

Where Automation Connects.

EAFC Export Utility



February 15, 2022

USER MANUAL

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EAFC Export Utility User Manual For public use.

February 15, 2022

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1 About the EAFC Export Utility

The EAFC Export Utility allows the ability to perform on-demand scans of a MVI56E-AFC or MVI69E-AFC Enhanced Liquid & Gas Flow Computer module. The data collected during the scan will be used to generate FlowCal .CFX or Microsoft .CSV formatted files for export.



Data collected for export includes:

- Module verification data
- Site configuration and operational data
- Meter configuration, calculation, and accumulation data
- Stream configuration and analysis data
- Meter alarm data
- Meter event data
- Meter hourly and/or daily archive data
- Meter archive status data
- Meter user-specified archivables data

2 Menu Functions

The menu consists of the following three sets:

- File
 - **New** Creates a new configuration file.
 - **Open** Opens an existing configuration file.
 - **Save** Saves the current configuration file.
 - **Save As** Saves the configuration to a new file.
 - **Exit** Prompts to save and close the application.
- Project
 - Site Configuration Open site settings.
 - **Meter Configuration –** Open meter settings.
 - **Export Configuration –** Open export settings.
 - **Run** (F5) Poll and export file based upon configuration settings.
- Help
 - **About** Open application information.
 - View (F1) Open application help document.



2.1 Site Configuration (Settings)

The **SITE CONFIGURATION** > **SETTINGS** option opens the *Site Configuration* settings page. This page allows you to configure communications and establish a connection with the MVIxxE-AFC.

Site Configuration	
Site Configuration	
Settings Options	
Communications Information	
Transport Information	
Туре	○ ТСР/ЈР
Serial port:	COM3 🔹
Bits per second:	19200 💌
Data bits:	8
Parity:	None
Stop bits:	1
Timeout (ms)	5000
Protocol Information	
Modbus Slave Address	244
Modbus Mode	RTU
	<u>C</u> ancel <u>O</u> K

Example using module default serial port settings

Transport Information

• **Type** – Select **TCP/IP** or **SERIAL** depending on how you connect to the module

If you select **TCP/IP**, you must provide the *Server IP address* and the *Server Port number* of the module.

munications Information	
Transport Information	
Туре	● TCP/IP O Serial
Server IP Address	192.168.0.251
Server Port Number	502
Timeout (ms)	5000
Protocol Information	
Modbus Slave Address	244

Example using module default network server settings.

• If you select **SERIAL**, you must provide serial communication parameters (*Serial Port, Bits per Second, Data Bits, Parity, Stop Bits*).

Site Configuration				
	Site Configuration			
Setti	ngs Options			
_ Co	mmunications Information]		
	Transport Information			
	Туре	○ ТСР/ЛР		
	Serial port:	COM3 🔹		
	Bits per second:	19200 💌		
	Data bits:	8		
	Parity:	None		
	Stop bits:	1		
	Timeout (ms)	5000		
	Protocol Information			
	Modbus Slave Address	244		
	Modbus Mode	RTU		
		<u>C</u> ancel <u>O</u> K		

Transport Information

• *Timeout* – Enter a timeout value in milliseconds. The default of 5000 should be sufficient.

Protocol Information

- Modbus Slave Address Enter the slave address of the remote Modbus slave.
- *Modbus Mode* Only visible if the *Transport Information* type is **Serial**. Select **RTU** or **ASCII**.

2.2 Site Configuration (Options)

The SITE CONFIGURATION > OPTIONS tab opens the Site Configuration options.

Site Configuration		ar -		
Site Configuration	·	°0		
Settings Options				
Option Information]
- Module Platform Ir	nformation			
Module platform	n	ControlLogix	○ CompactLogix	
Security Informatio	n			
Enable Operator	r Authentication	Disabled	 Enabled 	
Oper	ator ID			
Oper	rator Tag			
Passwo	rd			
Confirm	n Password			
Event Download In	formation			
Event Commit S	ession	Oisabled	O Enabled	
Alarm Download Ir	nformation			
Alarm Commit S	iession	Disabled	C Enabled	
		<u>C</u> ano	cel	<u>o</u> ĸ

Option Information

- Platform Information –Select the appropriate module platform.
- **Security Information** If enabled, you must enter login credentials. The user performing the scan must know the login credentials entered here.

