

ABB MEASUREMENT & ANALYTICS | HOW TO GUIDE | 2108082MNAA

Load Pre-Compiled IEC Applications RMC-100, XSeries^{G5}

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Additional Information

Document	Document number
IEC 61131 Developer's Guide	2105857
IEC INI programmer's guide	2105858

1 Overview

This document describes how to load pre-compiled IEC applications on ABB Totalflow devices and how to add the application-specific file to PCCU for app management and configuration. This process requires two files:

- The pre-compiled application package (the file with .pkg extension). This file will be copied to the device itself. It contains the actual (executable) application functions. The file name may include the application name and the part number and revision.
- The PCCU .ini file for access to the application. This file will be copied to the host system with PCCU, the user interface to the device. This file will be incorporated into PCCU to allow the operator access to the IEC application. It defines the app-specific configuration groups and screens (tabs).

1.1 Available pre-compiled IEC apps

The following are pre-compiled IEC applications available for purchase from ABB:

- Chemical Injection
- Choke Control
- Oil Transfer
- Pump Control
- Pump Control 2
- Liquid Transfer
- Liquid Transfer 2
- Well Test

The procedures in this document apply to all the applications listed above.

When you purchase any of these applications, you will receive the specific application's package file and an INI file. <u>Figure 1-1</u> shows the files for the Liquid Transfer 2 app as an example. The application package file name includes the application name, the part number and the revision (in this example, LiquidTransfer2, 2519047-001). The INI file name has the application part number and the revision (2519047-001). If purchasing and loading several applications or later versions of existing ones, make sure to keep the pkg/ini file pairs for the same application and version together. The part number and version must match to ensure the correct screens and tabs display for application use.

Figure	1-1:	I EC	application	files





IMPORTANT NOTE: This document assumes that you have received the required files for the purchased application (.pkg and .ini files).

1.2 Required licensing for LEC apps

Licenses are required to run the applications. Licenses available for IEC applications range from Tier 1 to Tier 4 IEC. Make sure these types of licenses are available in the device before attempting to load the application. A procedure to add required credits is included in this document.

1.3 Number of IEC apps supported per device

The number of IEC applications supported depends on the type of device:

- RMC-100 Lite devices support a maximum of 2 IEC applications.
- RMC-100 standard devices support a maximum of 10 IEC applications.
- XSeries^{G5} devices (XRC^{G5} and XFC^{G5}) support only one (1) IEC application.

2 Add application ini file to PCCU

This procedure copies the application-specific ini file into the PCCU installation directory. The ini file ensures that PCCU displays the necessary screens for the configuration and management of the IEC application. Close PCCU before copying the file. Locate the PCCU version you will use for access to the IEC application if more than one PCCU version is installed in the system.

To install the file:

- 1. Using file manager, locate the installation directory for the desired PCCU version.
- 2. Locate the PCCU ini file subfolder. For example. C:\Program Files\ABB Totalflow\PCCU7\IniFiles (Figure 2-1).

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Pin to Quick Copy Paste	Move copy to* Copy to* Delete Rename folder New item* Image: Copy to* Image: Co		
Clipboard	Organize New Open Select		
← → ~ ↑ 📜 « AB > PCCU7	✓ ♥ Search PCCU7_2054		
4 Quide	Name Date modified	Туре	^
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Downloads	A ascifile 12/9/2021 12:41 PM	File folder	
E Pictures	* CalReports 12/9/2021 12:41 PM	File folder	
IniFiles	L devconfi 12/9/2021 12:41 PM	File folder	
Liquid Transfer 2 App and INI	devexprt 12/9/2021 12:41 PM	File folder	
Liquid transfer app	DeviceID 12/9/2021 12:41 PM	File folder	
Missing files	DeviceInfoTemp 1/18/2022 3:39 PM	File folder	
	IniFiles 1/18/2022 10:52 PM	File folder	
© Creative Cloud Files	lotermdb 12/9/2021 12:41 PM	File folder	
🔷 OneDrive - ABB	PackageDir 12/9/2021 1:10 PM	File folder	
	pccudata 12/9/2021 12:41 PM	File folder	
S This PC	pccutemp 12/9/2021 12:41 PM	File folder	
3D Objects	PDFReports 12/9/2021 12:41 PM	File folder	
Desktop	RBAC 12/9/2021 12:41 PM	File folder	~
E Documents	✓ <		>

Figure 2-1: IniFiles subfolder in PCCU installation folder

3. Copy the provided .ini file (Figure 2-2) to the IniFiles subfolder (Figure 2-3).

Figure 2-2: Example of ini file (for use with Liquid Transfer 2)

