value	Unit	July			bration bath and wait for the tempera
a	31	Case Temperature	22.84	c	î (l	reading to stabilize be temperature.	fore accepting or changing the t	emperature to match the zero referen-
	34	Base Temperature	15.56	C	· · · ·	•		
	35	Calibration T-Zero	-0.9719	C		Live Temperature	-18.39	F
	35	Cal Prev-1 T-Zero	-0.9019	С			Average Novy Chenge	
or	37	Cal Prev-2 T-Zero	-0.8599	С			Average Now Shirings	
	38	Calibration T-Span	1.0000					
	39	Cal Prev-1 Temp-Span	1.0000					
	40	Cal Prev-2 Temp-Span	1.0000	200				
	41	Min TCal Point Diff %	10.0000					
	42	Excess TCal Change %	2.0000					
	89	Temperature Units	с		101			
2	121	Calibration Date Temp	09-16-16	MM-DD-YY	*			

Calibrate											
P1 Calibration	P2 Calibration Temp	perature Calibr	ration								
Temperature Zero	o Calibration										
Item Number	Description	Value	Unit		Jec.	losert the temperat	une sensor i	n e kovitemp	erature calita	ation bath and w	ait for the
31	Case Temperature	22.84	C	-	-(1)	reading to stabilize temperature.	before acce	apting or char	nging the ter	nperature to mat	ch the aer
34	Base Temperature	15.56	С		4.						
35	Calibration T-Zero	-0.9719	С	\cap		Live Temperature		Averaging		F	
35	Cal Prev-1 T-Zero	-0.9019	C	U			-				
37	Cal Prev-2 T-Zero	-0.8699	С	Please wait			Avere	ge Now			
38	Calibration T-Span	1.0006		Particip							
39	Cal Prev-1 Temp-Span	1.0000	. 112	Dancel							
40	Cal Prev-2 Temp-Span	1.0000	-								
41	Min TCal Point Diff %	10.0000	100								
42	Excess TCal Change %	2.0000									
89	Temperature Units	С									
121 onnected ् स्ट ३४ MasterLink Calibrate	Calibration Date Temp	09-16-16	MM-DD-YY		ar (thilinathar	_	-	Comr	n Neniter	Send Cept	
onnected (=c.3s MasterLink	a) 🟳 essement dondocad -		lease R500 1 Build		n (dateanar			Сотл	n Monitor		
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mnected (EC 35 MasterLink Calibrate 11 Calibration emperature Zero	o) [] ec3edate occorcor - P2 Calibration Temp o Calibration	perature Calibr	lease R500 1 Build			Inset the temperat reading to stabilize		n a luo temp	etature califa	() () a	amio Hait for the
Innected (EC 35 MasterLink Calibrate 1 Calibration emperature Zero Item Number	o) [] ecselere econocoe - P2 Calibration Temp o Calibration Description	perature Calibr Value	lease R600.1 Build					n a luo temp	etature califa	() () a	amio Hait for the
Innected (EC 35 MasterLink Calibrate 1 Calibration emperature Zero Rem Number 31	o) [] ecisience doublood - P2 Calibration Temp o Calibration Description Case Temperature	perature Calibr Value 22.84	Tation		$\hat{\mathbf{Q}}$	reading to stabilize		n a luo temp	etature califa	() () a	amio Hait for the
Innecled (EC 35 MasterLink Calibrate 1 Calibrate 1 Calibration mem Rumber 31 34	O) [] ecisies deviation - P2 Calibration] Temp Calibration] Description Case Temperature Base Temperature	perature Calibri Value 22.84 15.55	ration		$\hat{\mathbf{Q}}$	reading to stabilize temperature.		n a low temp	etature califa	(2) (2) at ation beth and a nperature to mat	amio eait for the
Innected (EC 35 MasterLink Calibrate In Calibration In Calibratio In Calibration In Calibration In Calibration In	0) Clipic ecisibase 000000000 P2 Calibration Temp 0 Calibration Temp 0 Calibration Case Temperature Base Temperature Calibrator T-Zero	value 22.84 15.55 -0.9719	ration		$\hat{\mathbf{Q}}$	reading to stabilize temperature.		n e loo temp apting or char -20	etature califa	(2) (2) at ation beth and a nperature to mat	amio eait for the
Annected (EC 35 MasterLink Calibrate Calibrate Calibrate Calibration Calibration Calibration Calibration Calibrate Calibr	0) Calibration Temp P2 Calibration Temp 0 Calibration Temp 0 Calibration Calibration Description Case Temperature Base Temperature Calibrator T-Zers Calibrator T-Zers Calibrator T-Zers Calibrator T-Zers Calibrator T-Zers	00003000 Re perature Calibr Value 22.84 15.58 -0.9719 -0.9019 -0.8599 -0.8559	ration		$\hat{\mathbf{Q}}$	reading to stabilize temperature.	before acce	n e loo temp apting or char -20	etature calita riging the ter	(2) (2) at ation beth and a nperature to mat	amio eait for the
Innected (ECSS MasterLink Calibrate 1 Calibration 1 Calibration 1 Calibration 31 34 35 35 37 38	0) []] ec3state 00000000 - P2 Calibration Temp b Calibration Temp b Calibration Calibration Case Temperature Ease Temperature Calibration T-Zero Calibraton T-Zero Calibrator T-Zero Calibrator T-Span	second control Residence perature Calibrit Value 22.84 15.56 -0.9719 -0.9019 -0.8699 1.0000	lease R500.1 Build		$\hat{\mathbf{Q}}$	reading to stabilize temperature.	before acce	n e loo temp apting or char -20	etature calita riging the ter	(2) (2) at ation beth and a nperature to mat	amin eait for the
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Annecled (50.35 MasterLink Calibrate Calibrat	 Calibration P2 Calibration Temp Calibration Description Case Temperature Base Temperature Calibration T-Zero Cal Prev-1 T-Zero Cal Prev-2 T-Zero Cal Prev-2 T-Zero Cal Prev-1 Temp-Span Cal Prev-2 Temp-Span Min TCal Point Diff % 	00000000 Res perature Calibr Value 22.84 15.56 -0.9019 -0.8599 1.0000 1.0000 1.0000 1.0000	ration		$\hat{\mathbf{Q}}$	reading to stabilize temperature.	before acce	n e loo temp apting or char -20	etature calita riging the ter	(2) (2) at ation beth and a nperature to mat	amio eait for the
Annecled (50 as MasterLink Calibrate En Calibrate Emperature Zero Item Number 31 34 35 35 37 38 39 40 41 42	0) Clipic ecisibation 000000000 P2 Calibration Temp 0 Calibration Description Case Temperature Base Temperature Base Temperature Calibration T-Zero Calibration T-Zero Calibration T-Zero Cal Prev-1 T-Zero Calibration T-Span Cal Prev-2 Temp-Span Min TCal Point Diff % Excess TCal Change % Excess TCal Change %	00000000 Res perature Calibr 22.84 15.55 -0.9719 -0.8599 1.0000 1.0000 1.0000 1.0000 2.0000	Tation		$\hat{\mathbf{Q}}$	reading to stabilize temperature.	before acce	n e loo temp apting or char -20	etature calita riging the ter	(2) (2) at ation beth and a nperature to mat	amio eait for the
Annecled (50.35 MasterLink Calibrate Calibrat	 Calibration P2 Calibration Temp Calibration Description Case Temperature Base Temperature Calibration T-Zero Cal Prev-1 T-Zero Cal Prev-2 T-Zero Cal Prev-2 T-Zero Cal Prev-1 Temp-Span Cal Prev-2 Temp-Span Min TCal Point Diff % 	00000000 Res perature Calibr Value 22.84 15.56 -0.9019 -0.8599 1.0000 1.0000 1.0000 1.0000	ration		$\hat{\mathbf{Q}}$	reading to stabilize temperature.	before acce	n e loo temp apting or char -20	etature calita riging the ter	(2) (2) at ation beth and a nperature to mat	amio Hait for the

3. Click **Next** to the change the value to accurately match the temperature measured by the calibrated thermometer placed in the low temperature bath. Click **Apply**.