Operator Privileges

The EAFC Export Utility will require at most the following privileges for operation (0x20030000):

- 16: Log download commit
 - Required only for event/alarm commit session
- 17: Logging
- 29: Operator List
 - Required for event download operator id/tag/name reference
- Event Download Information

- Event Commit Session If enabled, the application sends the commit command to close the download session. For example, a single download and export may produce 10 events. However, when the next run occurs, and no new events have occurred, the download and export returns no events. When a third run occurs, and a single new event had occurred since the last commit, the download and export will return that 1 new event.
- If disabled, you'll get all events not committed, however, the application will send the abandon command to close the download session. For example, a single download and export may produce 10 events. However, when the next run occurs, and no new events have occurred, the download and export still returns the 10 events. When a third run occurs, and a single new event occurred since the last commit, the download and export will return the same 10 events plus the 1 new event for a total of 11 events.
- Alarm Download Information
 - *Alarm Commit Session* Similar to the Event Commit Session, except that it returns alarms the same way.

Site Configuration Special Notes

The following special notes should also be understood with regard to the site configuration settings:

• If commit session is enabled for the *Alarm/Event* download configuration, only the new alarms/events from the previous run will be downloaded from the module.

2.3 Meter Configuration (Settings)

This page allows you to filter which meters will be polled and exported.

Meter Information

• ALLOW ALL METERS TO BE EXPORTED – When enabled, all meters are allowed to be exported. When disabled, the user may specify which meters are allowed to be exported.

Meter Configuration				
Meter Configuration				
Settings				
Meter Information				
Allow All Meters To Be Exported				
✓ Meter 1 ✓ Meter 2				
Meter 3				
Meter 4				
✓ Meter 5				
🗹 Meter 6				
Meter 7				
✓ Meter 8 ☐ Meter 9				
Meter 9				
Meter 11				
Meter 12				
🗹 Meter 13				
Weter 14				
Meter 15				
✓ Meter 16				
	Canaal	OK		
	<u>C</u> ancel	<u>O</u> K		

Meter Configuration Special Notes:

The following special notes should also be understood with regard to the meter configuration settings:

- The export function will only export meters which are both allowed to be exported in the EAFC Export Utility and which are enabled in the module.
- If there are no enabled meters in the module, the export function is bypassed.

2.4 Export Configuration (Settings)

This page allows you to set up your export information.

Export Information

- **Type** Select the appropriate export format option from the drop-down list. Available options include:
 - CSV Exports the data as a Microsoft comma separated variable (CSV) file.
 - *FlowCalCFX_v5* Exports the selected data sections to a FlowCal Common Exchange Format (CFX) version 5.1.0 compatible file.
 - *FlowCalCFX_v7* Exports the selected data sections to a FlowCal Common Exchange Format (CFX) version 7.0.6 compatible file.
 - *FlowCalCFX_v8* Exports the selected data section to a FlowCal Common Exchange Format (CFX) version 8.2.1 compatible file.

Second Se	on A					
Export Configu						
Settings User Defin	Settings User Defined Fields					
Export Information						
Туре	FlowCalCFX_v8					
Data	Configuration × Events × Alarms × Hourly Archive × Daily Archi					
Export alarm						
Export event	details					
Folder	C:\Program Files (x86)\ProSoft Technology\EAFC Export Utility					
Enable Date Range Filtering Enable Relative Date Range Filtering						
Start Date	Tuesday, February 27, 2018 👻					
End Date	Tuesday, April 03, 2018 👻					
	Cancel OK					

Export Configuration FlowCal Export Type Special Notes:

- FlowCal version 5 export type:
 - FlowCal version 5 export supported sections include:
 - Header

- Configuration
- Events
- Alarms
- History
- Terminator
- The FlowCal version 5 History section may be populated from either the meter hourly or daily archive records.
- The FlowCal version 5 History section will be populated with History Type 4 records.
- The FlowCal version 7 or version 8 export types:
 - The FlowCal version 7 or version 8 export supported sections include:
 - File Header
 - Meter Configuration
 - Meter Events
 - Meter Alarms
 - Periodic Flow Data History
 - Alternate Periodic Flow Data History
 - Liquid Product
 - File Terminator
 - The FlowCal version 7 or version 8 Periodic Flow Data History section will be populated from the meter hourly archive records.
 - The FlowCal Alternate Periodic Flow Data History will be populated from the meter daily archive records.
 - The FlowCal version 7 or version 8 history section record types:
 - Gas Meters: History Type 2 records
 - Liquid Meters: History Type 13 records
- The generated export filename extension will be .cfx for **FlowCal** export types.
- The export function generates a single file per enabled meter using the selected date range or up to the last 35 days of data from the module for **FlowCal** export types.