📕 🕑 📜 🔻 INI FILE				- 🗆 X
File Home Share View Image: Share Image: Share View Image: Share View Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share Image: Share	Move to [°] Copy to [°] Delete Rename	New folder	Properties Open *	Select none
← → → ↑ 📜 « Liqu > INI FILE	V U D Search	h INI FILE	open	Jeret
 Missing files pccuhelpfiles UPLOAD FILES Creative Cloud Files OneDrive - ABB 	^ Name	i	Date modified 1/12/2022 5:17 PM	Type Configuration se
 This PC 3D Objects Desktop Documents 		J		
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in to Quick Copy Paste Active Copy path Paste Shortcut	Move Copy to Lete Rename	New folder	Properties • Open • Definition • Edit • History	Select all	n
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$\vdash \rightarrow \checkmark \uparrow$ 📜 « PCC > IniFiles	ບ ເ⊃ Sear	ch IniFiles			
	^ Name	^		Date modifie	ed
Music	🔬 2509027-006fr	n.ini		12/7/2021 4:	27 PM
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× Projects (((10.127.149.30) (P.)	2509030-002fr	n.ini		12/7/2021 4:	27 PM
🕩 Network	101.ir	ni		1/12/2022 5:	17 PM
	▲] 2999999-001.ir	ni		12/7/2021 4:	27 PM
697 items 1 item selected 34.0 KR					

Figure 2-3: IEC app ini file in IniFiles folder in the PCCU installation directory

3 Load the IEC resource

This procedure loads the IEC application (resource) package (.pkg file) to the device using the device loader. Note that application packages will have the name of the application, part number and revision. To load the package:

1. Copy the provided application .pkg file to your Windows Desktop or other convenient location (Figure 3-1).

Figure 3-1: Copy the IEC application package file to host system for upload



- 2. Start PCCU.
- 3. Click the 32-Bit Loader icon on the top menu. The Connection Setup window displays. Select appropriate communication ports as required.

- 4. Click Connect at the connection setup window. The device loader screen displays.
- 5. Click Browse.
- 6. Locate and select the IEC resource file (pkg file) copied earlier.

Figure 3-2: Locate the IEC application pkg file from the main Loader screen

ackage Location		Connection			
C:\Users\	Browse	Serial/USB	COM5:Totalflow 32 B	it X-Serie	
Package	Device				
Package Information └☑App: LiquidTransfer2_G5_T1 (IEC Tier 1) ✔ Package Size: 52.16 (KB)	- Version: 3 - Part Numbe - Package Si - App: G5XRC F - Version: 3 - Part Numbe - Package Si	8000.431.0_enh-ir er: 2106489-004 .ze: 17.62 (MB) TLASH 8000.431.0_enh-ir er: 2105864-015 .ze: 8.74 (MB)	ntegration-snapshot6 ntegration-snapshot63	^	
	-Config: Conf	ig		~	
		Send	Abort Close	Help	

- Click Send.
 Verify the IEC resource loaded successfully by looking in the Status Log and finding the line that states: "Successfully sent < Resource > to the Device." See Figure 3-3.

Figure 3-3: Load the IEC app on the device

PCCU32					\times
Services Help				-	5
Package Location		Connection			
C:\Users\USANAND1\Documents\Batch Log\Liquid Transfer 2 App and INI\Liquid t $\$	Browse	Serial/USB	COM5:Totalflow 32 Bi	it X-Serie	
Package	Device				
Package Information └☑App: LiquidTransfer2_G5_T1 (IEC Tier 1) └Package Size: 52.16 (KB)	- Part Nu - Package - App: G5XR - Version - Part Nu - Package - Config: C - Package	mber: 2106489-004 Size: 17.62 (MB) C FLASH : 3000.431.0_enh- mber: 2105864-015 Size: 8.74 (MB) onfig Size: 56.79 (KB)	integration-snapshot63	^	
01/14/2022 16:54:31 Sending LiguidTransfer2 G5 T1 (JEC Tier 1) to the device, 01/14/2022 16:54:34 Successfully sent LiguidTransfer2 G5 T1 (JEC Tier 1) to th 01/14/2022 16:54:34 Reconnecting after rebott This could take up to 2 minute 01/14/2022 16:55:15 Reading device info. 01/14/2022 16:55:15 Device info updated.	e device.				
		Send	Abort Close	Help	
eady	#Polls: 0 #	Errors: 0 Connected	to COM5:Totalflow Login: user	v7.73 : 20)54

- Click Close to exit the device loader. The main PCCU screen displays again.
 Remain on PCCU.

4 Add the IEC licenses

Licenses available for IEC applications range from Tier 1 to Tier 4 IEC. Licenses are required to run the applications. These licenses may already be available in the device. If not, you will need a credit key with the required number of IEC credits to transfer to the device. This procedure shows how to load or transfer IEC credits or licenses from a credit key to the device. It is assumed that the credit key contains the required credits. Select the correct license and load it onto the device.



IMPORTANT NOTE: The number of IEC applications supported depends on the type of device. The RMC-100 standard software supports up to 10 IEC applications. The RMC-100 Lite software supports 2 IEC applications. The XSeries^{G5} devices (XRC^{G5} and XFC^{G5}) support only one IEC application. For additional information on licensing click Help from the Application/License Management tab.

