Stream Editor

3D machine vision





Described product

Stream Editor

Manufacturer

SICK AG Erwin-Sick-Str. 1 79183 Waldkirch Germany

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Original document

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Contents

1	Abo	ut this d	locument	4
	1.1	Informa	tion on the operating instructions	4
	1.2	Explana	ition of symbols	4
	1.3	Further	information	5
2	Safe	ety infor	mation	6
	2.1	Intende	d use	6
	2.2	Limitati	on of liability	6
	2.3	Modifica	ations and conversions	6
	2.4	Cyberse	ecurity	6
3	Proc	duct des	cription	8
	3.1	Overvie	w	8
4	Inst	allation.		9
	4.1	Softwar	e installation	9
		4.1.1	System recommendations	9
		4.1.2	Installing computer software	9
	4.2	Activati	ng a license	9
		4.2.1	Direct license transfer	10
		4.2.2	Re-hosting licenses	11
5	Оре	ration		14
	5.1	Stream	Editor graphical user interface	14
		5.1.1	Menus	14
		5.1.2	Panels	15
	5.2	Visualiz	ation	19
		5.2.1	2D viewer	19
		5.2.2	3D viewer	20
		5.2.3	Graphs viewer	21
	5.3	Stream	Editor API	21
	5.4	Workflo	w in Stream Editor	22
		5.4.1	Building the step program	23
		5.4.2	Handling log messages	23
6	Ann	ex		25

1 About this document

1.1 Information on the operating instructions

These operating instructions provide important information on how to use devices from SICK AG.

Prerequisites for safe work are:

- Compliance with all safety notes and handling instructions supplied.
- Compliance with local work safety regulations and general safety regulations for device applications

The operating instructions are intended to be used by qualified personnel and electrical specialists.

i NOTE

Read these operating instructions carefully to familiarize yourself with the device and its functions before commencing any work.

The operating instructions are an integral part of the product. Store the instructions in the immediate vicinity of the device so they remain accessible to staff at all times. Should the device be passed on to a third party, these operating instructions should be handed over with it.

These operating instructions do not provide information on the handling and safe operation of the machine or system in which the device is integrated. Information on this can be found in the operating instructions for the machine or system.

1.2 Explanation of symbols

Warnings and important information in this document are labeled with symbols. Signal words introduce the instructions and indicate the extent of the hazard. To avoid accidents, damage, and personal injury, always comply with the instructions and act carefully.



DANGER

... indicates a situation of imminent danger, which will lead to a fatality or serious injuries if not prevented.



WARNING

... indicates a potentially dangerous situation, which may lead to a fatality or serious injuries if not prevented.

CAUTION

... indicates a potentially dangerous situation, which may lead to minor/slight injuries if not prevented.

NOTICE

... indicates a potentially harmful situation, which may lead to material damage if not prevented.

NOTE

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... highlights useful tips and recommendations as well as information for efficient and trouble-free operation.

1.3 Further information

Release notes:

• Available via SICK Support Portal: supportportal.sick.com

2 Safety information

2.1 Intended use

Stream Editor is a computer software application used to solve machine vision tasks. Stream Editor can be used together with:

- Ruler3000
- Ranger3

SICK AG assumes no liability for losses or damage arising from the use of the product, either directly or indirectly. This applies in particular to use of the product that does not conform to its intended purpose and is not described in this documentation.

2.2 Limitation of liability

Relevant standards and regulations, the latest technological developments, and our many years of knowledge and experience have all been taken into account when compiling the data and information contained in these operating instructions. The manufacturer accepts no liability for damage caused by:

- Non-adherence to the product documentation (e.g., operating instructions)
- Incorrect use
- Use of untrained staff
- Unauthorized conversions or repair
- Technical modifications
- Use of unauthorized spare parts, consumables, and accessories

2.3 Modifications and conversions

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NOTICE

☐ Modifications and conversions to the device may result in unforeseeable dangers.