• Type – CSV

Support Configuration				
Export Configurat	ion			
Settings Advanced				
Export Information				
Туре				
Data	Configuration × Events × Alarms × Hourly Archive × Daily Archi			
Append data to	existing file			
Individual meter	files			
	🖌 Export alarm details			
Export event de	tails			
Folder	C:\Program Files (x86)\ProSoft Technology\EAFC Export Utility			
Enable Date Rar	nge Filtering			
Enable Relative	Date Range Filtering			
Start Date	Tuesday, February 27, 2018 *			
End Date	Tuesday, April 03, 2018 v			
Lind Date	nuclear, npm os, core			
	Cancel QK			

For the **CSV** export type, the following additional configuration options are available:

- APPEND DATA TO EXISTING FILE If selected, the export appends to an existing file if one exists. If not selected, the export function deletes the existing file and creates a new file per section.
- INDIVIDUAL OR CONSOLIDATED METER FILES The default is INDIVIDUAL METER FILES. Consolidated meter files will export meter data to a common file for all meters. Individual meter files will export meter data to a file per meter.

Export Information CSV export type special notes:

The following special notes should also be understood with regard to the export configuration settings CSV export type options:

- If the **Consolidated meter files** option is selected, but the **Append data to existing file** is not, the export function creates a new file per section with all metered data.
- If the **Consolidated meter files** and the **Append data to existing data** options are both selected, the export appends to an existing file per section with all metered data.
- If the **Individual** option is selected, but the **Append data to existing file** is not, the export function creates a new file per section for each enabled meter.
- If the **Individual** and the **Append date to existing file** options are both selected, the export function appends to an existing file per section for each enabled meter.
- The export filename extension will be .csv for **CSV** export types.

• **Data** – Allows you to specify the type of data to export.

Section 2015 Configuration	
Export Configuration	n
Settings Advanced	
Export Information	
Туре	CSV
Data	Configuration × Events × Alarms × Hourly Archive × Daily Archi
Append data to e	existing file
Individual meter	files
Export alarm det	ails
Export event deta	ails
Folder	C:\Program Files (x86)\ProSoft Technology\EAFC Export Utility
Enable Date Rang	ge Filtering
Enable Relative D	Pate Range Filtering
Start Date	Turaday Estavora 27, 2010
Start Date	Tuesday, February 27, 2018 *
End Date	Tuesday, April 03, 2018 👻
	<u>Cancel</u> <u>QK</u>

Available meter data types include:

- Configuration
- Events
- Alarms
- Hourly Archive
- Daily Archive

• Folder – The folder location in which the export file(s) will be generated.

Section (Configuration				b l		
Exp	ort Configuratio	n					
Settings	Advanced						
Export 1	Information						
Туре		CSV				*	
Data	L.	Configuration ×	Events ×	Alarms ×	Hourly Archive	Daily Archi	
A;	ppend data to e	xisting file					
🗌 In	dividual meter f	iles					
	ort alarm deta						
Ex	port event deta	ils					
Folde	er	C:\Program Files (x8	6)\ProSoft	[echnology	EAFC Export Utilit	у	
	Enable Date Range Filtering						
Start	: Date	Tuesday, February	27, 2018			Ψ.	
End	Date	Tuesday, April 03, 2	018			*	
					<u>C</u> ancel	<u>O</u> K	

- **Enable alarm details** Enable to perform alarm sub element comparison detail and export alarm sub element changes as individual alarm records. Alarm detail records are exported in addition to alarm records.
- **Enable event details** Enable to perform event sub element comparison detail and export event sub element changes as individual event records. Event detail records are exported in addition to event records.

• **ENABLE DATE RANGE FILTER** – Check this box to exclude meter data timestamped outside the entered *Start Date* and *End Date* range.

Export Configuration			
Export Configurati	ion		
Settings Advanced			
Export Information			
Туре	CSV		
Data	Configuration × Events × Alarms × Hourly Archive × Daily Archi		
Append data to	existing file		
Individual meter	files		
🖌 Export alarm det	tails		
Export event det	ails		
Folder	C:\Program Files (x86)\ProSoft Technology\EAFC Export Utility		
Enable Date Ran	nge Filtering		
	Date Range Filtering		
Start Date Tuesday, February 27, 2018			
End Date	Tuesday, April 03, 2018		
	Carrol OV		
	<u>C</u> ancel <u>Q</u> K		

• **Enable Relative Date Range Filtering** – When **Enable Date Range Filter** is selected, check **Enable Relative Date Range Filtering** to exclude meter data older than the specified number of days and/or hours.

Step Export Configu	uration 2					
Export Co	nfiguration					
Settings Adva	inced					
Export Inform	Export Information					
Туре	CSV 🔹					
Data	Configuration × Events × Alarms × Hourly Archive × Daily Archi					
Append	data to existing file					
Individua	al meter files					
🖌 Export a	larm details					
🖌 Export e	vent details					
Folder	C:\Program Files (x86)\ProSoft Technology\EAFC Export Utility					
🖌 Enable D	✓ Enable Date Range Filtering					
🖌 Enable R	Relative Date Range Filtering					
Last 35	Days					
Last 0	Hours					
	<u>C</u> ancel <u>O</u> K					

Export Configuration Special Notes:

The following special notes should also be understood with regard to the export configuration settings:

- The export function will be bypassed if the module is not in a released state. Module released state requires the following:
 - o PLC to be online,
 - \circ Module to have received a valid wall clock from the PLC, and
 - At least one meter to be enabled in the module.
- The generated export filename will be the meter tag name. If the meter tag name is invalid, a convention of M##, where ## represents a 2-digit decimal representation of the meter ID, 1 based within the module.
- The generated export file(s) will be generated in the specified export configuration folder. If a file exists with the same name during export, the existing file is overwritten.