Contraction Sector Temperature Zero Calibration Sector Temperature Calibration Sector Cale Temperature Cale Temperature Sector Cale Temperature Cale Temperature Cale Temperature Sector Cale Temperature Cale Temperature Cale Temperature Cale Temperature Sector Cale Temperature	sdmin - C >	⑦ ② admin		Þ					🖩 MasterLink	oneywell
Reference Pressure 150 43 F 38 Calibration 1-Span 100 39 Calibration 1-Span 100 39 Calibration 1-Span 100 39 Calibration 1-Span 100 41 Min TCal Point Diff % 100000 42 Excess TCal Chaipe % 20000 43 Temperature 1-Span 1000 44 Biose Temperature 1-Span 100 41 Min TCal Point Diff % 100000 42 Excess TCal Chaipe % 20000 43 Temperature 1-Span 10000 43 Temperature 1-Span 10000 44 Min TCal Point Diff % 100000 43 Temperature 1-Span 10000 44 Min TCal Point Diff % 100000 42 Excess TCal Chaipe % 20000 43 Temperature Units C 43 Temperature Units C									Calibrate	
Cantered Terms Provide Calibration T-Span 1000 Sector						ration	erature Calibr	P2 Calibration Temp	P1 Calibration	G) Geor' Edit
31 Case Temperature 228 24 Base Temperature 158 25 Calibration T-Zero 0.03 36 Calibration T-Zero 0.03 37 Calibration T-Zero 0.03 38 Calibration T-Jpan 1.00 39 Calibration T-Jpan 1.00 41 Min TCal Point Diff % 100000 42 Bices TCal (Change % 20000								Calibration	Temperature Zero	
31 Case Temperature 223 34 Base Temperature 155 35 Calibration T-Zero 0.3 36 Calibration T-Zero 0.3 37 Calibration T-Span 1.00 38 Calibration T-Span 1.000 39 Cal Prev-1 Temp-3pan 1.000 41 Min TCal Point Diff % 10.000 42 Bicess TCal Change % 2.0000 38 Temperature Units C	wait for the temperature	ubation beth and wait	perature sensor in a low temperature calif.	Josef the terminer		Unit	Value	Description	Item Number	0
34 Base Temperature 156 35 Calibration T-Zero 0.37 36 Calibration T-Zero 0.38 37 Calibration T-Span 100 38 Calibration T-Span 100 39 Calibration T-Span 1000 41 Min TCal Point Diff % 10.000 42 Excess TCal Change % 20000 88 Temperature Units C	tch the zero reference	temperature to match t	tilize before accepting or changing the ter	reading to stabiliz	A.		22.8	Case Temperature	31	
35 Calibration T-Zero 0.37 Calibration T-Zero 0.38 36 Calibration T-Zero 0.39 158 r 37 Calibration T-Span 1.00		F	and a second sec	Ç	alibration Value	nge remperature	15.5 Char	Base Temperature	34	
3.5 Call Prev 7 Factor -0.8 37 Call Prev 7 T-span -0.08 38 Calloration T-Span 1.00 39 Call Prev 7 Temp-8pan 1.000x 40 Call Prev 2 Temp-9pan 1.000x 41 Min TCal Point Daff % 10.0000			100,70		Reference Pressure		-0.9.5	Calibration T-Zero	35	
37 Call Prev2 Temp-Span 1.00 38 Call Intration T-Span 1.00 39 Call Prev2 Temp-Span 1.000 40 Call Prev2 Temp-Span 1.000 41 Min TCall Point Diff % 10.0000 42 Excess TCal Change % 2.0000 89 Temperature Units C			Average Now Change		158 F		-0.90	Cal Prev-1 T-Zero	35	-
38 Calibration 1-3pan 1.0 ENRICHI Acros Carrent 39 Cal Frev-1 Temp-3pan 1.00			71				-0.86	Cal Prev-2 T-Zero	37	
Section 39 Call Prev2 Temp-Span 1.000ar 40 Call Prev2 Temp-Span 1.0000 41 Min TCal Point Diff % 10.0000 42 Excess TCal Change % 2.0000 89 Temperature Units C				Cancel	HII Apply		1.00	Calibration T-Span	38	
40 Cal Prev2 Temp-9pan 1.000 41 Min TCal Point Diff % 10.000 42 Excess TCal Change % 2.0000 89 Temperature Units C							1.00	Cal Prev-1 Temp-Span	39	
Security 41 Interference Occurs 42 Excess TCal Change % 2.0000 89 Temperature Units C						-	1.0000	Cal Prev-2 Temp-Span	40	
42 Excess TCal Change % 20000 89 Temperature Units C						100	10.0000	Min TCal Point Diff %	41	
Uedote 09 Perioperature Official C							2.0000	Excess TCal Change %	42	
							с	Temperature Units	89	
					*	MM-DD-YY	09-16-16	Calibration Date Temp	121	
Done States Herman					Done					-
Comm Monitor - Send Capture Comm Monitor - Send Capture Comm Monitor - Send Capture										

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

neywell	MasterLink								() () A	dimin 📜 🗗
thboard	Calibrate									
Q Bite	P1 Calibration	P2 Calibration Temp	perature Calibr	ration						
🛐 ar Edit	Temperature Spa	n Calibration								
	Item Number	Description	Value	Unit		يىر	Set the temperature i	nput to exceed the zero re	ference temperature by atl	east 15% of the rated
🕐	31	Case Temperature	74.45	F		• { } •	emperature range a	nd wait for the reading to s	tabilize.	
_	34	Base Temperature	60.01	F		- 3 • C		157.02	F	
Data	35	Calibration T-Zero	-1.3859	F	Marria	(emperature	157.02	F	
	36	Cal Prev-1 T-Zero	-1.4949	F A	Warning Attempting to write unaccept	able data value to a		Average Now Cł	hange	
Data	37	Cal Prev-2 T-Zero	0.0545	F	particular Item number (form	at or range issues).				
	38	Calibration T-Span	1.0039			_				
🚰 inister	39	Cal Prev-1 Temp-Span	1.0006							
	40	Cal Prev-2 Temp-Span	1.0000							
9	41	Min TCal Point Diff %	10.0000							
tings	42	Excess TCal Change %	2.0000							

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.

Honeywell	MasterLink								? Q Admin	– <i>-</i> ×
Dashboard	Calibrate									
Q Site	P1 Calibration	P2 Calibration Temp	perature Calibr	ration						
(Gj) View∉ Edit	Temperature Spa	n Calibration								
\bigcirc	Item Number	Description	Value	Unit				put to exceed the zero referen		5% of the rated
Calibrate	31	Case Temperature	74.45	F	1	temper	rature range an	d wait for the reading to stabil	ize.	
•	34	Base Temperature	60.01	F			mperature	156.91	F	
Read Data	35	Calibration T-Zero	-1.4949	F		\otimes	in portaidro			
	36	Cal Prev-1 T-Zero	0.0545	F 📿	Success I Span Calibration Successful.			Average Now Change		
Live Data	37	Cal Prev-2 T-Zero	0.0545	F	opan oanstation oaccoola.					
	38	Calibration T-Span	1.0039							
Administer	39	Cal Prev-1 Temp-Span	1.0006							
	40	Cal Prev-2 Temp-Span	1.0000							
Settings	41	Min TCal Point Diff %	10.0000							
	42	Excess TCal Change %	2.0000							

5. After the reading stabilizes, click Average Now.

MasterLink Software Application averages the reading and displays the average temperature.

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

Calibrate										
P1 Calibration	P2 Calibration Temp	perature Calibr	ration							
Temperature Zero	o Calibration									
Rem Number	Description	Value	Unit		July.	losed the temperat	ture sensor in a law	temperature ca	libration bath and wait	for the terry
31	Case Temperature	22.8	- Temperature	Calibration Value	TIX	reading to stabilize		e changing the	temperature to match I	he zero refer
34	Base Temperature	15.5	ige ieniperature	Calibration value		e.	-	56.43	F	
35	Calibration T-Zero	-0.93		Reference Pressu	re					
36	Cal Prev-1 T-Zero	-0.90		158	F		Average Nov	Chinge		
37	Cal Prev-2 T-Zero	-0.86			_	0	-			
38	Calibration T-Span	1.00	- <u>i</u> ii	RROR (Apply	Cancel					
39	Cal Prev-1 Temp-Span	1.00								
40	Cal Prev-2 Temp-Span	1.0000								
41	Min TCal Point Diff %	10.0000	127							
42	Excess TCal Change %	2.0000								
89	Temperature Units	С								
121	Calibration Date Temp	09-16-16	MM-DD-YY	+						

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

P1 Calibration P2 Calibration Temperature Calibration Temperature Zero Calibration Volue Unit 31 Case Temperature 22.92 34 Base Temperature 22.92 35 Calibration T-Zero 0 36 Calibration T-Zero 0 37 Calibration T-Span 1 39 Calibration T-Span 1.000 40 Cal Free-2 Temp-3pan 1.000		Calibrate							
Item Number Description Value Unit 31 Cese Temperature 22.92 C reading to stabilize before accepting or changing the temperature calibration beth and an reading to stabilize before accepting or changing the temperature to mathematic temperature. 34 Base Température 17 Restore Température Image: Temperature temperature temperature to mathematic temperature temperature to mathematic temperature. 35 Calibration T-Zero 0 To Complete the Calibration process. Test rescue normal the temperature to the instrument and then tick Done. To return to calibration. Clock Recelluration 36 Calibration T-Zero 0 37 Cal Prev-2 T-Zero 0 38 Calibration T-3pan 1 39 Cal Prev-1 Temp-3pan 1.0000		P1 Calibration	P2 Calibration Tempo	erature Calibra	ation				
31 Case Temperature 22.92 C 34 Base Temperature 11 35 Calibration T-Zero 0 36 Calibration T-Zero 0 37 Calibration T-Span 1 39 Calibration T-Span 1.0000	1	Temperature Zero	Calibration						
31 Case Temperature 22 62 C 24 Base Temperature 17 25 Calibration T-Zero 0 36 Calibration T-Zero 0 37 Calibration T-Zero 0 38 Calibration T-Span 1 39 Calibration T-Span 1.0000		Item Number	Description	Value	Unit	يبين	losed the temperature senso	r in a low temperature ca	sibration bath and wait for the temp
35 Calibration T-Zero 0 36 Cal Prev-1 T-Zero -0 37 Cal Prev-2 T-Zero -0 38 Calibration T-Span 1000		31	Case Temperature	22.92	C				
35 Calibration T-Zero 0 36 Cal Prev-1 T-Zero 0 37 Cal Prev-2 T-Zero 0 38 Calibration T-Span 1 39 Cal Prev-1 Temp-Bpan 1.000		34	Base Temperature	1 Resto	re Temperature	1	\otimes	168.02	1
37 Cal Prev-2 T-Zero 38 Calloration T-Span 39 Cal Prev-1 Temp-3pan		35	Calibration T-Zero	0.2	To Complete the C instrument and the	alibration process, first restore normal line tempera n click Done To return to calibration ,Click Recalibr	ature to the	100.21	-/
38 Calibration T-Span Recisitional Done 39 Cal Prev-1 Temp-Bpan 1.0000		35	Cal Prev-1 T-Zero	-0		Temperature 156.9 F	Ave	ngeNov drage	
38 Calibration T-Span 1 39 Cal/Frev-1 Temp-Span 1.0000 —		37	Cal Prev-2 T-Zero	-0		Treasure and Treasure of			
		38	Calibration T-Span	: 1		PROCEDUTIONS			
40 Cal Prev-2 Temp-Span 1.000		39	Cal Prev-1 Temp-Span	1.0000	-		· · · ·		
		40	Cal Prev-2 Temp-Span	1.0000	—				
41 Min TCal Point Diff % 10.0000		41	Min TCal Point Diff %	10.0000					
42 Excess TCal Change % 2.0000		42	Excess TCal Change %	2.0000	_				
89 Temperature Units C —		89	Temperature Units	C	-				
121 Colibration Date Terms 01.01.01 MULDD VV		121	Calibration Date Temp	01-01-01	MM-DD-YY	-			