To add a license:

- 1. Insert the credit key in the host system USB port.
- 2. Click the PCCU Entry mode icon to connect with the device.
- 3. Click the top node of the navigation tree (Station ID).
- 4. Select the Application/License Management tab.
- 5. Click Load under the Key Credits section. The list of available credits in the key displays.
- 6. Select Transfer to device.
- 7. Select the desired IEC tier type from the Type drop-down list.
- 8. Select the number of IEC credits for the selected type from the Amount drop-down list.
- 9. Click Transfer.

Figure 4-1: Add IEC credits or licenses for the IEC pre-compiled application

Credit Ke	ey Serial #: 59		OTransf	er to Key		Credit Type	Used	Surplus/Deficit	^
Credit Type	Amount	^	Tupo	IEC Tior 1	~	IEC Basic	1	0	
EC Tier 1	9		туре	IEC TIEFT	~	CO2(NIST)	0	0	
EC Tier 2	17		Amount	1	~	(spare)	-	-	
EC Tier 3	18					IEC Tier 1	0	1	
EC Tier 4	18					IEC Tier 2	0	0	
		~	C			IEC Tier 3	0	0	
	Load			Transfor		IEC Tier 4	0	0	~

10. Stay on the Application/License Management tab for the next procedure.

5 Add the IEC application

Add the IEC application instance in the same way other off-the shelf ABB Totalflow applications are added:

- 1. Select Add App on the Application/License Management tab. The Add New Application window displays.
- 2. Select the Application to add drop-down list.
- 3. Locate the IEC applications in the list and select the desired type (IEC Tier x) (see Figure 5-1). In this example, an IEC Tier 1 instance is selected.

Figure 5-1: Available IEC applications

Pump Interface	\sim
Oil Custody Transfer Measurement	
Station	
Batch Log	
Ethernet-Serial Passthrough	
Gas Lift	
LevelMaster	
Operations	
Holding Registers	
Units Conversion	
Host Interface	_
IEC Basic	
IEC Tier 1	
IEC Tier 2	
IEC Tier 3	
IEC Tier 4	
Display XSeries	
Coriolis SU	
Liquid Coriolis Interface	
Coriolis Interface	
ENRON Interface	
Nozzle SU	
API Liquid SU	
NIST14 Gas SU	
NIST14 Liquid SU	
Wedge Gas SU	
AGA-3 Measurement	
AGA-7 Measurement	
V-Cone Measurement	
Plunger Control	\sim

Verify that the selected I EC application instance displays (<u>Figure 5-2</u>).
 Click OK.

Figure 5-2: Adding the IEC application instance

Key (Credits		OT	ransfer to Device	۲ ا	Device	Credits				
			OT	ransfer to Key		(Credit Type	e l	Jsed	Surplus/Deficit	1
Cre	edit Type Amount		Tup		14	Gener	al(non-remo	vable) 0		6	
			Typ	C		Gener	al(removable	e) (19	
			Amo	ount	~	IEC B	asic	1		0	
						(snare	131)	0	2	0	
						IEC Ti	, er 1	0		1	
	beol			Transfor		IEC Ti	er 2	0	1	0	
	2004			Transfer		5					
App#	Туре	Revision	Station	Directory	License	Status	Restart			Delete App	
0	System	2105252-004		Dir = \	Enable						
1	Communications	2101348-005		Dir = \Comm-1	Enable						
2	Communications	2101340-005		Dir = \Comm-2	Enable						
3	Communications	2101340- A	dd New	Application				×			
7	I/O Interface X Series	2105253-		and the second se							
91	IEC Basic	2105829-	App num	ber App	lication to ad	ld					
241	Operations	2101320-									
			92	IEC Her	1			Ľ			
		[Overrie	verride recommended app numbei							
					ОК		Cancel				
								_			

- 6. Click Send. The IEC application instance displays in the application table.
- 7. Verify that the IEC application instance displays on the navigation tree (Figure 5-3).

Figure 5-3: IEC application instance added



IMPORTANT NOTE: The available IEC credit has been automatically assigned to the added IEC instance. In this example, an IEC Tier 1 credit shown as surplus before shows now as: Used (Figure 5-4).

