

Edge Intelligence[®] Reference Manual





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Precautions

To reduce the risk of injury or equipment damage, observe the following precautions when you install the Cognex product:

- This product is intended for industrial use in automated manufacturing or similar applications.
- The safety of any system incorporating this product is the responsibility of the assembler of the system.
- Do not install Cognex products where they are exposed to environmental hazards such as excessive heat, dust, moisture, humidity, impact, vibration, corrosive substances, flammable substances, or static electricity.
- Route cables and wires away from high-current wiring or high-voltage power sources to reduce the risk of damage or malfunction from the following causes: over-voltage, line noise, electrostatic discharge (ESD), power surges, or other irregularities in the power supply.
- This product does not contain user-serviceable parts. Do not make electrical or mechanical modifications to product components. Unauthorized modifications can void your warranty.
- Changes or modifications not expressly approved by the party responsible for regulatory compliance could void the user's authority to operate the equipment.
- Include service loops with cable connections.
- Ensure that the cable bend radius begins at least six inches from the connector. Cable shielding can be degraded or cables can be damaged or wear out faster if a service loop or bend radius is tighter than 10X the cable diameter.
- This device should be used in accordance with the instructions in this manual.
- All specifications are for reference purposes only and can change without notice.

Symbols

The following symbols indicate safety precautions and supplemental information:

WARNING: This symbol indicates a hazard that could cause death, serious personal injury or electrical shock.

CAUTION: This symbol indicates a hazard that could result in property damage.

() Note: This symbol indicates additional information about a subject.

 \bigcirc Tip: This symbol indicates suggestions and shortcuts that might not otherwise be apparent.

Getting started

Edge Intelligence improves overall equipment effectiveness (OEE) and increases throughput across a range of industries including logistics, food and beverage, consumer products, packaging, automotive, medical devices, and electronics.

About Edge Intelligence



Edge Intelligence is a performance monitoring tool that collects and analyzes data generated by Cognex devices. Edge Intelligence provides reader statistics, no read images, trigger details, and configuration changes for all connected devices.

The Edge Intelligence solution consists of a physical Edge Intelligence box and a browser-based user interface that provides access to the Edge Intelligence functions.

Edge Intelligence provides the following features through the UI:

• Real Time Monitoring (RTM)

- Live
- Performance Overview
- No Read Trigger Review
- Configuration Change History
- Settings
- Performance Analytics
 - Dashboard
 - Performance Review
 - Results Explorer
- Validation Failure
 - Trigger Review
 - Settings
- Multi-Reader Configuration (MRC)
 - DataMan
 - Feature Keys
- Reporting
 - Generate
- User Management
 - Users
 - Roles

Settings

- Edge Device
- MQTT Forwarding
- DataMan WebHMI
- Firmware Upgrade

Supported DataMan readers compatible with Edge Intelligence:

- DM260 Series
- DM280 Series
- DM300 Series
- DM360 Series
- DM370 Series
- DM470 Series
- DM503 Series

(i) Note: Legacy readers must be on firmware 5.7.3 or higher to be compatible with Edge Intelligence.

Edge Intelligence Features

Device Management

The Device Management feature provides the ability to automatically discover, connect, and configure multiple readers for setup and data collection.

			Admin User 🕕 🅣
合 Home ∞ Multi-Reader Configuration ∞ DataMan			
Add selected to group Upload configuration Upload firmware C	Iownload as CSV Discover devices		Q Search
			^
Actions Primary Name Type	MAC Address Firmware Version Address Typ	be IP Address Subnet Mask: Gateway Source Network Interface	State Task Status
✓ Ý 5 ✓ El_8 DataMan470	00:D0:24:58:5A:C2 6.1.6_sr2 Static	10.86.92.53 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
El_7 DataMan470	00:D0:24:58:51:E8 6.1.6_sr2 DHCP	10.86.92.108 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
✗ Standalone Devices			~
Actions Primary Name	Type MAC Address Firmware Version	Address Type IP Address Subnet Mask Gateway Source Network Interface	State Task Status
🗆 🖌 😧 S WebHMI_2-LongRunning_Test	DataMan470 00:D0:24:3D:86:80 6.1.6_sr2	Static 10.86.92.12 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
□ / ¥ 3 8_6	DataMan470 00:D0:24:58:52:90 6.1.6_sr2	Static 10.86.92.51 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
U V V S WebHML3-Demo	DataMan470 00:D0:24:55:90:4E 6.1.6_sr2	Static 10.86.92.13 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
□ / ¥ 5 ELS	DataMan470 00:D0:24:58:6A:5E 6.1.6_sr2	Static 10.86.92.50 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
U V V S WebHMI_4-E2E	DataMan470 00:D0:24:3D:B6:CA 6.1.6_sr2	Static 10.86.92.14 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
□ 🖍 🗑 Š WebHMI_1	DataMan470 00:D0:24:3D:86:FC 6.1.6_sr2	Static 10.86.92.11 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet

lcon

Description

Click the checkbox to select a single reader or multiple readers to be configured at once.

lcon

Description

- ✓ The check mark denotes the primary reader in the MRS group.
- Click to edit the name and network settings (IP Address, Subnet Mask, Default Gateway) of each individual reader.
- Olick to reboot the reader.