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

8. For Recalibration, click Recalibrate and repeat the same process.

4.6 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 integrated mode

- When connected to integrated EC 350 over IrDA, logs from MasterLink Software Application R500.1 cannot be downloaded.
- When connected through TCP/IP all logs can be downloaded

In EC 350 mode

• When connected to EC 350 tabs corresponding to cellular logs and diagnostic logs are disabled.

Related topics:

Item File

Audit Trail

Alarm Logs

Event Logs

Diagnostic Logs

Cellular Logs

Shortlist

Activity log

4.6.1 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 Cloud Link 4G Modem, *.ECL for EC 350 + Cloud Link 4G Modem).

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

Honeywell	MasterLink 🔿 🕲 Admin 🖕 🗸 🛪
Deshboard	Read Data
8 5110	Item File Audif Trail Alarm Logs Event Logs Diagnostic Logs Cellular Logs Shortlist Activity Log
G) View/Edit	Item File Name: Item Report
0	Sites
Calibrate	Read data from: Connected Ste
Road Data	Report data tram:
Administer	
Ø Sattings	
÷⊈: S≖carity	
¢£	Read Raw Iten File View Edits Report View Edits Report View Edits Report
ø	Competed (#0.350.1 🗖 acistose 0000000 Delease: D500.1 Build Version: 0.2.3.0

Click View Item Report to generate and preview Item report

Honeywell	MasterLink	N	() (Q) admin
Deshboard	Read Data		
2 50=	tem File Audit Trail Alarm Logs Event Logs	Diagnostic Logs Célillar Logs Shortlist Activity Log	
	Item File Name Item Report		Report Options
0	Sites	Item File	
Collorate	Read data from:		
9	Ennected Site	Reading item File	
Read Date	Report data from;	\bigcirc	
Reed Data	Selective mile File Location		
		Please wait	
Administer Ø Sectings		Aboit	
Sectings			
*			
Security			
4ŷ			
12.00		Read Raw Rent File View ten Report View Statistics Proved Colored Proven	
JØ	Connected (50 359) 🗍 #c350ste 00000000 - 00000000 Rele	ase: R500 1 Build Version: 9.2.3.0	Comm Monitor Send Capture Butter to File

The Item File report appears.

tem File	Audit Trail Alarm Logs	Event Logs	Diagnostic Logs Ce	Iular Logs Shortlist .	Activity Log		
tem File Report Name:	Item Report						
Site ID: 0000000	0 00000000 Site Name: ec350s	te Serial Number.	Firmware Version 1.1026 Ite	m File Name: EC350_00000000_1	61213163938JE3		
ltem Number	Item Description	Item Value	Item Units	ttem Number	Item Description	Item Value	Item Units
0000	Corrected Volume	00000011	CCF	1052	P1 Transducer Enable	Yes	() () () () () () (
0002	Uncorrected Volume	0000010	CCF	1053	P2 Transducer Enable	Yes	
0005	Ch-APulses Walting	00000005		1055	T1 Temp Probe Enable	Yes	
0006	Ch-8 Pulses Waiting	00000004		1056	LCD Display On Time	06 00 00	10000
0007	Ch-C Pulses Waiting	00000017		1057	LCD Display Off Time	18 00 00	
0008	P1 Gas Pressure	0.000	PSI	1058	P1 Transducer Alarm	8	
0010	P1 High Alarm Limit	1422335.	PSI	1059	P2 Transducer Alarm	8	
0011	P1 Low Alarm Limit	-71.117	PSI	1061	Battery Pack Type	Alkaline (4 Cells)	
0012	P1 Cal Atmos Pressure	170.6803	PSI	1062	Tamper Status	Tamper Detected	()
0013	Base Pressure	1234.000	PSI	1063	Extern Supply Alarm Tm	00 00 00	()

Export or Print the data.

Click View Site Report under Item File tab to generate site report.

Read Data							
Nem File A	udil Trat Alarm Logs	Event Logs	Diagnostic Logs	Celtular Logs :	Shortlist Activity	rtag	
Site Report							
Report Name II	am Rapod						
Sile ID: 00000000	00000000 Site Name: ec350site	Serial Numbe	r."" Firmware Version:	1026 Item File Name: EC	350 00000000 16121	3163938.IE3	
Volume							
ltem Number	Item Description	Stern Value	Kem Unita				
0000	Corrected Volume	00000011	COF				
0002	Uncorrected Volume	00000010	CCF				
0090	Cor Volume Units	CCF	-				
0092	Unc Volume Units	CCF)				
0096	Con Vol # of Digits	8 Digits	-				
0097	Unc Val # of Digits	8 Dígits					
0090	Meter Index Rate	10 CF	70				
0113	Hi Res Cor Vol	11.0000	CCF				
Pressure							

Click View Calibration Report under item file tab to view calibration report.

Read Data								
Item File A	udit Trail Alarm Logs	Event Logs	Diagnosti	: Logs Cellular Lo	ogs Shortlist	Activity Log		
Calibration Re	noq							
Report Name: It	•							
Site ID: 0000000	00000000 Site Name: ec350si	te Serial Numbe	r: "" Firmware	Version: 1.1026 Item File	Name: EC350_000	00000_161213163938.I	E3	
Volume								
Item Number	Item Description	Item Value	Item Units					
0000	Corrected Volume	00000011	CCF					
0002	Uncorrected Volume	00000010	CCF					
0113	Hi Res Cor Vol	11.0000	CCF					
Pressure								
Item Number	Item Description	Item Value	Item Units					
0008	P1 Gas Pressure	0.000	PSI					
0013	Base Pressure	1234.000	PSI					
0014	Atmospheric Pressure	14.6960	PSI					
0017	Calibration P1-Zero	0 0000	PSI					
	Adobe PDF	-						

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

4.6.2 Audit Trail

Construction II Construction March Construction March II Constr		
Audit Trail Name: Audit Trail Report		Graph Options Report Options
Sites & Logs	Date Range	
Read data from Connected Site Report data from Selected Sites Select Sites	Select dates to use when this report is printed. Today Yesterday This Month Last Month Diswnbrad 12/10/2016 07:15:00 Last N Days 1	Date Range Options Stort Labeet Date 6 Start of Day Time 00:00:00 Exclude data a Todays and time 00:00:00
Log selection	Since: 13-12-2016 00.00.00 From/To 08-12-2016 00.00.00 13-12-2016 10.00.00 00.00 Constants 23:59:59 Constants Date Plange	

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

Application must be connected to an instrument to view Audit Trail reports.

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

- Start by selecting the site. Logs can be read from a connected site (online), or can be retrieved from exiting list of sites (offline). The connected site will be selected by default. For selecting multiple sites use Select Sites option.
- 2. Select the log or select Check All
- 3. Select the Date Range
- 4. Click View to view Audit Trail Report.

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

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

Honeywe	II MasterLink R500.1				00
Dashboard	Read Data				
Q Site	Item File Audit Trail Alarm Logs Event Logs Diagnostic Logs Cellular	Logs Shortlist Activity Log	k		
(i) Vew Edit	Audit Trail Name: Audit Trail Report	7		Audit Trail Report	Without Summary 👻
\odot	Options	Units Selections			Ŷ
Calibrate	Use User Text	· · ·	~	×	~
Read Data	User Text		~]	~	·
⊘ Live Data	Start of gas day should be included	· · ·	~ [~	~
2	Beginning of report	×.	~	~	~
Administer	End of report		~	~	- 3
Settings		-			
Security					
					×
ø	- Back:	Nitew			

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 Units Selections.
- 4. Click View.

The Audit Trail Report appears based on selected criteria.