Figure 5-4: IEC Tier 1 credit assigned to IEC instance

1

tation S	Setup Application/Lic	ense Management Selec	table Units Setur	Battery	Information Reso	urces Sys	tem Lo	g Securi	ty Log Re	egistry	(
		Key Credits			Transfer to Dev	rice	Device	Credits				
					Transfer to Key			Credit Ty	pe	Used	Surplus/Deficit	^
		Credit Tupe	Amount			_	Gene	ral(non-re	movable)	3	1	
		Credit Type	Amount]	Туре	\sim	Gene	ral(remova	able)	0	10	
					Amount	~	IEC E	Basic		0	0	
					-		CO2(NIST)		0	0	
							(spar	e)		-	-	
						1	IEC I	tier 1		1	0	
		L	bad		Transfer		JILC I	lei z	1	U	0	
App#	Name/ID	Type	Revision	Station	Directory	License	Status	Restart	Delete /	App		_
0	System	System	2103280-021		Dir = \	Enable				TE		_
1	Totalflow/TCP	Communications	2101348-005		Dir = Comm-1	Enable						
2	Totalflow/USB	Communications	2101340-005		Dir = \Comm-2	Enable						
3	Totalflow/COM0:	Communications	2101340-005	/	Dir = \Comm-3	Enable						
7	I/O Interface	I/O Interface X Series	2103135-009		Dir = \IOS	Enable						
8	Display	Display XSeries	2103137-002		Dir = \Display	Enable						
9	Holding Registers	Holding Registers	2101312-002		Dir = \Holding	Enable]					
11	SULIQ-1	API Liquid SU	2104609-022		Dir = \SULIQ-1	Enable						
12	SULIQ-2	API Liquid SU	2104609-022		Dir = \SULIQ-2	Enable						
80	Blog-1	Batch Log	2108888-001		Dir = \Blog-1	Enable						
91	IEC Tier 1	EC Tier 1	2106061-003		Dir = \IEC-91	Enable						

6 Run the IEC resource

This procedure starts the IEC application (referred to as "resource" on the PCCU screens). Every IEC app must be started before configuration or use. After completing this procedure, the state of the application should indicate: Started.

To run the IEC application:

- 1. Expand the newly added IEC application instance on the navigation tree.
- 2. Select IsaGraf.
- 3. Verify that the Operation Mode is set to: Production (Figure 6-1).



I MPORTANT NOTE: The operation mode for all pre-compiled ABB IEC applications must always be: Production. For IEC applications developed by the customer, the mode of operation should be: Developer. Refer to the Developer's Guide for specific instructions for customer-developed apps.

Figure 6-1: Operation mode for ABB IEC apps: Production

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Operate View Window Help		_ 8 >
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-XRC LAB 23	course that Change Thereines	
Communications	ource List Status Timings	
Totalflow/TCP	Description	Value
Totalflow/USB 91 254 1	Isagraf Version	5.70.36
Totalflow/COM0:		
I/O Interface	Active IEC Resource	
How Measurement	A Resource Number	1
	Porource Name	
H-50LIQ-2 91.254.5	Last Mossago	Could not rostoro configuration on startun
Helding Registers		
Blog-1	Basauraa Stata Managamont	
ELEC Tier 1	Current State	
System Variables	IEC Auto Start	Off
-Symbol Table	TEC Autostart	
IsaGraf	7 Start/Stop Resource	
91.255.2	8 Clear Active Resource	No
91.255.64	Operation Mode	Production
91.255.25	1 Annunciate	
91.255.50	Annunciator	Trace
	Symbol File	
91.254.0	Symbol File	
91.255.25	3 Rescan Symbol File	No
	Land Andrew Strand	
Re-read	Monitor Show editable fields	Print Screen Save Send Close Help X Help 🕷
I		
Ready		#Polls: 158 #Errors: 0 Connected to XRC LAB 23 Login: user v7.73 · 2054

4. Select the Resource List tab. When more than one IEC application instances are available, they are listed by name in this screen. Make sure you activate or run the desired resources as necessary. In the example shown in Figure 6-2, there is only one application listed (Resource #1), the Liquid Transfer 2. Note that the application is not active yet.

PCCU32 - [Entry]					- 0	3	×
Operate View Window Help						- 6	5 ×
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-XRC LAB 23 -Communications IsaGraf	ource List Status Timings						
Totalflow/TCP							T
Totalflow/USB 91 254 3	Available IEC Resources Resource #1	Name	Activate Resource	Delete Resource	Tier 1	evel	
Totalflow/COM0:							
Elow Measurement 91.255.2	4 Resource List Rescan	No					
B SULIQ-1							
⊕ SULIQ-2 91.254.5	Last Message	Could not restore configuration on startup					
Display							
Holding Registers 91.255.2	5 Current State	UNKNOWN	Processing				
91.255.2	7 Start/Stop Resource	No	J		<u> </u>	U	
- System Variables							
- Symbol Table							
IsaGraf							
Re-read	Monitor Show editable	fields	Print Screen Save	Send Close	Help XH	elp 🍋	!
Ready		#Polls: 160 #Errors:	0 Connected to X	RC LAB 23 Login:	user v7.73	: 2054	4