2.5 Run

The **RUN (EXECUTE)** option starts the scan process and exports the file(s) to the designated folder. You can also press F5 to initiate the scan.

3 Export Configuration (Advanced Tab)

The Advanced tab is visible if the selected export Type is CSV.

Steppert Config	guration
Export Co	onfiguration
Settings Adv	vanced
Export Inform	nation
Туре	CSV
Data	Configuration × Events × Alarms × Hourly Archive × Daily Archi
Append	d data to existing file
Individ	ual meter files
Export	alarm details
Export	event details
Folder	C:\Program Files (x86)\ProSoft Technology\EAFC Export Utility
Enable	Date Range Filtering
Enable	Relative Date Range Filtering
	7
Start Date	Tuesday, February 27, 2018 🔹
End Date	Tuesday, April 03, 2018 *
	<u>Cancel</u> <u>OK</u>

Click the tab to perform *Column Mapping* as described in the next section.

3.1 Column Mapping Interface

Choose *Export Configuration* export type **CSV > ADVANCED** to open the *Advanced* page.

Secti	ion Conf	guration											
: 🕂	\X 1	ŧ.			Filenam	e	Con	figuratio	n				
#					Tag Name			Tag Description					
0	Meter			Mcf	fg.Mtr1		Meter number (1-based)						
1	Date Time			Mcf	Mcfg.DateTime UTC date and time stamp								
2	Tag			Mcf	fg.Mtag		Met	er tag					
3	Enable			Mcf	fg.MopC.N	Menb	Met	er enable	•				
4	General Ty	pe		Mcf	Mcfg.Dvld.Kind Meter general type								
5	Manufactu	er		Mcfg.Dvld.Makr Meter r			Meter manufacturer						
6	Model			Mcf	fg.Dvld.M	odl	Met	er mode					
4	e												Þ
Previ	ew												
Met	ter Date Ti	Tag	Enat	ole	Genera	Manu	ıf	Model	Serial	Meter	Nomin	Meter	А

Column Mapping Configuration

• **Section** – This drop-down list allows you to select the meter data section for the column mapping definitions.

<u>x</u>	Export (Config	uration											
Settin	gs Ad	vance	d											
Section	on 🖸	onfigu	uration											
			uration											
: 🔶	- 🔽 🏉	vents												
		larms												
#			Gas Mete											
0	Meter	ourly	Liquid Me	eter Are		gaviti i		we	ter numb	er (1-base	u)			_
1	Date Ti	me			Mc	ig.DateTir	me	UT	C date an	d time sta	mp			
2	Tag	Tag			Mcfg.Mtag			Meter tag						
3	Enable	Enable			Mcfg.MopC.Menb				Meter enable					
4	Genera	l Type			Mc	ig.Dvld.Ki	nd	Meter general type						
5	Manufa	cturer	r		Mcfg.Dvld.Makr			Meter manufacturer						
6	Model				Mcfg.Dvld.ModI			Meter model						
-	- · · ·				•••									•
														•
Previe	ew													
Met	er Dat	e Ti	Tag	Enab	le	Genera	Manu		Model	Serial	Meter	Nomin	Meter	Ac
•)
_														

Available meter data sections include:

- Configuration
- Events
- Alarms
- Hourly Gas Meter Archive
- Hourly Liquid Meter Archive
- Daily Gas Meter Archive
- Daily Liquid Meter Archive

Column Mapping Special Notes:

The following special notes should also be understood with regard to the export configuration column mapping settings:

- EAFC Modbus Dictionary sections available per column mapping meter data section:
 - Configuration Section
 - (MdVf) Module Verification
 - (Icfg) Site Configuration
 - (lopr) Site Operational
 - (Mcfg) Meter Configuration
 - (Scfg) Meter Active Stream Configuration
 - (Scaz) Meter Active Stream Analysis
 - (Musr) Meter User-Specified Archivables
 - o Events Section
 - Source tag data is restricted to event log record fields and derived fields.
 - o Alarms Section
 - Source tag data is restricted to alarm log record fields and derived fields.
 - Meter History Archive Sections
 - (Scaz) Meter Active Stream Analysis
 - (Musr) Meter User-Specified Archivables
 - (Mrsl) Meter Calculations
 - (Macm) Meter Accumulations
 - (Sacm) Stream accumulations
 - (MrkS) Meter Archive Status
- Separate section templates are used based upon the meter product and archive type, such as:
 - Hourly Gas Meter Archive
 - Hourly Liquid Meter Archive
 - Daily Gas Meter Archive
 - Daily Liquid Meter Archive