Interrupting or modifying the device or SICK software will invalidate any warranty claims against SICK AG. This applies in particular to opening the housing, even as part of mounting and electrical installation.

2.4 Cybersecurity

Overview

To protect against cybersecurity threats, it is necessary to continuously monitor and maintain a comprehensive cybersecurity concept. A suitable concept consists of organizational, technical, procedural, electronic, and physical levels of defense and considers suitable measures for different types of risks. The measures implemented in this product can only support protection against cybersecurity threats if the product is used as part of such a concept.

You will find further information at www.sick.com/psirt, e.g.:

- General information on cybersecurity
- Contact option for reporting vulnerabilities
- Information on known vulnerabilities (security advisories)

As the device, which the software and API communicates with, complies with the GigE Vision®/GenICam[™] standard, please note the following:

- The device does not support operating entity authentication. Anyone who can connect to the device over Ethernet can perform all operations (firmware update, reboot, and configuration), without entering credentials such as passwords.
- All communication (images, configuration, logs) between the device and the computer is transmitted unencrypted using the UDP protocol.
- The device and computer (including Stream Setup/Stream Editor) must be upgraded to the most recent firmware/software to get security updates.
- The GigE Vision® device discovery is done using UDP port 3956 and further communication is done using dynamic UDP ports.
- When connecting a device, it must be placed on a private network where access control is handled by, e.g., separate firewalls. The recommended connection is to use a separate network card on the computer connected directly to the device.

NOTE

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The provided software and APIs are delivered without cybersecurity considerations. It is expected that when using the provided APIs into a solution, cybersecurity requirements for the solution is considered and implemented as necessary for final solution.

3 Product description

3.1 Overview

Stream Editor is an image processing software for Ranger3 and Ruler3000 cameras. The purpose of the software is to support users utilize step programming and solve machine vision tasks.

The software allows users to create custom image processing workflows through a series of modular steps. Each step represents a specific image processing operation such as filtering, segmentation, or feature extraction. Users can preview the results of each step in real-time, facilitating quick adjustments and optimizations and interactive debugging tools to analyze the impact of each processing step on the image.

With the provided API, the step program is easily integrated into the complete machine vision solution infrastructure.

Stream Editor complies with the GenICam[™] and the GigE Vision[®] standards.

4 Installation

4.1 Software installation

4.1.1 System recommendations

The computer requirements for the system will depend on your application, but as a general guideline the following is recommended for minimal operation:

- Windows 10, 64 bit.
- Open GL 3.3 or later
- Microsoft .NET framework, version 4.7.2



Please read the release notes for detailed information.

4.1.2 Installing computer software

The latest version of the Stream Editor can be downloaded from the SICK Support Portal.



- 1. Log in to the SICK Support Portal.
- 2. Navigate to the Stream Editor page: supportportal.sick.com/downloads/stream-editor/.
- 3. Download the Stream Editor Installer and unzip the file.

The zip file contains the **Stream Editor** software, which is used for the operation procedures described in this manual. To start the installation, click the **StreamEditorInstaller.exe** file.

Accept the license terms and conditions, and follow the instructions in the setup wizard to install **Stream Editor**.



Figure 1: Setup wizard, Stream Editor

4.2 Activating a license

Use the SICK License Central to handle a license. The majority of the features in the software is not possible to use until a license is activated.

The activation process:

• Direct license transfer, see "Direct license transfer", page 10

The direct license transfer requires an internet connection while connected to the computer.

4.2.1 Direct license transfer

NOTE
The license can also be reused on a different computer.

1. Make sure that the computer has internet access. Open a web browser and enter https://license.sick.com/.

S CodeMeter License Central Web/ × +	
S https://license.sidk.com	
SICK Sensor Intelligence.	English
Home Auto Update	
Welcome to CodeMeter License Central WebDepot	
Welcome to CodeMeter License Central WebDepot. You can transfer your licenses to your CmContal Please enter your ticket and click "Next".	iner using this WebDepot.
Ticket: X000004-0000004-0000004-0000004	
Next	
Imprint Terms and conditions Terms of use Data protection CodeMeter License Central WebDepot v19.07.	