Item File Audit Ti	rail Alarm	Logs Ever	nt Logs Di	agnostic Logs	Cellular Log	s Shortlist	Activity Log				
					0.160						
Report Name: Aud	I1 Trail Report				Audit T	rail Report					
Report Selections: 1 si		11-01 00:00:00 To	2016-11-30 23:5	9:59				Site info :	00000000:00000000	• • Log#: *	1 •
Site ID: 0 0 Log1 Site N	ame: ec350site	Site Location In	rd								
			P1	I	-					T.	-
Log Date and Time	Incremen tal Cor	Incremen tal Unc	Interval Avg	Interval Avg Gas	Battery Voltage	Correcte d Volume	Uncorrec ted	P1 Gas Pressure	Gas Temperat	Case Temperat	Batt Low
-	Vol (CCF)	Vol (CCF)	Press (PSI-G)	Temp (C)	Reading (VOLTS)	(CCF)	Volume (CCF)	(PSI-G)	ure (C)	ure (C)	(VC
11/25/2016 4:10:00 PM	0	0	.000	-94.17	4.591	9	321322	.000	-94.17	24.18	46
11/25/2016 4 15:00 PM	0	0	.000	-94 16	4 591	9	321322	.000	-94.12	24.20	4.6
11/25/2016 4:20:00 PM	0	0	.000	-94.17	4.586	9	321322	.000	-94.26	24.23	4.6
11/25/2016 4:25:00 PM	0	0	.000	-94.17	4.586	9	321322	000	-94.14	24.23	4.6
11/25/2016 4 30:00 PM	0	0	.000	-94.17	4.588	9	321322	000	-94.19	24.23	4.6
11/25/2016 4.35:00 PM	0	0	.000	-94.16	4.588	9	321322	.000	-94.09	24.28	4.6
11/25/2016 4:40:00 PM	0	0	.000	-94.16	4.587	9	321322	.000	-94.16	24.33	4.60

You can choose to Export or Print the data.

4.6.2.1 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.

MasterLink								⑦ ② Admin -
Read Data								
Item File Au	dit Trail Alarm Logs Ev	ent Logs Diage	nostic Logs Cellular	Logs Shortlist	Activity	Log	ľ.	
Audit Trail Na	me: Audit Trail Report							Graph Options Report Opti
Sites & Logs				Date Range		_		
Read data from:				Select dates to use	when this repor	t is prin	ted:	Date Range Optio
Connected Ste				🔿 Today				Sort Latest 0
Report data from:				O Yesterday				Start of Day T
1.1.1				 This Month 				00:00:00
Selected Sites	EC350 + Cloud Link 00000123 - 00000	123 Select Stes		C Last Month				Exclude o
	EC 350 0000000 - 00000000			- lincelast				Todays end bn
				Dewnload 🤍				00:00:00
			(1)	🔿 Last N Days	1			
-			~	Since	21-12-2016	雦	00:00:00	
Log selection			Check All	From/To	01-08-2015	Î	00:00:00	
Contraction of the second	-		and the second se		21-12-2016	Î	23:59:59	
🖌 Log 1	Log 2 Log 3	Log 4	Log 5		Cal	oulate D	ate Range	
						*******	100 C 100 C 10	

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

- 1. Start by selecting the site from the Site and Logs section.
- 2. Select one log out of 5 logs.
- 3. Select the Date Range

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

- Selecting today, will report data from 12-hours up to the time the report is begun.
- 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.
- The Last Month reports back 30 days.
- If Last N Days is chosen, enter the number of days.
- When selecting either Since or From/To, date and time fields appear on the screen for input.

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

Audit Trail Graph				
Y Axis Item	Y Min	YMax	Color	Line Style
Corrected Volume *	0	100	🔴 Red 🛛 🔻	Solid Line(Vedium) +
Uncorrected Volume	0	100	🔵 Blue 🗸 🗸	Solid Line(Medium) +
P1 Gas Pressure *	0	100	Green +	Solid Line(Medium) *
Gas Temperature •	0	100	😑 Orange 🔹 🔹	Solid Line(Medium) •
				6

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

- 1. 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
- 3. Click Show Graph. The Audit Trail Graph appears based on the selected criteria.

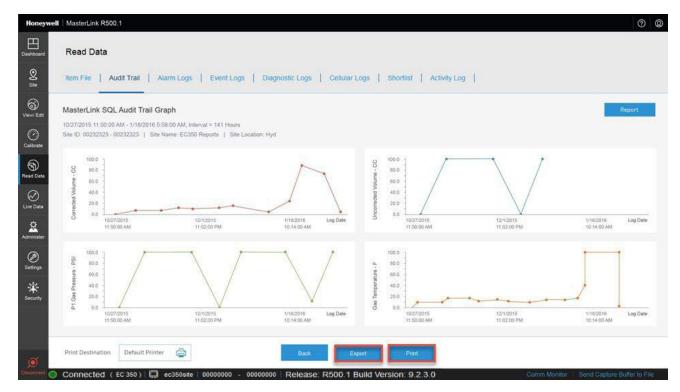
Audit Trail Graph - Save Setup

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 to view Audit Trail Graph.

You can choose to Export or Print the data.

4.6.3 Alarm Logs

Use the 'Alarm Logs' tab to read and view all alarm activity data from a connected instrument. An Alarm Log record is defined as any alarm activity, which includes new alarms, alarms acknowledged as well as alarms that have been cleared. Alternatively, you can choose to select a list of sites and then generate a report.

4.6.3.1 For Selected sites

<u>®</u> 5110	Item File Audit Trail Alarm	Logs Event Logs Diagnostic Logs	Cellular Logs Shortlist	Activity Log	1		
3) √ =an	Alarm Logs Name Alarm Log R	Report					Report Optione
3	Sites		Date Range				
librate	Read data from:	6	Select dates to use	when this report is p	inted:		Date Range Options
Ð	Connected Site		1) O Today				Sort Latest Date Fir
d Data	Report data from:		O Yesterday				
\odot	O Selected Sites	theoret titles	O This Month				
- Dete			C Last Month				
Ċ.			O Since Last Download	12/10/2016 07:1	158		
ninister			🔿 Läst N Days	1			
Ð			Since	21-12-2016	7.		
ttings			From/To	01-12-2016			
¢:				21-12-2016	23:59:59		
starity					Date Hange	2	

Start by selecting sites.

Honeywe	II MasterLink						(곗 🔘 admin 🛛 🗕 🗗 🗙
Dashboard	Read Data							
<u>©</u> 5110	Item File Audit Trail Alar	m Logs Event Logs	Diagnost	ic Logs Cellular Logs	Shortlist Activi	ly Log		
(G) View/Edit	Selected Sites							
0	Instrument 💽 Select Al	Sile List				Selected Sites		
Calibrate	V EC 350	Site ID +	Туре	Site Name		Site ID +	Туре	Site Name
0	Cloud Link	00000000-00000000	EC 350	ec350site		0000000 - 0000000	EC 350	ec350site
Read Data	EC350 + Cloud Link							
\otimes								
Live Dete					Add Al			
Administer					Remove At			
Ø Settings								
<u>ж</u>			Г			7		
Security			S	elect the instrument	and the site			
6P			_	GK Car	cel	-		
ø		and a second						

Select the date range of the report and then click **View**. The Alarm Logs appear based on your selected criteria. You can choose to **Preview** or **Print** the data.

em File	Audit Trail	Alarm Log	is Eve	ent Logs Diagnostic I	ogs Ce	llular Logs Short	tlist Activity Log			
						Alarm Log Report				
eport Name: eport Selectio		og Report From 2016-11-0	1 00 00 00 Te	0 2016-11-30 23 59 59				51	te info : 00000000.00000000	
ite ID: 00 Si	le Name: ec3	50site Site Loc	ation: hyd							
Date	Time	Alarm Type	Item #	Alarm Desc	Alarm Value	Alarm Limit				
11/25/2016	16:53:15	Alarm Ack	1058	P1 Transducer Alarm	8	0000000				
11/25/2016	16:53:15	Alarm Ack	1025	Supercompress Alarm	10	00000000				
11/25/2016	16:53:15	Alarm Ack	104	System Alarms	16384	00000000				
11/25/2016	16:53:15	Alarm Ack	1059	P2 Transducer Alarm	8	00000000				
11/25/2015	16:53:15	Alarm Ack	107	Tamper Detected Alarm	11111111	00000000				
11/25/2016	16:53:15	Alarm Ack	1335	Temp Probe Alarms	4	0000000				
11/25/2016	16.53.14	Alarm Ack	144	Temperature Low Alarm	-94.13	-37.22				
11/25/2016	16:45:40	Narm	107	Tamper Detected Narm	1111111	0000000				
11/25/2018	16 45 40	Alarm	104	System Alarms	16384	0				

4.6.3.2 For Connected site

Honeywell	MasterLink				⊘ 🔘 Admin 🗕 🗗 🗙
Deshboard	Read Data				
<u>0</u> 5110	Item File Audit Trail Alarm Logs Event Logs Diagnostic Logs Cellular L	ogs Shortlist	Activity Log	1	
(i) View/Edit	Alarm Logs Name: Alarm Log Report				Report Optione
0	Sites	Date Range			
Colibrate	Read data from:	Select dates to use	i when this report is p	rinted:	Date Range Options
9	Connected Ste	🔿 Today			Sort Latest Date First
Read Data	Report data from:	O Yesterday			
\otimes	O Selected Sites Benefities	🔿 This Month			
Live Deta		🔿 Last Month			
2		O Since Last Dewnload	12/10/2016 07:1	8:58	
Administer		🔿 Last N Days	1		
Ø		O Since		00:00:00	
Settings		From/To		00:00:00	
读			21-12-2016	23:59:59	
Security				: Date Range	2
- (f)					
14		/ew 3			
, e	Connected (EC 350)		_		Monitor Send Capture Buffer to File

Select the date range of the report and then click **View**. The Alarm Logs appear based on your selected criteria. Choose to **Preview** or **Print** the data.

	r,										
Item File	Audit Trail	Alarm Log	ps Eve	nt Logs Diagnostic I	Logs Ce	llular Logs Sh	ortlist Activity	Log			
						Alarm Log Rep	ort				
Report Name Report Selection		og Report From 2016-11-0	1 00 00 00 Te	2016-11-30 23 59 59					Site info	000000000000000000000000000000000000000	100 -
		50site Site Loc	TRANSFORM	1022002000		1200002002					
Date 11/25/2016	Time 16:53:15	Alarm Type Alarm Ack	Item #	Alarm Desc P1 Transducer Alarm	Alarm Value	Alarm Limit					
11/25/2016		Alarm Ack	1056	Supercompress Alarm	10	00000000					
		Alarm Ack	1025	System Alarms	16384	00000000					
	201111	Alarm Ack	1059	P2 Transducer Alarm	8	00000000					
11/25/2016	16:53:15										
		Alarm Ack	107	Tamper Detected Alarm	11111111	00000000					
11/25/2016	16:53:15		107 1335	Tamper Detected Alarm Temp Probe Alarms	11111111 4	00000000					
11/25/2016 11/25/2016	16:53:15 16:53:15	Alarm Ack			4						
11/25/2016 11/25/2016 11/25/2016	16:53:15 16:53:15 16:53:14	Alarm Ack Alarm Ack	1335	Temp Probe Alarms	4 -94.13	0000000					

4.6.4 Event Logs

Use the 'Event Logs' tab to read event data from a connected instrument. An "event" documents an item change in the instrument or an instrument download.