Column Mapping Configuration

• Column Management

Secti	ion Configu	ration									-
: 🔶	X	Ł)	Filenam	e	Configurat	ion				
#	Column	Name		Tag Nam	e		т	ag Descrip	otion		
0	Meter			Mcfg.Mtr1		Meter number (1-based)					
1	Date Time			Mcfg.DateTir	ne	UTC date and time stamp					
2	Tag			Mcfg.Mtag		Meter tag					
3	Enable			Mcfg.MopC.Menb Meter enable							
4	General Type		1	Mcfg.Dvld.Ki	nd	Meter general type					
5	Manufacturer		1	Mcfg.Dvld.M	akr	Meter manufacturer					
6	Model			Mcfg.Dvld.M	odl	Meter mod	lel				
-	e) -
Previ	ew										
	ter Date Ti	Tag	Enabl	e Genera	Mani	ıf Mode	I Serial	Meter	Nomin	Meter	Act

Available column management features include:

- *Add* Add a new column mapping.
- *Edit* Edit the selected column mapping.
- *Remove* Remove the selected column mapping.
- *Up Arrow* Move the selected column mapping up.
- **Down Arrow** Move the selected column mapping down.
- o **Double-click** Edit the selected column mapping.
- *Preview Grid* Allows a preview per section mapping definition.

Column Mapping Configuration

• Filename – The meter data section filename to be exported.

3.2 Adding and Editing Column Mapping by Section

1 Click the ADD button. The *Column Mapping Configuration* page opens.

Column Mappir	ng Configuration		
Column Mapping Ir	nformation		
Column Name			
AFC Dictionary Se	ction	MdVf (Module Verification)	
Tag		Description	
MdVf.DateTime	UTC date and time sta	mp	
MdVf.Date	UTC date		
MdVf.Time	UTC time		
MdVf.FpcG	Firmware product cod	e, group	
MdVf.FpcG.Ptfm	Firmware product code	e, group: platform	
MdVf.FpcG.ApCI	Firmware product code	e, group: application class	
MdVf.Fpcl	Firmware product code	e, item	
MdVf.Fpcl.NrSm	Firmware product code	e, item: number of streams	
MdVf.Fpcl.NrMt	Firmware product code	e, item: number of meters	
MdVf.Vrsn	Firmware version num	per	
MdVf.Vrsn.VrMn	Firmware version num	per: minor version number	
MdVf.Vrsn.VrMi	Firmware version num	per: maior version number	

Column Mapping Information

• **Column Name:** The desired name of the meter data section column.

Column Mapping Information

• **EAFC Dictionary Section** – This is the EAFC Modbus Dictionary section for the meter data. The tag list is filtered by the selected section.

Column Mappir	ng Configuration	
Column Mapping I	nformation	
Column Name		
AFC Dictionary Se	ction	MdVf (Module Verification)
		MdVf (Module Verification)
Tag		Icfg (Site Configuration)
		lopr (Site Operational)
MdVf.DateTime	UTC date and time stam	Mcfg (Meter Configuration)
MdVf.Date	UTC date	Scfg (Meter Active Stream Configuration) Scaz (Meter Active Stream Analysis)
MdVf.Time	UTC time	Staz (Meter Active Stream Analysis)
MdVf.FpcG	Firmware product code,	group
MdVf.FpcG.Ptfm	Firmware product code,	group: platform
MdVf.FpcG.ApCI	Firmware product code,	group: application class
MdVf.Fpcl	Firmware product code,	item
MdVf.FpcI.NrSm	Firmware product code,	item: number of streams
MdVf.FpcI.NrMt	Firmware product code,	item: number of meters
MdVf.Vrsn	Firmware version number	er
MdVf.Vrsn.VrMn	Firmware version number	er: minor version number
MdVf.Vrsn.VrMi	Firmware version number	er: maior version number

- *Tag* Dictionary tag name.
- **Description** Dictionary tag description.

Column Mapping Information

Double-click or Selection-change – Copies the selected tag description to be the default column name.