- 2. Enter the ticket ID purchased from SICK.com or reused from another computer.
- 3. Click Next to see available licenses. Click Activate Licenses.

SICK ensor Intelligence.		En	glish 💌
Home My Licenses Auto Update			
/ly Licenses			
Name	Activated On	CmContainer	Status
STREAM EDITOR TRIAL LICENSE (License Quantity: 1)	-		Available

4. Select the license and use the default CmContainer shown in Select CmContainer. Select Activate Selected License Now.

Sens	sor Inte	elligence.				
Н	ome	My Licenses	Auto Update			
٩va	ilable	e Licenses				
T c 1. 2	o activa . Select . Select	ate your license the licenses you the locally conn	s: want to activate. ected CmContainer to	o which you want to transfer tl	ne licenses.	
3.	. Click "	Activate Selected	Licenses Now".			
3.	. Click "	Activate Selected	l Licenses Now".	Activated On	CmContainer	Status
3.	Name STREA	Activate Selected e AM EDITOR TRIAL e Quantity: 1)	I Licenses Now".	Activated On -	CmContainer	Status Available

5. The license activation starts. Click **OK** when completed.



✓ The license is now activated on the computer.

4.2.2 Re-hosting licenses

Make sure that the license you want to re-host is located in a CmContainer on the computer.

1. Make sure that the computer has internet access. Open a web browser and enter https://license.sick.com/.

- mapoy needed and a				
	SICK		English	
	Sensor Intelligence.			
	Home Auto Update			
	Welcome to CodeMeter License Central WebDepot			
	Welcome to CodeMeter License Central WebDepot. You can transfer your licens Please enter your ticket and click "Next".	ses to your CmConta	iiner using this Web[Depot.
	Ticket:			
	XXXOXX-XXXOXX-XXXOXX-XXXOXX-XXXOXX			
	Next			

- 2. Enter the ticket ID purchased from SICK.com.
- 3. Click Next to see available licenses. Click Re-Host Licenses.

5IC	K				English			
šensor Intelligence.								
Home	My Licenses Auto Upo	date						
Ny Lice Re-Ho	nses ost Licenses							
Ay Lice Re-Ho ➡ Nai	nses st Licenses me ▼	Activated On V	CmContainer V	Comment V	Status V	Amount		

Imprint | Terms and conditions | Terms of use | Data protection | CodeMeter License Central WebDepot v19.07.210.500.ws | © 2020 SICK AG

4. Follow the instructions and select Deactivate Selected License Now.

Home My Licenses	Auto Update			
e-Hostable Licenses				
To re-host licenses from 1. Make sure that the Cmu connected to this comp 2. Select the licenses you 3. Click "Deactivate Select 4. After the successful dea	one CmContainer to Container with Serial buter, connect it now a want to re-host. ted Licenses Now". activation of the select	a another CmContainer: 130-3453891240 is connected to and click "Rescan for CmContaine ted licenses, you can activate the	this computer. If this Cn r". m again in another CmC	nContainer is not iontainer.
Name		To Deactivate All None	Available	Amount
Name STREAM EDITOR TRIAL LICE	NSE	To Deactivate All None	Available	Amount 1
Name STREAM EDITOR TRIAL LICE omment	NSE	To Deactivate All None	Available	Amount 1
Name STREAM EDITOR TRIAL LICE omment Deactivate Selected Lice	INSE	To Deactivate All None	Available 1	Amount 1 File-based license tran

5. The license deactivation starts. Click **OK** when completed.

Online License Transfer
Starting license transfer. Creating license request. Downloading license update. Importing license update to CmContainer. Creating receipt. Uploading receipt.
License transfer completed successfully!
ОК

 \checkmark The license is now deactivated from the computer and possible to reuse.