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.

Honeywei	l MasterLink		⊘ 🔘 admin 📔 🗗 🗙
Deshboard	Read Data		
2 5119	Item File Audit Trail Alarm Logs Event Logs Diagnostic Logs Cel	alar Logs Shortlist Activity Log	
(G) View/Edit	Event Logs Name: Event Log Report		Report Options
0	Sites	Date Range	
Colibrate	Read deta from:	Select dates to use when this report is printed;	Date Range Options
9	Connected Ste	🔘 Today	Sort Latest Date First
Road Data	Report data from:	Yesterday	
\otimes	Selected Sites Select Sites	C This Month	
Live Data		Last Month Since Last 12/09/2016 04:12:20	
2		Download	
Administer		C Last N Days 1	
 Sattings 		From/To 08-12-2016 10 00:00	-
E3		13-12-2016 fm 23:59:59	
÷⊈: S≠turity		Colculate Date Range-	
49 -			2
100	Γ	Vew 3	
ø			
Disconnect 🥥	Connected (EC 350) 💭 ac350ata 00000000 - 00000000 Release R500 1 Build Version 9	23.0	Comm Monitor Send Capture Buffer to File

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

1. Event Logs can be read from a connected site. Alternatively, user can select a site from the available list of sites and then generate a report.

Item File Audit Trail	Alarm Logs Event Logs	Diagnostic Lo	gs Cellular Logs	Shortlist Activ	ty Log		
Selected Sites							
Instrument 💟 Sei	ect Al Sile List				Selected Sites		
EC 350	Site ID +	Туре	Site Name		Site ID +	Туре	Site Name
Cloud Link	00000000-00000000	EC 350	ec350site		0000000-00000000		
2 EC350 + Courd Link				Add Al Add Al Remove Remove Al			

- 2. Select the date range of the report.
- 3. Click View. The Event Logs appear based on your selected criteria.

Report Name:	Event Lo	g Report				Event Log	Report				
Report Selectio	ns: 1sile,	From 2016-12	2-08 00:00:00 T	0 2016-12-13 23:59:59							Site Info : 00000000000000000 +
ilte ID: 00 Si	te Name: ec3	50site Site L	ocation: hyd								
Date	Time	Event#	Item #	Item/Event Description	UserID	Туре	As Found	As Left	CalUnit	Comm CRC	Calc CRC
12/09/2016	04:12:20	3966	204	Date	0	ltem Chg NC	01-01-01	12-09-16	0	992C	992C
12/09/2016	02.31.28	3967	203	Time	0	Item Chg NC	04 12 20	02 31 28	0	DD3D	DD3D

4. Preview or Print the data.

4.6.5 Diagnostic Logs

Use the 'Diagnostic Logs' tab to read diagnostic data from a Cloud Link 4G Modem.

Diagnostic logs are applicable to Cloud Link 4G Modem only and would be available when connected to Cloud Link 4G Modem or in integrated mode.

Honeywell	MasterLink R500.1			() 0 - ଟ ×
Dashboard	Read Data Item File Audit Trail Alarm Logs Event Logs Diagnostic Logs Cellular Li	ogs Shortlist	Activity Log	
(i) View Edit	Diagnostic Logs Name: Diagnostic Log Report			
0	Sites	Date Range		
Cuttonete	Read data from:	Select dates to use	when this report is printed:	Date Range Options
9	Connected Ster	Today		Sort Latest Date First
Read Data	Report data from	O Yesterday		
Cive Data	Selected Stes	C This Month		
2		Since Last Downtest	09/28/2016 19:56:21	
Administer		🔿 Last N Days	1	
Ø		O Since	9/28/2016 00.00:00	
Settings		C From/To	9/23/2016 00:00:00	
ж÷			9/28/2016 23:59:59	
Security			Coloris in Data Range	
<i>\$</i> \$				
Update		View		
ø		and the second		

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.

Bead Data				
8 Item File Audit Trail Alarm Logs Event Logs	Diagnostic Logs Cellular Logs Shortlist	Activity Log	i' I	
Diagnostic Logs Name: Diagnostic Log Report				
Sites	Date Range			
Read data from:	Select dates to use	when this report is prin	ited:	Date Range Options
Somected Star	Today			Sort Latest Date First
sd Date Report data from	C Yesterday			
Select Stes Select Stes	O This Month			
e Data	C Last Month			
<u>\$</u>	Since Last Download	09/28/2016 19:56:21		
niniste	C Last N Days	1		
9) Since	9/28/2016	00.00:00	
lings	C From/To	9/23/2016	00:00:00	
ж		9/28/2016	23.59.59	-
Se curity		Calculate C	alle Russe	(2)
69		Tab.		

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

- 1. Start by selecting the required site(s).
- 2. Then select the date range, and finally click View to read the Diagnostic log report.
- 3. You can also choose to Export or Print the data.

4.6.6 Cellular Logs

Use the 'Cellular Logs' tab to read cellular data from a connected Cloud Link 4G Modem. Cellular Logs contain cellular connectivity and communication data of the connected modem.

Honeywell	MasterLink R500.1					0	Q	÷ (5 X
	Read Data Item File Audit Trail Alarm Logs Event Logs Diagnostic Logs Cellular Lt	ogs Shortlist	Activity L	og	61				
5110	Cellular Logs Name: Cellular Log Report								
0	Silles	Date Range							
	Read data from:	Select dates to use	when this report	is print	ed.	c	Nate Range	Options	
9	Connected Ste	Today					Sort L	atest Da	ite First
	Report data from:	O Yesterday							
\odot	Selected Sites	O This Month							
Live Data		🔿 Last Month							
2		Since Last Download	09/28/2016 20	03:30					
Administer		🔿 Lost N Days	1						
Ø) Since	9/28/2016	鎆	00.00.00				
Sattings		C From/To	9/23/2016	鎆	00.00.00				
<u>ж</u> .			9/28/2016	餔	23.59.59				
Security			Gath		to Nation :				
GD			1						
Update		/ew							
100									

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.

Decoded	Read Data				
2 5110	Item File Audit Trail Alarm Logs Event Logs Diag	nostic Logs Cellular Logs Shortlist	Activity Log	0	
()/ Edit	Cellular Logs Name Cellular Log Report				
0	Sites	Date Range			
lationate	Read data from:	Select dates to use	e when this report is pri	inted.	Date Range Options
9	Connected Sto	Today			Sort Latest Date Firs
ad Deta	Report data from	O Yesterday			
\oslash	Selected Stes Select Stes	C This Month			
ve Data		C Last Month			
2		Since Last Downland	09/28/2016 20:03:3	0	
ninister		C Lost N Days	1		
0	V		9/28/2016	00:00:00	
attings		C From/To	9/23/2016	00:00:00	
ф.			9/28/2016	23.59.59	
Security .			GattyMate	Dote Renge	2
49					

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 or Print the data.

4.6.7 Shortlist

Item File Audit Trail Alarm Logs Event Logs	Diagnostic Logs Cellular Lo	gs Shortlist	Activity Lo	g [
Shortlist Name Shortlist Report		-				3	port Oplic
Sites	0	Date Range					6
Read data from:	•	Select dates to (se when this repo	ort is pri	nted:	Date Range	
Connected Ste		🔿 Today				Sori L	atest Dat
🔿 Select tem file	Bernete	🔿 Yesterday					
2		🔿 This Month					
Report data from:		C Last Month					
Selected Sites	Select Sites	🔿 Last N Day	1				
) Since	13-12-2016	箘	00:00:00		
		€ From/To	08-12-2016	1	00:00:00		
0		1.040	13-12-2016	1	23:59:59		
Report item from:			Calco	late Oab	e Range		
Select Shortilist tem file	Babasak						

The Shortlist Template created using <u>Manage Shortlist</u> 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.