Column Mapping Config	
Column Mapping Informati	on
Column Name	UTC time
AFC Dictionary Section	Mcfg (Meter Configuration)
Tag	Description
MdVf.DateTime	UT_date and time stamp
MdVf.Date	DTC date
MdVf.Time	UTC time
Mcfg.Mtr1	Meter number (1-based)
Mcfg.Mstt	Meter status
Mcfg.Mstt.Menb	Meter status: Meter enabled, not yet archived
Mcfg.Mstt.Offl	Meter status: Backplane communications fault since last archive
Mcfg.Mstt.MsCf	Meter status: Measurement configuration changed since last archive
Mcfg.Mstt.Pwup	Meter status: Power up since last archive
Mcfg.Mstt.Cold	Meter status: Cold start, not yet archived
Mcfg.AcS0	Active stream number (0-based)
Mcfa.MSal	Meter signals (extension)

As you make your selections, the *Column* and *Tag Names* change to match each section.

2 Click **OK**. Your new column definition appears in the *Preview* section.

(<u>র</u> Sett) '	rt Con Advan	_										
	Sec	ction	Conf	igurati	ion									-
	: 4	• 🔨	X	ł			F	ilename	Confi	guration				
1	#		Coli	umn N	ame			Tag Nam	e			Tag Des	cription	
L	0	UTC ti	me				Md\	/f.Time		UTC time				
١	1	Meter					Mcfg	g.Mtr1		Meter nur	nber (1-	based)		
	2	Date 1	lime				Mcfg	g.DateTime		UTC date	and tim	e stamp		
	3	Tag					Mcfg	g.Mtag		Meter tag				
	4	Enable	2				Mcfg	g.MopC.Me	nb	Meter ena	ble			
	5	Gener	al Type	2			Mcfg	g.Dvld.Kind		Meter ger	neral typ	be		
	6	Manut	facture	r			Mcfg	g.Dvld.Maki		Meter ma	nufactu	rer		
	-										• •			Þ
	Pre	view												
(UT	C time	Neter	Date	Time	Tag	Enable	General Ty	pe Ma	nufacturer	Model	Serial Number	Meter Size	Nor
	4													ŀ
1														

3 Repeat the process until you are satisfied with your column definitions.

Remember...

- Use the *Edit* button to make changes.
- If you want to move your new column, use the Up or Down arrows.
- If you want to delete a column, use the *Remove* button.
- 4 Click **OK** when complete.

4 Export Configuration (User Defined Fields Tab)

The User Defined Fields tab is visible if the selected export Type is FlowCal.

Second Export Configuration	
Export Configuration	on
Settings User Defined	Fields
Export Information	
Туре	FlowCatCFX_v8
Data	Configuration × Events × Alarms × Hourly Archive × Daily Archi
Export alarm det	ails
Export event det	ails
Folder	C:\Program Files (x86)\ProSoft Technology\EAFC Export Utility
Enable Date Ran	ge Filtering Pate Range Filtering
Start Date	Tuesday, February 27, 2018 👻
End Date	Tuesday, April 03, 2018 👻
	<u>C</u> ancel <u>O</u> K

Click the tab to perform User Defined Field Mapping as described in the next section.

4.1 User Defined Field Mapping Interface

Choose one the *Export Configuration* export *types* for **FLOWCAL > USER DEFINED FIELDS** to open the *User Defined Fields Mapping* page.

) Exp	port Config	uration		6	
Ŕ	Export Co	onfiguration		N3	
Setti	ings User	Defined Fields			
-U	ser Defined	Field Mapping]
Se	ction Ho	ourly Gas Archive	Jser Defined Fields		•
: 🔨	X	L			
	Tag Name	Tag Description			
01					
02					
03 04					
04					
05					
07					
08					
09					
10					
				<u>C</u> ancel	<u>O</u> K

User Defined Field Mapping

• **Section** – This drop-down list allows you to select the FlowCal CFX file format dependent user defined fields section for user defined field mapping definitions.

Export Configuration	
Settings User Defined Fields	
User Defined Field Mapping	
Section Hourty Gas Archive User Defined Fields	•
i ≦ X 1	
# Tag Name Tag Description	
01	
02	
03	
04	
05	
06	
07	
08	
09	
10	
Cancel	<u>o</u> k

The available user defined field sections are based upon the version of the selected FlowCal CFX file format export type.

User Defined Fields Mapping Special Notes:

The following special notes should also be understood with regard to the export configuration user defined field mapping settings:

- FlowCal CFX version 5 User Defined Field Sections
 - Configuration
 - o History
- FlowCal CFX version 7 or version 8 User Defined Field Sections
 - Hourly Gas Archive User Defined Fields
 - Hourly Liquid Archive User Defined Fields
 - Daily Gas Archive User Defined Fields
 - o Daily Liquid Archive User Defined Fields
- EAFC Modbus Dictionary sections available per user defined field section:
 - FlowCal CFX version 5 Configuration User Defined Field Section
 - (MdVf) Module Verification
 - (Icfg) Site Configuration
 - (lopr) Site Operational
 - (Mcfg) Meter Configuration
 - (Scfg) Meter Active Stream Configuration
 - (Scaz) Meter Active Stream Analysis
 - (Musr) Meter User-Specified Archivables
 - (Mrsl) Meter Calculations
 - (Macm) Meter Accumulations
 - (Sacm) Stream accumulations
 - (MrkS) Meter Archive Status
 - FlowCal CFX version 5, 7, or 8 History User Defined Field Section
 - (Scaz) Meter Active Stream Analysis
 - (Musr) Meter User-Specified Archivables
 - (Mrsl) Meter Calculations
 - (Macm) Meter Accumulations
 - (Sacm) Stream accumulations
 - (MrkS) Meter Archive Status