5 Operation

5.1 Stream Editor graphical user interface

Stream Editor is used to solve image processing tasks for Ranger3 and Ruler3000 applications. The software does not offer a full solution for an application, since this normally also includes parameter settings of the camera, as well as result handling.

It is not possible to change the parameters while the step program is running.

		3	
2	SICK		Stream Editor
	Main · I ► ↔ → · · · ↓ [X] Variables ② Graphs ② Visualize	B Program steps	r → r
0	S Import Image 2000 × 1000, Unit Millimeter Taschmage 20	0 ¹ / ₂ Lost from foder 1 ¹ / ₂ Lost from foder 2 ¹ / ₂ Coge condinate system 3 ¹ / ₂ Crop image 4 ¹ / ₂ Figure 5 ¹ / ₂ Softract plane 6 ¹ / ₂ Point height 7 ¹ / ₂ Point height 8 ¹ / ₂ 17 ¹ / ₂ Point height 8 ¹ / ₂ 17 ¹ / ₂ Point height 18 ¹ / ₂	Nome Nome 7 Nome 8 Source image 8 Source image 4 Object locator 5 Search region 20 Zmin 100 O 11 O 28 Rotation resolution 1 O 3 Min detance
	BattanföytCaner 2 den) BattanföytCanerMathed 2 anny Mourtsgibions 4 den) Teethöinis 12 den) Teethöinis 12 den) Peethöinis 12 den) Peethöinis 2 den) Peethöini	2. En live Fieldet edge 10 En live Fieldet edge 11 & Live interaction 12 & Live interaction 12 & Live interaction 13 & Distance 2D 14 L B Delete variables 1	1 Ministere 6.7 V Ministere 6.7 V Manie Value
10	log C(MasureSDCardReaderMeasureSDCardReader.envi		

Figure 2: Graphical user interface

- Variables list panel
- 2 Program controls
- ③ Program steps panel
- ④ Menu
- (5) Arguments panel
- 6 Results panel
- ⑦ Add step button
- 8 Variable information panel
- 9 Environment file path
- 10 Log section

This section gives an introduction to Stream Editor with its different panels and functionalities.

5.1.1 Menus

Program controls

In the program controls section you find the name of the currently selected step program along with possibilities to create new programs. Use the buttons to run the program in different ways.



Figure 3: Program controls GUI reference

- 1) Program name
- 2 Program menu
- ③ Run the selected step program (F5)
- ④ Run the selected step program continuously
- (5) Run the selected step (F9)
- 6 Run the selected step and move to the next step (F10)
- ⑦ Step into a Run step program step (F11)

Menu

The menu includes options to get further help with and knowledge about the software, e.g. the application version and API documentation.

St	trear	n Editor	:
	ŧ	New	Ctrl+N
	8	Save	Ctrl+S
	8	Save as	Ctrl+Alt+S
		Open	Ctrl+O
		Recent	
	۵	Settings	
	?	API Docum	entation
		About	
	€→	Exit	Alt+F4

Figure 4: Stream Editor menu GUI reference

Open Settings to set up the environment for automatic saving and define the time interval.

5.1.2 Panels

5.1.2.1 Variables panel

The **Variables** panel shows the step results as variables in a variable list. A variable can also be loaded directly from file, using the button **Import**. A variable needs to have a unique name, since the name identifies the variable when used as input to the step arguments.

χ Variables	🔀 Graphs	🖸 Visualize
🛓 Import		
Image		2 item(s) \land
Image	2000 x 1000, Unit: Millimeter	
TeachImage	2000 x 1000, Unit: Millimeter	
ObjectLocator		1 item(s) ^
ObjectLocator		
Point2D		8 item(s) ^
BottomLeftCorner		1 item(s)
BottomLeftCornerMatched		1 item(s)
BottomRightCorner		1 item(s)
BottomRightCornerMatched		1 item(s)
MountingPoints		4 item(s)
MountingPointsMatched		4 item(s)
TeethPoints		12 item(s)
TeethPointsMatched		12 item(s)
Point3D		2 item(s) \land 🔻

Figure 5: Variables panel GUI reference

5.1.2.2 Program steps panel

Use the **Program steps panel** to add the steps to solve image processing tasks. A step contains a tool that takes a list of arguments as inputs and returns a list of results. The results can be used as input arguments to steps located further down in the step program.