4	a							
Item File	Audit Trail Alarm Logs Eve	ent Logs Diagnosti	c Logs Shortlist	Activity Log				
Shortlist Report Name: Report Selectio From: To:	04/08/2015 10:43:00 04/13/2015 10:43:00		72					
Site ID: 00000	Item Description	eports Site Location: Hy Value	Unit	Item Number	Item Description	Value	Unit	
0000	Corrected Volume	00242990	CF	0013	Excess TCal Change %	2.0000	CF	
0002	Uncorrected Volume	00266559	CF	0014	Total Correction Factor	1.0000	CF	
0005	Ch-A pulses waiting	00000000		0015	Press Correction Factor	1.0000	-	
0006	Ch-B pulses waiting	00000000	-	0016	Temp Correction Factor	1.0000	- 22	
0007	Ch-C pulses waiting	00000000	PSI	0017	Aux Correction Factor	1.0000	PSI	
8000	P1 gas pressure	13.775	PSI	0018	Unsquared Supercompress	1.0000	PSI	
0010	P1 high alarm limit	99999.99	PSI	0019	Battery Voltage Reading	2.372	PSI	
	P1 low alarm limit	-1.000	PSI	0020	Battery Low Volt Limit	4.600	PSI	
0011		0.0000	PSI	0021	Shutdown Voltage Limit	4.000	PSI	

You can choose to **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.

4.6.8 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**.

Honeywell	MasterLink				N.										() () admin	13	5	×
Deshboard	Read Data																			
2 510	Item File	Audit Trail	Ala	erm Logs E	vent Logs	Diagnostic L	ogs	Cellular Loj	gs S	Shortlist	Activit	y Log								
(G) View/Edit	Activity Log	Name: A	ctivity Li	og Report														Report	Options	
0	Date Range																			
Colibrate	Select dates to use	when this repo	ort la prin	fledt			Date	Range Option	18											-
9	🔿 Today							Sort Latest Da	ste First											
Read Data	O Vesterday																			
\oslash	🔿 This Month																			
Live Dete	🔿 Last Month																			
2	🔿 Last N Days	1																		
Administer	🔿 Since	13-12-2016		00:00:00																
Ø	From/To	08-12-2016	Î	00:00:00																
Sattings		13-12-2016		23:59:59																
ېنې. Becarity	1	Gak	culate Dri	te Rongo																
€£									Carlos Carlos											
ø								V	lew .											
Decoment (0)	Connected (EC	350) 📮 ad	:350eite	0000000 - 00	00000 Relea	se: R500 1 Bui	ild Version	9.2.3.0				_	 Con	im Moni	tor Se	end Ca	pture i	Buffer	to File	8

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

Honeywel	MasterLink		🕜 🔘 admin 🛛 🗕 🗗 🗙
Deshboard	Read Data		
<u>©</u> 5110	Item File Audit Trail Alarm Logs Event Logs Diagnostic Logs	Cellular Logs Shortlist Activity Log	
) View/Edit	Activity Log Name: Activity Log Report		
0	Options		
Calibrate	Use User Text	Sort Order + Activity: Date + Activity: Type	
Outors	Messages to include	Activity Type Activity Description Activity Duration	
Administer Ø Sattings	Display Activity Duration in Winutes Seconds		
ېنې: Security			
ÇD		Sack View	
	Connected (EC 350)	2004 (C) 200	Monitor Send Capture Buffer to File

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.

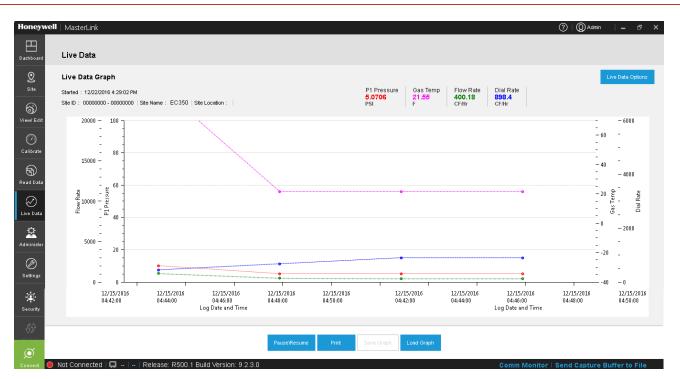
4.7 Live Data

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

- The computer/laptop must be connected to an instrument in order to display a live graph.
- You select which items to graph as well as other graph configuration items.
- 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.

Live Data Grap	h									
ltem to Graph							Graph Configura	ation		
Y Axis Item	Y Min	Y Max	Alarm Low	Alarm High	Graph I	lumber	Y Axis Item	Color		Line Style
P1 Pressure	0	100	-71.117	1422335	4	-	P1 Pressure	O Blue	(4)	Solid Line(Thick)
Gas Temp	-40	170	-37.22	73.89	4		Gas Temp	Green	÷	Solid Line(Thick) •
Case Temp	-40	170	22.06	27.63	.1		Case Temp	Orange	•	Solid Line(Thick)
 Flow Rate 	0	500	0	D	1	*	Flow Rate	🔴 Magenta	•	Solid Line(Thick) +
Dial Rate	0	20000	0	0	1	•	Dial Rate	🔴 Red	•	Solid Line(Thick) •
P2 Pressure	0	100	-1	99999.99	1		P2 Pressure	Ellack	*	Solid Line(Thiol) 👻
Log selection		Show Deta Point or		Draw alarm ines			Reading Interval	X.Axis Width		
Cach liern on se	parace graph	Show Data Point of		Linaw alarm lines			2 Seconds	15 Seconds		

Click Show Graph to view the graph.



Click **Save Graph** to save the Live Graph Setup. By default, .LGV file is saved in the *C*:*Pro-gramData**Honeywell**MasterLink Software Application* *LiveGraphSettings* folder.

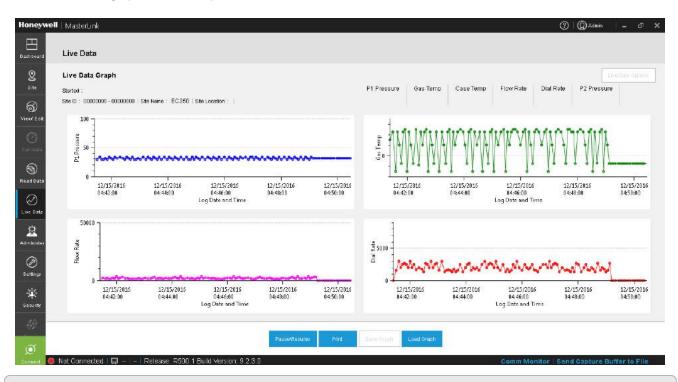
You can view graphs offline as well.

Honeywel	I MasterLink							0	Q Admin –	₽ ×
Dashboard	Live Data									
Site	Live Data Graph Started : Site ID : - Site Name : Site Location :			P1 Pressure	Gas Temp	Case Temp	Flow Rate	Dial Rate	P2 Pressure	
Calibrate										
Read Data										
Contraction Live Data										
Administer										
© Settings										
Security										
€£		PauseVResume	Print	Save Graph	Load Graph					
Connect	Not Connected 🔲 Release: R500.1 Build Version: 9.2.3.0						Comm Mo	nitor Rond	Capture Buffer to	File

Click Load Graph to load saved graphs.

Honeywel	l MasterLink			⑦ ② Admin – ⊡ ×
Dashboard	Live Data			
Site	Live Data Graph Storied : Site ID : - Site Name : Site Location :	Cryanice Very New Folder	← 4 Search LiveGraphValues	Flow Rate Dial Rate P2 Pressure
California California Read Date Live Date Administer			Date modified Type 12/15/2015 6:11 PM LGV File 12/16/2015 10:05 LGV File 12/16/2015 10:07 LGV File 12/15/2016 4:33 PM LGV File 12/12/2015 4:33 PM LGV File 12/12/2015 20:04 LGV File	
Sertings Security		File name: PausotResume Print.	Cancel	

Select the desired graph 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.

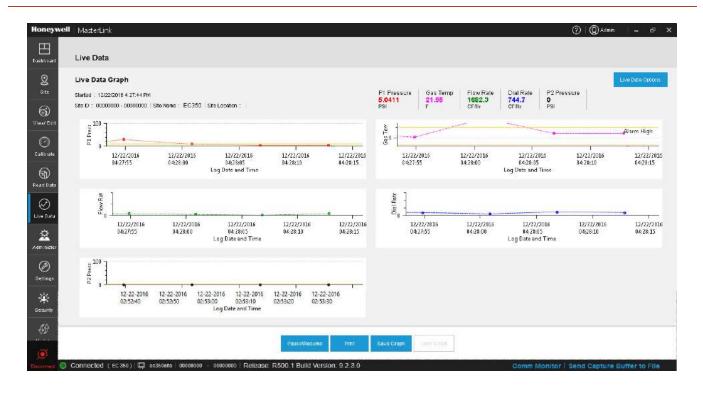
Graph Configuration

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.

Honeywell	MasterLink										? Q Admin	-	ъ×
Dashboard	Live Data												
Q Site	Live Data Graph	1											
63	Item to Graph						Graph Cor	nfiguration					
View/Edit	Y Axis Item	Y Min	Ү Мах	Alarm Low	Alarm High	Graph Numl	oer YAxis Item	Color		Line Style			
\odot	✓ P1 Pressure	0	100	10	100	1	 P1 Pressure 	🔴 Red	•	Dot Line	•		
Calibrate	🗸 Gas Temp	-40	70	-22	122	1	▼ Gas Temp	😑 Magenta	•	Dash Dot Line	•		
Ð	🗸 Case Temp	-40	70	69.79	81.21	1	 Case Temp 	😑 Orange	•	Solid Line(Thick)	•		
Read Data	✓ Flow Rate	0	20000	0	0	1	 Flow Rate 	I Green	•	Dash Dot Dot	•		
\oslash	✓ Dial Rate	0	6000	0	0	2	 Dial Rate 	😑 Blue	•	Dashed Line	•		
Live Data	✓ P2 Pressure	0	100	5	120	2	 P2 Pressure 	• Black	•	Solid Line(Thick)	•		
Administer				a.									
Ø	Log selection						Reading Inte	erval XAxis Width					
Settings	Each item on sepa	arate graph	Show Data Point on I	Lines	Draw alarm lines								
<u>نې</u>		2.	-				1 Se	econds 15 Seconds					
Security													
ЧŶ													
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- 2. Show data points on lines: Data lines may be drawn with or without dots.
- 3. Draw alarm lines: Check this box if the alarm lines are to be drawn on the graph.
- 4. **Reading Interval**: Enter a number for the Reading Interval (in seconds). This option controls the frequency with 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.
- 5. 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 Show Graph to view the graph.