User Defined Field Mapping

• User Defined Field Management



Available user defined field management features include:

- *Edit* Edit the selected user defined field mapping.
- *Remove* Remove the selected user defined field mapping.
- **Up Arrow** Move the selected user defined field mapping up.
- **Down Arrow** Move the selected user defined field mapping down.
- **Double-click** Edit the selected user defined field mapping.

4.2 Editing a User Defined Field Column

1 Click the **ADD** button. The User Defined Field Mapping Configuration page opens.

AFC Modbus Dictionary I	nformation	
Tag	Description	•
MrslJvsc	Viscosity, cP	
Mrsl.J3gh	AGA 3, Mass flow rate, Qm	
Mrsl.I3ev	AGA 3, Velocity of approach factor, Ev	
MrsIJ3yy	AGA 3, Expansion factor, Y	
MrsIJ3cd	AGA 3, Coefficient of discharge, Cd	
MrsIJ3cf	Composition factor	
MrsIJ3tm	AGA 7, Temperature factor, Ftm	
MrsIJ3pm	AGA 7, Pressure factor, Fpm	
Mrsl.Cprm	C-prime	
Mrsl.HtgN	Molar heating value, MJ/kmol	
Mrsl.HtgM	Mass heating value	
Mrsl.HtgV	Volumetric heating value	
Mrsl.Alfa	API 2540, Thermal expansion coefficient	
MrsI.CtpC	API 2540, Temperature and pressure correction factor, CTPL	
MrsLCswM	Clean oil mass fraction	-

EAFC Modbus Dictionary Information

- *Tag* Dictionary tag name.
- **Description** Dictionary tag description.

2 Select the desired EAFC Modbus Dictionary tag to map to the user defined field and click **OK**. Your new user defined field mapping appears in the selected user defined field index.

© ₽	Sector Configuration						
*	Export Configuration						
Set	Settings User Defined Fields						
-u	User Defined Field Mapping						
	Section Hourly Gas Archive User Defined Fields						
1	S ★ ★						
#	Tag Name	Tag Description					
01	Mrsl.HtgV	Volumetric heating value					
02							
03							
04							
05							
06							
07							
08							
09							
10							
		<u>Cancel</u> <u>O</u> K					

3 Repeat the process until you are satisfied with your user defined field mappings for each user defined field section.

Remember...

- Use the *Edit* button to make changes.
- If you want to move your new user defined field mapping, use the *Up* or *Down* arrows.
- If you want to delete a user defined field mapping, use the *Remove* button.
- 4 Click **OK** when complete.

5 Running a Scan

- 1 Connect your laptop to the MVIxxE-AFC. You can connect using the Ethernet port on the front of the module or connect to the Serial port located at the bottom of the module.
- **2** Start the EAFC Export Utility.
- 3 Click **FILE > NEW** to name and save this configuration setup.
- 4 Click Project > Site Configuration.
- **5** Enter your Site Configuration parameters and Site Configuration options.
 - a. Transport Information
 - i. TCP/IP Server IP Address, Server Port Number, or
 - ii. Serial Serial Port, Bits per second, Data bits, Parity, Stop Bits)
 - b. *Timeout in milliseconds*
 - c. *Protocol Information* (Modbus Slave Address, Modbus Mode)
- 6 Click **OK** to save your configuration.
- 7 Click Project > Export Configuration.
- 8 Enter your export parameters.
 - a. Type of output
 - b. Data preferences
 - c. Destination folder
 - d. Date range
- 9 Click **OK** to save your configuration.
- **10** Click **PROJECT > RUN** to run the scan.

6 Optional Command Line Arguments

On startup, the application loads the default configuration file. Command line arguments, if provided and valid, will override the values loaded from the default configuration file. Command line arguments are processed in the order received, which the sole exception for the *Execute.Run* argument, which if provided is always processed last.