Figure 6-2: Verify pre-compiled IEC applications on device

5. Select Select & Run from the Activate Resource drop-down list for the desired resource (Figure 6-3).

Figure 6-3: Activate the IEC application

PCCU32 - [Entry]						- 🗆 ×
I Operate View Window Help						- 8
10 🛅 🔂 🐼 🕅	🛄 🛃 🍕	>				
E XRC LAB 23	IcaCraf Resour	rce List Status Timings				
Communications	130Graf Hecoul	Status Tinings				
Totalflow/TCP		Available IEC Persources	Namo	Activate Dessures	Doloto Porourco	Poquired Credit Level
Totalflow/USB	91 254 3	Available IEC Resources	LiquidTransfor2 G5 T1	Not Active	No.	Tier 1
Totalflow/COM0:	51.204.5			Net Active		
I/O Interface		a 11.0		Select & Run		
E Flow Measurement	91.255.214	Resource List Rescan	No			
BULIQ-1						
i SULIQ-2	91.254.53	Last Message	Could not restore configuration on startup			
Display						
Holding Registers	91.255.215	Current State	UNKNOWN	Processing		
Blog-1	91.255.217	Start/Stop Resource	No			
E-IEC Tier 1			1	J		
- System Variables - Symbol Table						
IsaGraf						
	Re-read	Monitor Show editable f	ields	Print Screen Save	Send Close	Help X Help 🐌
Ready	,		#Polls: 160 #Errors:	0 Connected to X	RC LAB 23 Login	: user v7.73 : 2054

- 6. Click Send. The Activate Resource field for the corresponding app displays: Activated.
 7. Verify that the Current State of the app displays: STARTED (Figure 6-4). Click Re-read to refresh the screen if necessary. The current state of the app should update from UNKNOWN to STARTED to indicate proper activation.

PCCU32 - [Entry]						- 🗆 ×
I Operate View Window Help)					- 8
10 🛅 🔁 💽 🖼 🕥	🔟 Z	>				
-XRC LAB 23 Communications	IsaGraf Resou	rce List Status Timings				
Totalflow/TCP						
Totalflow/USB	91 264 2	Available IEC Resource	s Name	Activate Resource	Delete Resource	Required Credit Level
Totalflow/COM0:	91.294.3	Resource #1		Activated		
HO Interface Flow Measurement	91.255.214	Resource List Rescan	No			
E SULIQ-1	91.254.53	Last Message	Resource Started			
⊕-Display ↓						
Holding Registers	91.255.215	Current State	STARTED	Processing		
LEC Tior 1	91.255.217	Start/Stop Resource	No			
	< Re-read	Monitor Show editab	le fields	Print Screen Save	Send Close	> Help XHelp @
leady	,		#Polls: 171 #	Errors: 0 Connected to XR	LAB 23 Login	user v7.73 · 2054

Figure 6-4: State of an IEC app after activation

7 Load the ini file

This procedure loads the ini file for access to the IEC application-specific navigation groups and tabs in PCCU. Because the ini file name does not include the application name, always check that the ini file has the same part number and revision as that in the application pkg file name.

To load the file:

- 1. Select the IEC instance on the navigation tree.
- 2. Select IsaGraf > IsaGraf tab.
- 3. Set the Rescan Symbol File field to Rescan Now (Figure 7-1).

Figure 7-1: Load the ini file

PCCU32 - [Entry]						-	
Operate View Window Help							- 8 ×
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Communications	IsaGraf Resou	rce List Status Timings					
Totalflow/TCP Totalflow/USB Totalflow/COM0:	91.254.1	Description Isagraf Version	5.70.36		Value		
I/O Interface Elow Measurement		Active IEC Resource					
E-SUUO-1	91.255.254	Resource Number	1				
BULIQ-2	91.254.54	Resource Name	LiquidTransfer2_G5_	T1			
Display	91.254.53	Last Message	Resource Started				
Holding Registers							
Blog-1		Resource State Management					
E-IEC Tier 1	91.255.215	Current State	STARTED				
System Variables	91.255.50	IEC AutoStart	Off				
- Symbol Table	91.255.217	Start/Stop Resource					
Isadrai	91.255.218	Clear Active Resource	No				
	91.255.64	Operation Mode	Production				
	91.255.251	Annunciate	R				
	91.255.56	Annunciator	Trace				
		Symbol File					
	91.254.0	Symbol File	/tfData/IEC-91/Liquid	Transfer2_G5_T1	/IDS00101		
	91.255.253	Rescan Symbol File	Rescan Now				
	Re-read	Monitor Show editable fields		Print	Screen Save Send	Close Help	X.Help 🗮
Ready			#Polls: 174	#Errors: 0	Connected to XRC LAB 23	Login: user	v7.73 : 2054

- 4. Click Send.
- 5. Verify that the specific application displays on the navigation tree under the corresponding IEC tier n instance. Figure 7-2 shows the example of the Liquid Transfer app as a node on the navigation tree. Once the application displays onscreen, access to its screens and tabs are available for further setup and use. Follow the specific instructions to setup and place each application in service as necessary.