4.8 Administer

Related topics:

Activity Log

Exporting Instrument Data

Importing Instrument Data

Item Template Configuration

4.8.1 Activity Log - Purge

Use Activity log - Purge to permanently delete the activity logs of the MasterLink software application. 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.

Administer Activity Log Export Instrument Data Item Template Configuration	
Activity Log Export Instrument Data Import Instrument Data Item Template Configuration	
Administer Activity Log	
Manual Purge Automatic Purge	
Al Dates No Maximum	
Date Range: Maximum Log Size	
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End Date 14-12-2016 0 0	
Catoulato Date Range	1
Purge activity logs between set dates Configure a logic to automatically logs	purge activity
1093	

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.

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4.8.2 Export Instrument Data

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

Note: Export SQL option is disabled in Masterlink Application

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

- 1. Start by selecting select the export file type
 - LAN, SQL File, and Access File are not supported when MasterLink Software Application is installed with SQLite as database.
- 2. Select the location where you need the instrument data to be exported.
- 3. Select the type of data that.
- 4. Select instrument type.
- 5. A site list gets populated based on your selected instruments. Select the site(es) and use Add/Add All/remove/Remove All to add or remove sites.
- 6. Select the date range.

Click OK to export instrument data.

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×		967387 - 786786	EC350 + Cloud Link	987987.786788			
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4.8.3 Import Instrument Data

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

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	Administer								
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~	Cloud Link	00000000-0000000	EC 350	ec350site			00000000-00000000	EC 350	ec350site
e Data	C350 + Cloud Link					Add Al Germon Remove All			
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5÷		Start Date	13-12-2016	00.00.00	End Date	13-12-2016	23.59.59	6	Coloniste Debi Kon
o t	Connected (EC 350) 📮 ec350ste				ок				Send Capture Buffer to File

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

- 1. Start by selecting select the import file type. SQL or SQLite
 - LAN, SQL File, and Access File are not supported when MasterLink Software Application is installed with SQLite as database.
- 2. Select the physical location of the file to be imported.
- 3. Select the type of data source.
- 4. Select the instrument type.
- 5. A site list gets populated based on selected instrument types. Select the site(es) and use Add/Add All/remove/Remove All to add or remove sites.
- 6. Select the date range.

Click OK to import instrument data.

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<u>©</u> 5118	Activity Log Expo	d Instrument I	Data Import Ins	trument Data	Item Template	Configuration						
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4.8.4 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.

Honeywell	MasterLink			0	🔘 Admin 🗕 🗗	×
Dashboard	Administer					
©. Site	Activity Log Export Instrument Data In	port Instrument Data Item Template Configuration				
Gj View/ Edit	Item Template Configuration					
Ø	Instrument Type	Items		Template Items	Reference Value	
Calibrate	EC 350	0 - Corrected Volume		90 - Cor Volume Units	CCF -	
Ð	Cloud Link	2 - Uncorrected Volume		89 - Temperature Units	F •	
Read Data	EC350 + Cloud Link	5 - Ch-A Pulses Waiting				
\odot		6 - Ch-B Pulses Waiting				
Live Data		7 - Ch-C Pulses Waiting	Add			
*		10 - P1 High Alarm Limit	Remove Remove All			
Administer		11 - P1 Low Alarm Limit	Reliove All			
Ø		12 - P1 Cal Atmos Pressure				
Settings		13 - Base Pressure				
		14 - Atmospheric Pressure				
Security		15 - Press used at P1-Zero				
		16 - Press used at P1-Span	-			
Site	a ID All Site IDs • Site ID 2 00002424	Ť	Save Template File			
Disconnect 🔘	Connected (EC350 + Cloud Link) 🔲 Test 00002424	- 00002424 Release: R500.1 Build Version: 9.2.4.0		Comm Monitor Send	Capture Buffer to File	

While MasterLink Software Application 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.

8	Item Template Config	uration	×	-		7 🖗 Admin 🗕 🗗
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🖏 Homegroup	EC350_CloudLink.TE3	12/21/2016 6:33 PM	TE3 File	ate Configuration		
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ŧ.		15 - Press used at P1-Zen	3			
curity		16 - Press used at P1-Spa				
50		ro - ribeo uesu di Piropa	2			
Site ID ALStell	Ds + Site ID 2 0000242	4 -		Save Template File		e Windows
)					Go to PC	settings to activate Windows.

Note: By default, instrument specific Item Templates are created (EC 350.TE3, Cloud Link.TE3, EC350_ 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. Ensure that the file is saved in *C:\ProgramData\Honeywell\MasterLink Software Application \ItemTemplates* folder.

Administer				
Activity Log Export Instr	ument Data Import Instrument Data Item Template Configurati	on		
Item Template Configuration				
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Cloud Link EC350 - Cloud Link	2 - Uncorrected Volume	\otimes	BO + Temperature Units	F
50 707	6 - Ch-B Pulses 7 - Ch-G Pulses 7 - Ch-G Pulses 10 - P1 High Alarm Limt 11 - P1 Low Alarm Limt 12 - P1 Cal Atmos Pressure 13 - Bose Pressure 14 - Atmosphere Pressure 15 - Press used at P1-Zers	Fully Remove Romive Ab		
ty				

4.9 Settings

Related topics:

Communications Setup

Time-Sync Properties

Auto Download Settings

4.9.1 Communications Setup

The 'Communications Setup'	tab can be used to de	fine the relevant	communication	settings requ	uired for connect	ing to
the instrument.						

Horeywell	MasterLink						Ø	🔘 admin 🛛 🗕 🗗 🗙
Site	Settings							
(G) View'Edit	Communication Set	up Time-Sync Pro	perties Auto Down	load Settings				
O Calibrata	Communications S	ietup						Advanced Settings
9	Serial Port Connection		Modern Connection		Special Connection			
Read Data	Connector	Baud Rate	Connector	Baud Rate	Connector	Baud Rate		
\otimes	сомз •	9600 *		•		•		
Live Data	D IDA		Modem Init String	Dial Prefix	Special Init String	Dial Prefix		
2								
Administer			Modern Type	Dial Type				
(2) Settings			Standard_Hayes_Compat	Tone *				
Security								
¢\$								
Update								
4								
a					OK			
	Connected (EC 350)	ac350site 00000000	- 00000000 Release	R500 1 Build Version	9230		Comm Monitor Send	Capture Buffer to File

Communication settings can be defined for:

- Serial Port
- Modem
- 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

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. **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. Modem Type: Select either Standard Hayes Compatible (default) or the Racal Radio Pad from the drop down list.
- 5. Dial Type: Select either Tone (default) or Pulse from the drop down list.
- 6. **Modem Init String**: Enter the modem initialization string. This string is modem specific.

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: &FQ0E0V0S0=0S12=0X0

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.

Click **Advanced Setup** 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 strong encourages the us		the default s	settings.
Parity		Data Bits	
None •	,	Bit8	•
Stop Bits			
One 🔻	,	Defaul	t Setting

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.

4.9.2 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.

Honeywell	MasterLink	🔿 🔘 admin 💷 🗗 🗙
Site	Settings	
(G) View/Edit	Communication Setup Time-Sync Properties Auto Download Settings	1
Calibrate	Time Sync Properties	
Beed Date	Enable Time-Sync function	
Live Data	Instrument DST Compensation Options Using the PC's date and time as the reference. MasterLink will adjust the instrument's triss to maintain Standard Time DST	
	Time Difference Trigger Point	
© Settings ∰	HH MM SS 0 : 2 : 0	
Socurity GGP Update		
ø	Comported / FOSEN 🗖 actions accordin - accordin Delevere: D500 4 Build V	ore in 2.2.0

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.

4.9.3 Auto Download Settings

The 'Auto Download Settings' tab is used to configure the number of days for which dashboard data is loaded.

ettings						
mmunication Setup	Time-Sync Prope	rties Auto Download Set	ttings			
to Download Settin						
to Download Setun	iys				1	
arm Log		Audit Trail		Event Log	121	
From Last Download	Max. of 35 Days	From Last Download	Max. of 35 Diays	From Last Download	Max. of 35 Days	
) Number of Days	0 Days	Number of Days	0 Days	Number of Days	0 Days	

Edit or modify the auto download settings for the following logs:

- Alarm
- Audit Trail
- Event

Check either From Last Download or Number of Days , enter the number of days and then click OK.

Note: Configure the Number of days as 0 to disable auto download of logs on dashboard.

4.10 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

- Create Users who could log into MasterLink application
- Restrict the user's operation capabilities by assigning roles with specific privileges
- 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.

Related topics:

User Configuration

User Roles

4.10.1 User Roles

A roles 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.