Argument	Description
Configuration.File	Path to export folder.
	Configuration.File="C:\Configuration\Site1.xml"
Module.Transport	LOCAL: local serial port channel connection.
	REMOTE: remote network channel connection.
	Module.Transport=REMOTE
Module.Port	[PORT]:[BAUD RATE][PARITY][DATA BITS][STOP BITS]
	Module.Port=COM8:9600N81
Module.Network	[IP ADDRESS]:[PORT NUMBER]
	Module.Network=192.168.0.251:502
Module.Timeout	Modbus transaction timeout in milliseconds.
	Default 5000ms.
	Module.Timeout=5000
Module.SlaveAddress	Modbus slave address. Value 1-247.
	Default 244.
	Module.SlaveAddress=244
Module.Mode	Modbus protocol mode
	Default RTU.
	Valid values: RTU, ASCII
	Module.Mode=RTU
Module.EventCommitSession	TRUE: Use commit session on event download.
	FALSE: Use abandon session on event download. Module. EventCommitSession=TRUE
Module.AlarmCommitSession	TRUE: Use commit session on alarm download.
	FALSE: Use abandon session on alarm download.
•• • • • •	Module. AlarmCommitSession=TRUE
Module.Login	[OPERATOR ID]:[PASSWORD]
	If provided, use OPERATOR ID and PASSWORD credentials for authentication.
	OPERATOR ID: UInt16 value 3, or 100-32767
	PASSWORD: UInt16 value 0-65535
	Module.Login=100:12345
	[OPERATOR ID]:[OPERATOR TAG]:[PASSWORD]
	If provided, use OPERATOR ID, OPERATOR TAG, and PASSWORD
	credentials for authentication.
	OPERATOR ID: Ulnt16 value 3, or 100-32767
	OPERATOR TAG: STRING length 16 PASSWORD: UInt16 value 0-65535
	Module.Login=100:ProSoft:12345
Module.Platform	Module platform
	Default: 53 (ControlLogix)
	Valid values: 53 (ControlLogix), 54 (CompactLogix) Module.Platform=53
	Wodule. Fationn=55

Argument	Description
Meter.Filter	Meter Filter Bitmask. Value 1-65535 Default: 65535 Meter.Filter=65535
Export.Type	[TYPE], must be one of the following values: FlowCalCFX_v5, FlowCalCFX_v7, FlowCalCFX_v8, CSV Export.Type=FlowCalCFX_v8
Export.Append	TRUE: Append data to existing export file. FALSE: Overwrite any existing export file. This option is valid for CSV Export Types only. Export.Append=FALSE
Export.Consolidate	TRUE: Consolidate meter data to common export files per section.FALSE: Individual meter export files per section.This option is valid for CSV Export Types only.Export.Consolidate=FALSE
Export.Data	[DATA], bitmask of data sections to export BIT 0: Configuration BIT 1: Events BIT 2: Alarms BIT 3: Hourly Archive BIT 4: Daily Archive To only export the configuration and event data sections, use Export.Data=3 To export all data sections, use Export.Data=31
Export.Folder	Note: Export.type FlowCalCFX_v5 does not support BIT 4: Daily Archive Path to export folder. Funct 5. July 2005201741
Export.DateRange	Export.Folder="C:\FCDATA" [START DATE]:[END DATE] Date formats are YYYYMMDD. Data is inclusive of data range. Export.DateRange=20160101:20160131
Export.RelativeDateRange	[DAYS]:[HOURS] DAYS and HOURS are UInt16. Data is inclusive of data range. To export the last 7 days of data. Export.RelativeDateRange=7:0
Export.AlarmDetails	 >0: Enable export alarm detail records. =0: Disable export alarm detail records Value range 065535 Export.AlarmDetails=65535
Export.EventDetails	 >0: Enable export event detail records. =0: Disable export event detail records Value range 065535 Export.EventDetails=65535
Execute.Run	TRUE: Automatically execute on application run and exit application upon completion. Execute.Run=TRUE

7 Support, Service & Warranty

7.1 Contacting Technical Support

ProSoft Technology, Inc. is committed to providing the most efficient and effective support possible. Before calling, please gather the following information to assist in expediting this process:

- Product Version Number
- System architecture
- Network details

If the issue is hardware related, we will also need information regarding:

- Module configuration and associated ladder files, if any
- Module operation and any unusual behavior
- Configuration/Debug status information
- LED patterns
- Details about the interfaced serial, Ethernet or Fieldbus devices

Note: For technical support calls within the United States, ProSoft's 24/7 after-hours phone support is available for urgent plant-down issues.

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For additional ProSoft Technology contacts in your area, please visit: <u>https://www.prosoft-technology.com/About-Us/Contact-Us</u>.

7.2 Warranty Information

For complete details regarding ProSoft Technology's TERMS & CONDITIONS OF SALE, WARRANTY, SUPPORT, SERVICE, and RETURN MATERIAL AUTHORIZATION INSTRUCTIONS, please see the documents at: www.prosoft-technology/legal

Documentation is subject to change without notice.