Program steps						
0		Load from folder		7		
1	0	Locate object		8		
2	K	Change coordinate system		4		
3	口	Crop image	Remove background	5		
4	1	Fit plane		29		
5	11	Subtract plane		17		
6	Î	Point height	Mounting point coplanarity	3		
7	₽ 1	Point height	Teeth deviations	2		
8]5	Fit line	Find bottom edge	3		
9]5	Fit line	Find left edge	1		
10] £	Fit line	Find right edge	1		
11	×	Line intersection	Find bottom left corner	1		
12	×	Line intersection	Find bottom right corner	0		
13	Ż	Distance 2D		1		
14	[]	Delete variables		3		
		+ 4	dd step			
	Total time: 85 ms					

Figure 6: Program steps panel GUI reference

5.1.2.3 Arguments panel

The step arguments can use different types of input.

- Variable: Use a variable as input.
- Fixed value: Use a number, selection from a dropdown list box, or a checkbox as input.
- **Optional:** The argument can be empty. The argument description explains how an optional argument is treated when it is empty.

Hoover over an argument to see the description.

₩ Arguments						
Name		Value				
Source image		Image				
Rectangle	Rectangle (Ontional)					
Min Range Type: Rectangle						
Max Range	The area to be cropped. If empty: The whole wid	th and height of the image is kept.	Ŷ			

Figure 7: Arguments panel GUI reference

5.1.2.4 Results panel

A step produces one or multiple result variables. The result list of the step specifies the names of the result variables. A result can be optional. When leaving an optional result empty, the result will not produce any variable when running the step.

Results						
Name	Value					
Object locator	ObjectLocator					
Teach transform	TeachTransform					
Edge feedback						

Figure 8: Results panel GUI reference

5.1.2.5 Variable information panel

The Variable information panel shows detaild information about the selected variable.

χ Variables			Graphs	Ø	Visualize		
🛓 Import							
Image				ź	? item(s) ^		
CroppedIm	age 2000 x 1000, Unit: Millimeter						
TeachImage	e 2000 x 1000, Unit: Millimeter						
X Variab	le information				^		
Size:	(2000, 1000)						
Scale:	(0.0369, 0.05, 0.0001)						
Offset:	(102.939, 0, 62.7661)						
X min/max:	(102.939, 176.617)						
Z min/max:	(62.7661, 68.0378)						
Unit:	Millimeter						

Figure 9: Variable information GUI reference

There are different types of variables. Some of the variables are built up of a list consisting of multiple variable elements. Many of the variables can be visualized in one or multiple viewers.

	alibrationModel	Single	None
0			
_○'	bjectLocator	Single	None
	llipse	List	2D
In In	nage	Single	2D/3D
e Li	ine2D	List	2D
123 ^N	lumber	List	None
Pi	ixelRegion	List	2D
	lane	List	3D
P	oint2D	List	2D
P	oint3D	List	3D/Graph
	ointCloud	Single	3D
	rofile	List	Graph
R	ectangle	List	2D
66 99 St	tring	List	None
Tr	ransform2D	List	None
Tr	ransform3D	List	None

Table 1: Variable types

5.2 Visualization

5.2.1 2D viewer

Use the **2D viewer** to show images and 2D geometric variables. Click on **Visualize** from the **Variables** panel to open the **2D viewer** window.