Eu PCCU32 - [Entry]						-
Operate View Window Help					_ 8	×
1 🖾 💽 🐼 🕅	🛄 🧝 🍕	>				
Communications	IsaGraf Resour	rce List Status Timings				
	91.254.1	Description Isagraf Version	Value 5.70.36			
Elow Measurement		Active IEC Resource				
B-SULIO-1	91.255.254	Resource Number	1			
B SULIQ-2	91.254.54	Resource Name	LiquidTransfer2_G5_T1			
Display	91.254.53	Last Message				
Holding Registers						
Blog-1		Resource State Management				
E IEC Tier 1	91.255.215	Current State	STARTED			
🕀 Liquid Transfer 🔶	91.255.50	IEC AutoStart	Off			
System Variables	91.255.217	Start/Stop Resource				
IsaGraf	91.255.218	Clear Active Resource	No		_	
	91.255.64	Operation Mode	Production			
	91.255.251	Annunciate	R			
	91.255.56	Annunciator	Trace			
		Symbol File				
	91 254 0	Symbol File	/tfData//EC.91/l iquidTransfer2_G5_T1//DS00101			
	91.255.253	Rescan Symbol File	No			
	Re-read	Monitor Show editable fields	Print Screen Save Send Close H	elp	X Help 🧶	J
Ready			#Polls: 183 #Errors: 0 Connected to XRC LAB 23 Login: user	7	v7.73:2054	.ti

Figure 7-2: IEC application available for use

8 Set the IEC app to Auto Start

AutoStart will automatically start the IEC app on controller boot-up. This ensures the application is always ready for use and operational even in the event of system restart or reboot.

To set:

- 1. Select the IEC instance on the navigation tree.
- 2. Select IsaGraf > IsaGraf tab.
- 3. Select and set the IEC AutoStart field to On (Figure 8-1).

Figure 8-1: Set IEC application to AutoStart

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-XRC LAB 23 -Communications	IsaGraf Resou	irce List Status Timings	
Totalflow/TCP			Г
Totalflow/USB	91 254 1	Description	Value Value
Totalflow/COM0:	01.201.1		
I/O Interface		-Active IEC Resource-	
How Measurement	91 255 254	Resource Number	1
B-SUUO-2	91 254 54	Resource Name	· LiquidTransfer2_G5_T1
⊞-Display	91,254,53	Last Message	
Holding Registers			
Blog-1		Resource State Management	
E IEC Tier 1	91,255,215	Current State	STARTED
Liquid Transfer	91.255.50	IEC AutoStart	On 🗸
Setup	91.255.217	Start/Stop Resource	
- System Variables	91.255.218	Clear Active Resource	No
Buorar	91.255.64	Operation Mode	Production
	91.255.251	Annunciate	R
	91.255.56	Annunciator	Тгасе
		Symbol File	
	91,254.0	Symbol File	/tfData/IEC-91/LiquidTransfer2 G5 T1/IDS00101
	91.255.253	Rescan Symbol File	No
	_		
	1		
	Re-read	Monitor Show editable fields	Print Screen Save Send Close Help XHelp 🧶
Ready			#Polls: 217 #Errors: 0 Connected to XRC L&R 23 Login: user v7.73 · 2054

4. Click Send. The IEC Autostart displays: On. <u>Figure 8-2</u> shows the information displayed for the Liquid Transfer after correct activation.

Figure 8-2: IEC application ready

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Biologia -Active IEC Resource- 1 FRow Messment 1 1 SUUC-1 is SUUC-2 19:25:258 Resource Number 1 Biog-1 19:25:25 Resource State Management. 1 SUUC-1 19:25:25 Current State 5/ATED Biog-1 9:25:25 Current State 5/ATED System Variables 9:25:25 Current State 0n 9:25:26 Clear Active Resource No 1 9:25:26 Clear Active Resource No 1 9:25:26 Clear Active Resource No 1 9:25:26 Annunclate R 1 9:25:26 Annunclate R 1 9:25:26 Annunclate R 1 9:25:28 Resource State Management. 1 1 9:25:28 Clear Active Resource No 1 9:25:28 Annunclate R 1 1 9:25:28 Resource State Monagement. 1 1 1 9:25:28 Annunclate R 1 1 </td <td>Totalflow/COM0:</td> <td></td> <td></td> <td></td> <td></td>	Totalflow/COM0:				
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Display Display Holding Registers Blog-1 Elscient Staff 91255.26 Urrent State 91255.20 Urrent State 91255.21 Current State 91255.22 Clear Active Resource 91255.23 Production 91255.24 Operation Mode Production 91255.25 Annunclate R 91255.26 Annunclate R 91255.28 Rescan Symbol File 91255.28 Rescan Symbol File No 91255.23	BULIO-2	91,254,54	Resource Name	LiquidTransfer2 G5 T1	
Holding Registers BigG1 IEC Tier 1 Uquid Transfer System Variables 91255 20 ISC Tier 1 91255 21 System Variables 91255 21 System Variables 91255 21 System Variables 91255 21 Sub Clear Active Resource 91255 25 Annunciate 91255 26 Annunciate 91255 25 Annunciate 91255 26 Annunciate Record 91255 27 Annunciate Record 91255 23 Rescon Symbol File 91255 23 Rescon Symbol File 91255 23 Rescon Symbol File No 91255 23 Rescon Symbol File <	+ Display	91,254,53	Last Message		
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1 ·		Re-read	Monitor Show editable fields	Print Screen Save Send Close Help XHelp	1
#Polls: 220 #Errors: 0 Connected to XRC148.23 Login: user v7.73 · 2054	Ready			#Polls: 220 #Errors: 0 Connected to XRC1AB 23 Login: user v7.73 - 2054	1

- 5. Select System Variables on the navigation tree for quick verification that the application is working properly (Figure 8-3).
 - a. Select the Int32 tab.
 - b. Verify that the application scan counts, and the cycle counts increment. Click Re-read to observe incrementing values.