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2 514	User Management			5	
(i) View/Esit	User Configuration User Roles				
Calibrate	Admin_Role	Admin_Role			8
Read Date	user	Full Name Email Admin	Last Accessed 12/12/2016 6:24:41 PM	De	lete the cted role
Uve Data				_	Modify the selected role
2 Administer					
@ Settings					
security					
(f) Update					
<i></i>			Add Nev		
	Connected (EC 350) 📮 ec350eite 000000	00 - 00000000 Release R5	00 1 Build Version, 9.2.3.0	Comm Monitor S	end Capture Buffer to File

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 current role.
- 4. Click Save.

	×
 	1.1

The new role will appear in the list of roles on the 'User Roles' screen.

The following table explains the different privileges that can be assigned to a role:

Privilege	Description
Write Items	Allows users to update item values in the devices
Send Item File	Allows users to update device configuration using item files
Send Log Configuration	Allows users to update log configuration of the device
Send User Table	Allows users to update user access codes specific to the device
Calibration	Allows users to perform tempearture and pressure calibration
Firmware Download	Allows users to perform firmware upgrades
Shut Down Device	Allows users to shut down field devices
Generate Reports	Allows users to generate MaterLink reports
Administer data	Allows users to import and export device data into the database

Privilege	Description
Edit Audit Trail	Allows users to modify the Audit Trail data
User Management	Allows users to create and modify user accounts and roles.

You can edit or delete an existing role.

To edit a role, select the role from the list of roles, and then click $\underline{\mathscr{O}}$ on the top-right corner of the screen. 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 \overline{R} on the top-right corner of the screen.

4.10.2 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 <u>Creating User</u> 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 <u>User Roles</u> 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 <u>User Roles</u> tab.
- 4. Type a password for the user account, and then re-type it to confirm the password.
- 5. Click Save.

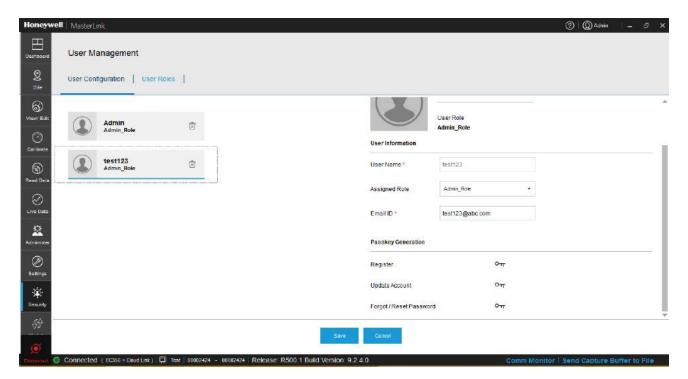
Honeywell	MasterLink					0	(Q) Admin	- 6	×
Dashboard	User Management								
Q Site	User Configuration User	ser Roles							
View/ Edit	Add New User								
Calibrate	\frown	User Information		Password Information					
Read Data		User Name *	test123	Password *	*********				
\oslash		Assigned Role	Admin_Role •	Confirm Password *	****				
Live Data	Usemame	Email ID *	test123@abc.com						
Administer									
Settings									
Security									
<i>\$</i> \$				Save Discard					
Disconnect	Connected (EC350 + Cloud Lin	k) 🔲 Test 00002424 - 000	102424 Release: R500.1 Build	Version: 9.2.4.0		Comm Monitor Send	Capture Buf	fer to Fi	le

The newly created user is added to the list of users.

4.10.2.1 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:

- User Registration This is used to create license files to allow new users to register to the MasterLink application.
- Update Account This is to change privileges of an existing user. Privileges can be added/removed based on the business requirement.
- Forgot Password If a user forgets their password, site administrator can create passkey files allowing users to reset their password.



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:
 - Register: A key to register a new MasterLink user
 - Update Account: A key to update an existing MasterLink user account.
 - 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.

Assigned Role Tec Email ID * Jan Passkey Generation Register Update Account Forgot / Reset Password	nes h nes@honeywell.con তন্য তন্য তন্য]			
Email ID * Jan Passkey Generation Register Jpdate Account Forgot / Reset Password Suser Configuration Suser Configuration Suser Wenneywell + M Organize * New folder	nes@honeywell.com ா ரா]			
Passkey Generation Register Jpdate Account Forgot / Reset Password User Configuration Organize + New folder	ол Ол]			
Register Jpdate Account Forgot / Reset Password	۳					
Jpdate Account Forgot / Reset Password	۳					
Forgot / Reset Password						
User Configuration	ол					
Organize - New folder						
	asterlink > LicenseFiles		- 4 9 Si	earch License	Files	×
🔠 Recent Places 🔺					855 •	• @
Creative Cloud Files	Name	No iten	is match your s	Date modifi search.	ied	Туре
Libraries Documents Pictures Subversion Vicleos						
💭 Computer						
MyDrive_E842801 (\\ie1aw(1 1				
File name: James, passke Save as type: PasskeyFile (*,						
Hide Folders			-	Save	. v-	incel

5 Update

You can use MasterLink Software Application to update the EVC 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.

Related Topics:

EVC Firmware Update

Modem Firmware Update

Certificate Update

5.1 EVC Firmware Update

You can use MasterLink Software Application to upgrade EVC firmware.

To get started, browse and select the firmware file.

Honeywell	MasterLink R500.	1					0	Q	-	e x
0 Site	Update									
ි View' Edit	EVC 1.1032	Modem Certificate	1							
0					Step	Status				
	Firmware Filename.	File Location		Browse	Validate FW file					
9					Send Firmware					
Reod Data			1001111001		Validate Firmware					
\otimes	Versions		Selected Firmware D	etails	Sync date and time					
	Current Firmware	1.1032	Firmware Type							
Administer	Loader	3,1000	New Firmware							
ی) Settings										
*										
Security										
€£ Update										
~				Statisticroate Res	et.					
(O) Diseases	Connected (EC 350)	G Ste 045 11111111-2	2222222	1		Comm Monitor	Send Ca	pture Bi	iffer to	File

Click **Start Upgrade** to upgrade the EVC firmware. As the firmware upgrade progresses, you can observe the status on the right pane.

5.2 Modem Firmware Update

You can use MasterLink Software Application to upgrade modem firmware.

To get started, browse and select the firmware file.

Honeywell	MasterLink R500.1					0 Q - e ×
2 576	Update					
ි View/ Edit	EVC Modem Certificate					
Ø				Step	Status	
Culturate	Firmware Filename: File Location:		Browse	Validate Firmware		
9				Send Firmware		
Read Data				Validate Firmware		
\otimes	Versions	Selected Firmware Details		Sync date and time		
Live Data	Current Firmware	New Firmware				
2						
Administer						
 Settings 						
滦						
Security						
€ Ø Updiste						
ø	Connected (EC 350)		March Uppears	Resei		Send Capture Buffer to File

Click **Start Upgrade** to upgrade the Modern firmware. As the firmware upgrade progresses, you can observe the status on the right pane.

5.3 Upload Certificate

This tab is enabled if application is connected to EC 350 MasterLink Software Application R500.1 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 Software Application R500.1 and host. These certificates can be self-signed or signed by a third party.

Honeywell	MasterLink R500.1	1)	© Q	- 6	s x
2 5 114	Update				
() View' Edit	EVC Modem	Certificate			
0		Siep Status			
Gallesiana	Security Enable	Validate Cartificate File			
9	Start Date	9/15/2018 🛗 End Date 9/15/2017 🛗 Sand Certificato			
Read Data		Validate Gertificate			
Cive Date	Certificate				
2	Certificate Type	C lent Certificate			
Administer	Certificate File Name	File Lacation: Brewee			
(2) Settings					
Security					
-∜D Updete					
ø		Updata			
(Primore) 0	Connected (EC 350)	Gomm Monitor. \$	Send Capture E	uffer to	Fde

Select the certificate type from the dropdown.

Browse and select a certificate file.

The certificate can be a:

- Client Certificate,
- Server Certificate,
- Private Key, or
- Ca Certificate

Click Update to send the certificate to the instrument.

Loading certificates to a MasterLink Software Application R500.1

Note: It is Mandatory to load security certificates to Cloud Link 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 Cloud Link:
 - Key Certificate
 - Client Certificate
 - Server Certificate
 - CA certificate
- 1. Configure SSL private key in Cloud Link (Item Number: 3086)
- 2. Enable SSL in Cloud Link (Item Number: 3017)
- 3. Restart Cloud Link
- 4. Make sure that Time Sync is applied after restart of Cloud Link. 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 Cloud Link (Item Number: 3086)
- 7. Configure IP address and port number.

Internet/Phone	IPv4 •
	UDP 🗸 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 Software Application \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	_Siteld2	_keyfile.pfx
--------------------------	----------	--------------

6 Troubleshooting scenarios

Scenario	001
Problem	MasterLink Software Application 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	 It could be mismatch of baud rate of MasterLink Software Application and device. 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 Software Application 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 Software Application 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	This issue usually happens if site ID's Cloud Link 4G Modem are changed after an instrument is paired with the mobile. Advised to not to change the site IDs of Cloud Link 4G Modem once they are installed in the field.
	To resolve the issue:
	1. Download any Bluetooth Low Energy app from App Store / Play Store
	2. Scan for Cloud Link
	3. Still you can see the Cloud Link site id as previous names.
	4. Try to connect the Cloud Link
	5. Scan once again. You will able to see new site id's
	6. Now connect from MasterLink Software Application

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 Cloud Link expires.

7 Glossary

Α

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 Trial 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

Е

Event Log

The Event Log records activity that is directly linked to and maintained within the instrument.

L

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

Κ

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.