Figure 10: 2D viewer GUI reference

Use the button Add variable to create variables directly in the 2D viewer. When creating a variable in the viewer, it is added to the variable list. These variable types can also be modified by clicking on the edit button next to the variable.

SE Viewer					
:	+ Add variable				
Image	Point2D				
	Line2D				
\bigcirc	Rectangle				
	Ellipse				

Figure 11: Add variable menu in the 2D viewer

5.2.2 3D viewer

Use the **3D viewer** to show images and **3D** geometric variables. Click on **Visualize** from the **Variables** panel and select the button **3D** to open the **3D viewer** window.



Figure 12: 3D viewer GUI reference

5.2.3 Graphs viewer

Use the **Graphs** viewer to visualize the **Profile** variable. The viewer can also show **Point3D** variables. Click on **Graphs** from the **Variables** panel to open the **Graphs** window.



Figure 13: Graphs viewer GUI reference

5.3 Stream Editor API

Stream Editor comes with a C# API, which is used for integrating a developed step program into a vision system application. The API is distributed as a set of NuGet packages and can be used from a .Net application in Visual Studio. The API includes:

- Functions for loading and run step programs that have been created in Stream Editor.
- User controls for visualizations .
- Functions for creating step programs and variables directly from code.

i NOTE

The installation includes API documentation and some C# examples.

The Stream Editor NuGet packages are available from the SICK hosted Artifactory package source (artifactory.sick.com). To add the source to your IDE, a SICK PartnerID is needed. The Stream Editor NuGet packages are available from the package source repository: artifactory.sick.com/ui/repos/tree/General/stream-editor-nuget-local

Adding the source

- 1. Click on the button Set Me Up.
- 2. Click on the the button Generate Token & Create Instructions.
- 3. Follow the instructions to add the package source to Visual Studio.

After adding the source, install the following NuGet packages to access the API

- Sick.Stream.Algorithms.DotNet
- Sick.Stream.Algorithms.Native
- Sick.Stream.Common
- Sick.Stream.Controls
- Sick.Stream.Processing

NuGet - Solution +> ×		- 0
Browse Installed Updates Consolidate		Manage Packages for Solution
sick.stream × - 🖒 🖌 Include prerelease		Package source: nuget-div02 • 🏟
	A.	
Sick.Stream.Algorithms.DotNet by SICK, 15 downloads	0.3.1225	
Stream Editor data types and tools	0.4.1	
Sick.Stream.Algorithms.Native by SICK	0.4.1	
Stream Editor data types and tools		
Sick.Stream.Common by SICK. 14 downloads	0.3.1225	
Stream Editor common	0.4.1	
Sick Stream Controls to SICK 14 Annuals	0.2.1225	
Stream Editor WPF controls	0.4.1	
Sick.Stream.Processing by SiCK, 14 downloads Stream Editor processing environment	0.3.1225	
Each package is licensed to you by its owner. NuGet is not responsible for, nor does it grant any licenses to, third-party packages.		
Do not show this again		

Figure 14: Manage NuGet packages

5.4 Workflow in Stream Editor

Before starting the work in **Stream Editor**, use the **Stream Setup** software to collect images. It is possible to acquire images from a camera directly in the step program. It is easier to use already collected images in this step. Using collected images makes it easy to tweak parameters and re-run the program with the same image collection, and compare the results.

NOTE

i

The **Stream Editor** software is not intended to solve a complete machine vision application. The user needs to configure the camera in **Stream Setup**. **Stream Setup** might also be used for calibration and for collecting images. A complete solution typically includes a custom-made C# application that runs the developed step program using the Stream Editor API. This part of the workflow is not covered in this manual.

5.4.1 Building the step program

Adding a step

1. Add a step to the bottom of the program using the button + Add step. You can also select an existing step and select the RMB menus Add before or Add after. When selecting a step, explanations of the settings are shown.