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-XRC LAB 23	Bool Int32	Uint32 Float String Time	Number o	f Variables								
Totalflow/USP		Description					Value					1
Totalflow/COM0:	91.205.1	SYSVA_TCYOVERFLOW	0	-]
I/O Interface	91.205.2	SYSVA_SCANCNT	55938									
E-Flow Measurement	91.205.3	SYSVA_CYCLECNT	55938									
BULIQ-1	91.205.4	SYSVA_WNGNUM	10									
E SULIQ-2	91.205.5	SYSVA_WNGARG	1									
Display	91.205.6	_REG_DINT	0									
Holding Registers	91.205.7	_POUSTATUS[0]	0									7
Blog-1	91.205.8	_POUSTATUS[1]	0									
Group-01	91.205.9	_POUSTATUS[2]	0									1
Log-01	91.205.10	_POUSTATUS[3]	0									1
⊞-Group-02	91.205.11	_POUSTATUS[4]	0									-
⊞ Group-03	91.205.12	POUSTATUS[5]	0									1
Liquid Transfer	91.205.13	_POUSTATUS[6]	0									
Setup	91.205.14	POUSTATUS[7]	0									1
System Variables	91.205.15	POUSTATUS[8]	0									-
IsaGraf	91.205.16	POUSTATUS[9]	0									1
	91.205.17	POUSTATUS[10]	0									-
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adv	1			#Polls: 7	5 #Errors	0 (Connected to X	RC LAB 23	Login	user	v7.73 ·	205

Figure 8-3: Verify IEC app scan and cycle counts

This concludes the process of loading a pre-compiled IEC application. Further application configuration or fine-tuning is addressed in application-specific documents. For customer developed apps, refer to developer documentation.

9 Stop and delete an IEC application

This procedure describes how to remove an IEC application. Removal of an IEC application may be necessary to start over during first-time configuration or testing, or to release IEC device credits for use by another app.



IMPORTANT NOTE: This procedure is service-disrupting. Do not perform on a system already in service without backing up device data and configuration and planning a maintenance window.

To stop and delete an IEC app:

- 1. Select IsaGraf > IsaGraf tab.
- 2. Select the Start/Stop Resource value field, and then select Stop.

Figure 9-1: Stop the IEC application

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Totalflow/TCP		Description	Value
H-Totalflow/USB	91.254.1	Isagraf Version	5.70.36
Hotalilow/COMU: Hotalice			
Elow Measurement		Active IEC Resource	
B-SULIQ-1	91.255.254	Resource Number	1
B SULIQ-2	91.254.54	Resource Name	LiquidTransfer2_G5_T1
Display	91.254.53	Last Message	
Holding Registers			
⊕ Blog-1		Resource State Management	
E-IEC Tier 1	91.255.215	Current State	STARTED
	91.255.50	IEC AutoStart	On
System Variables	91.255.217	Start/Stop Resource	Stop
IsaGraf	91.255.218	Clear Active Resource	No
	91.255.64	Operation Mode	Production
	91.255.251	Annunciate	R
	91.255.56	Annunciator	Trace
		Symbol File	
	91.254.0	Symbol File	htfData/IEC-91/LiquidTransfer2_G5_T1/IDS00101
	91.255.253	Rescan Symbol File	No
	1		
	Re-read	Monitor Show editable fields	Print Screen Seve Send Close Help XHab III
Ready			#Polls: 224 #Errors: 0 Connected to XRC LAB 23 Login: user v7.73 : 2054

- 3. Click Send.
- з. 4. Click Re-read to refresh screen.
- Verify that the application's Current State displays: Stopped. 5.