	Progr	ram steps					Arguments		
#	* Name Comment Ms				Name	Value			
0		Load from folder			7		Source image	Image	
1	t	Add step						×	
		Search	😡 Locat	e object					
		 Acquisition Calibration Calibration 							
		> Control flow	Arguments					- 1	
		> Data fitting	Source image	Image	Image The input image.			- 1	
		> Feature analysis	Object locator	ObjectLocator		The	ObjectLocator variable generated from Teach object		
		 > File > Geometry 2D 	Search region	PixelRegion,		Opt insid	ional match region, the center of the match object(s de this region.	must be	
		> Geometry 3D		Nectangle, cinj	pse	lf er	mpty: The whole image will be searched.		
		> Image	Z min	Double		Unit	tes that are located below this neight are rejected.		
		~ Locate	Z max	Double		Edg	es that are located above this height are rejected.		
		Change coordinate system	Rotation range	Double		The obje	et minimeters maximum rotation of the match object in relation to ect. Can be a value between 0 and 180 degrees. A lar inficantly increase the processing time.	the teach ge value will	
		Q Locate object				Min	n: 0 Max: 180 Unit: Degrees		
		 Teach object Pixel region 	Rotation resoluti	ion Double		Sear Reso 24,2	ermines the number of rotation angles that are teste rch, for example if Rotation Range is 30 degrees and olution is 3 degrees, the tested angles will be [-30, -2 27,30] degrees.	d in the the Rotation 17, -24	
		> Point cloud				Min	n: 0 Unit: Degrees		
			 Min distance 	Double		. ne	in the sparce search two candidates.	•	
interpr	retec						Cancel	Add step	

- 2. Select Add step to include the step in the program.
- 3. Add a description to the step in the column Comment (optional).
- 4. Proceed to Arguments panel to set the parameters, see "Setting the parameters", page 23.
- 5. Continue with steps 1 to 4 until the program is finished.
- 6. Save the program as a processing environment file.

Deleting a step

- 1. Use the RMB menu.
- 2. Select Remove.

5.4.1.1 Setting the parameters

Use the **Arguments** and **Results** panels to define the input and output for each step. Use **F1** to open the descriptions for the selected step.

Different settings are available depending on the selected step. Specify the setting in the **Value** column for both arguments and results.

The variable name given in the result Value column can be used as input to a later step.

i NOTE

The variable name is the identifier and must be unique.

5.4.2 Handling log messages

At the bottom of the main window, there is a section where log messages are available. The messages can be hidden and shown by clicking the **Log** button.

The system assigns each log message a level, either **Error**, **Warning**, or **Message**. Select the levels of interest to see the log messages. With the **Search log** function, it is possible to filter within the selected visible log messages.

93	Errors 🛕 0 Warnings	6 Messages Search log	≡ _x Clear	D Open log folder
8≣	Time	Message		
0	2024-02-21 10:10:27.179	Run step program: Program.		-
0	2024-02-21 10:10:27.221	Running step: LoadFromFolder.		
0	2024-02-21 10:10:27.246	Load from folder: Value cannot be null. Parameter name: path2		
0	2024-02-21 10:10:29.681	Run step program: Program.		
	2024 02 21 10 10 20 719	Running story LoadEcomEoldor		
Log	C:\MeasureSDCardReader\A	leasureSDCardReader.envi		

Figure 15: Messages and errors shown in the log

The **Clear** button clears all log messages. The saved log messages can be viewed using the **Open log folder** button. A file browser opens at the location of the log file, allowing easy access to the stored log.

6 Annex

SICK uses open source software which is published by the rights holders under a free license. Among others, the following license types are used: GNU General Public License (GPL version 2, GPL version 3), GNU Lesser General Public License (LGPL), MIT license, zlib license and licenses derived from the BSD license.

This program is provided for general use without warranty of any kind. This warranty disclaimer also extends to the implicit assurance of marketability or suitability of the program for a particular purpose.

More details can be found in the GNU General Public License.

For license texts see www.sick.com/licensetexts.

Printed copies of the license texts are also available on request.

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