Figure 9-2: Stopped IEC application alarm

PCCU32 - [Entry]			-	
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Communications	Resource List Status Timings			
Totalflow/USB	Description	Value		^
91.25	4.1 Isagraf Version	5.70.36		
⊞-I/O Interface				
E Flow Measurement	Active IEC Resource			
⊕ SULIQ-1 91.25	5.254 Resource Number	1		
⊕ SULIQ-2 91.25	4.54 Resource Name	LiquidTransfer2_G5_T1		
Display 91.25	4.53 Last Message	Resource Stopped		
Holding Registers				
⊞-Blog-1	Resource State Management-	-		
IEC Tier 1 91.25	5.215 Current State	STOPPED		
Sotup	5.50 IEC AutoStart	On		
91.25	5.217 Start/Stop Resource			
IsaGraf 91.25	5.218 Clear Active Resource	No		
91.25	5.64 Operation Mode	Production		
91.25	5.251 Annunciate	N		
91.25	5.56 Annunciator	Trace		
	Symbol File			
91.25	4.0 Symbol File	/tfData/IEC-91/LiquidTransfer2_G5_T1/IDS00101		
91.25	6.253 Rescan Symbol File	No		~
Re-re	ad Monitor Show editable field	s Print Screen Save Send Close	Help	X Help 🗮
Ready		#Polls: 226 #Errors: 0 Connected to XRC LAB 23 Login: use	er 1	v7.73 : 2054

- 6. Select the top node or station ID on the navigation tree to go Station Setup tab.7. Select the Application/Licensing Management tab.
- 8. Locate the IEC application to remove.
- 9. Select the Delete App checkbox (Figure 9-3).

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Communications	Station S	Setup Application/Lice	ense Management Selec	table Units Setup	Battery	Information Reso	urces Syster	n Log Securi	ty Log Registry
Totalflow/USB Totalflow/COM0: I/O Interface Flow Measurement Flow JUI Uo-1		Credit Type	Amount Typ Amo	Fransfer to Key e	~	Credit Type General(non-remo General(removabl IEC Basic CO2(NIST)	Used wable) 3 e) 0 0 0 0 0	Surplus/Defi 1 10 0 0	
SULQ-2 SullQ-2 SullQ-2 SullQ-2 SullQ-2 SullQ-2 SullQ-1		Load		Transfer		(spare) IEC Tier 1 IEC Tier 2	- 0 0	-	~
E-IEC Tier 1	App#	Name/ID	Туре	Revision	Station	Directory	License Sta	tus Restart	Delete App
Liquid Transfer	0	System	System	2103280-021			Enable		
Setup	1	Totalflow/ICP	Communications	2101348-005		Dir = \Comm-1	Enable		
System Variables	2	Totalflow/COM0:	Communications	2101340-005		Dir = \Comm 2	Enable		
Isacial	7	I/O Interface	U/O Interface X Series	2101340-003		Dir = 100	Enable		
	8	Display	Display X Series	2103137-002		Dir = Display	Enable		
	9	Holding Registers	Holding Registers	2101312-002		Dir = \Holding	Enable		
	11	SULIQ-1	API Liquid SU	2104609-022		Dir = \SULIQ-1	Enable		
	12	SULIQ-2	API Liquid SU	2104609-022		Dir = \SULIQ-2	Enable		
	80	Blog-1	Batch Log	2108888-001		Dir = \Blog-1	Enable		
	91	IEC Tier 1	IEC Tier 1	2106061-003		Dir = \IEC-91	Enable		
	<								>
	Re-re	ead	Add	Арр	Credit/App	Info	Send	Close	Help
Ready			#Polls: 228	#Errors:	0 Cor	nected to XRC L	AB 23 I	ogin: user	v7.73 : .

Figure 9-3: Remove existing IEC application

10. Click Send.

11. Click Yes to confirm the removal of the application.

Figure 9-4: Confirm removal of IEC application

De	lete	Confirmati	ion	
			Are you sure you want to delete below Apps ?	
A	pp#	Name/ID	Туре	
9'	1	IEC Tier 1	IEC Tier 1	
			Yes No	

12. Verify that the IEC application instance no longer displays in the application table. The credit(s) formerly assigned to the application should display as surplus under Device Credits.

13. Remove the application from the device's cold start configuration (set PCCU to Expert view):

- a. Select the Station Setup tab.
- b. In the Backup section, select the value field next to Update Cold Start Configuration and then select: Delete and Re-Create TFCold from the drop-down list (Figure 9-5).

Figure 9-5: Update Cold Start Configuration

0.7.22	Low Charger Alarm	Enabled	
0.7.0	Low Charger Alarm State	In Alarm	
	➡ Backup		
0.21.0	Update Cold Start Configuration	No Operation ~	
	System Startup/Shutdown	No Operation	
0.9.5	Last System Boot Date/Time	Merge with Existing TfCold Delete and Re-Create TfCold	
0.7.4	System Shutdown	Update in Progress	
0.7.5	System Shutdown / then Reset	No	
	Warm Start Status		
0.9.21	Start Log Time	12/17/21 12:53:29	
0.9.20	Zero Warm Start Counters	No	
0.9.22	Number of Power Fail Warm Starts	3	
0.9.23	Number of Watchdog Timeouts	3	
	LCD Display Date/Time Format		
0.7.15	Date/Time Format	mmddyy hhmmss	

14. Click Send. The device configuration should be clear of the IEC application.

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Kansas Office - Liberal

2705 Centennial Blvd

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 Odessa, TX 79765

 Ph: +1 432 272 1173

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