Button	Description
Add selected to group	Add the selected reader(s) to an MRS group.
Upload configuration	Upload configuration for the selected reader(s).
Upload firmware	Upload firmware for the selected reader(s).
Download as CSV	Download the list of readers with all information displayed in the DataMan page in .csv file format.
Discover devices	Discover readers available on the network for setup and data collection.

Column Name	Description
Actions	Displays the icons of actions available for each reader: Single Device Edit, Flash LED, and Reboot.
Primary	Identifies the primary reader in an MRS group.
Name	Displays the name of the reader.
Туре	Displays the type of the reader, for example DataMan 470.
MAC Address	Displays the media access control (MAC) address of the reader.
Firmware Version	Displays the firmware version of the reader.
Address Type	Displays the address type: static or DHCP.
IP Address	Displays the IP address of the reader.
Subnet Mask	Displays the Subnet Mask of the reader.
Gateway	Displays the gateway the reader uses.
Source Network Interface	Displays the Source Network Interface of the reader.
State	Displays the state of the reader, which can be: In Local Subnet, In Remote Subnet, In Remote Subnet Behind NAT, Waiting For DHCP, Misconfigured, or Unknown.
Task Status	Displays the status of the task, such as rebooting, applying network settings, and name changes.

Secure Data Storage

The Secure Data Storage feature includes:

- Capturing and storing decode results in local database
- Capturing and storing device configuration files
- Capturing and storing no-read images in local partition of hard drive

- Option to clear the hard drive is only available for Admins
- Data management is First In First Out using all but 50 GB of the hard drive
- Failed Validation Images

No Read Trigger Review

The No Read Trigger Review feature includes:

- Device tree displayed on the page
- Grouped No Read Images from multiple readers in MRS
- No Read Images by trigger index
- Classifying multiple triggers at a time
- Filter image table by classification. Changes with the global date picker
- Manual No Read image classification

land,	inter 🔹 👻	Date & Tread Darry	e Filter	0	Normalize images	Eleverly trapped at	
0	Data & Tana 🖕	Tripper Index	Destroye				
	5/25/21, 12:19 PM	7422821	Unclassified	· · ·			
	5/25/21, 12:18 PM	7422813	Unclassified				
	5/25/21, 12:18 PM	7422812	Unclassified				
	5/25/21, 12:18 PM	7422809	Unclassified	1			
	5/25/21, 12:18 PM	7422905	Unclassified				
	5/25/21, 12:18 PM	7422802	Unclassified				
	\$25/21, 12:18 PM	7422798	Unclassified.		000000	11:201	
	5/25/21, 12:18 PM	7422793	Unclassified				
	2414	11 + 241479-07241479	$ c-c\rightarrow \rightarrow $		111		
			harte per projet. 10 🔹	CONCERNING.			

ltem	Description
Classification filter	Filter for the following no read classifications: Damaged Code, Motion Blur, No Label, Unclassified, and manually added custom classifications, for example: "Obscure Code", or "Too much glare" and "Hot Spot".
Date & Time Range Filter	Filter for no read triggers in a set date and time range which can be specified in the drop down menu.
Normalize images	Check to enhance the quality of images. Normalizing improves the contrast by stretching the intensity values of an image.
Classify trigger(s)	Classify no read images manually or add them to one of the following classification categories: Damaged Code, Motion Blur, No Label, or Unclassified.
Submit	Submit the set trigger classification.

Example of setting the Date & Time Range Filter:

Note: The selected range filter stays the same between Performance Overview, Configuration Change History, and No Read Trigger Review pages.



Set the number of items (images) listed in a page and sort items by Date & Time, Trigger Index, or Classification.

Select an item to display the corresponding filmstrip, and select an image in the filmstrip to display it in the window. Use the icons directly below the selected image to rotate ($\circ \circ$), flip (\circ), zoom in or out ($\circ \circ$), fit to frame (\Box), view in full size (\vdots), center (\circ), reset zoom (\circ), or download ($\frac{1}{2}$).

The following figure shows an example of an enlarged image, with the cursor over the download icon:

Darefic	aton filter 🔹	6/6/2021, 10 18 A	M ~ 6/7/2021, 10:29 AM	00	Normalize images	Classify trigger(s)	Sales
•	Data & Tatas 🔶	Tripper Index	Classification	1	1 - C - C		
4	6/7/21, 10:33 AM	333102	Unclassified		Sell and	ALL U	
2	6/7/21, 10:33 AM	333101	Unclassified				
2	6/7/21, 10:33 AM	333099	Unclassified				
	6/7/21, 10:33 AM	333098	Unclassified				
	6/7/21, 10:33 AM	333093	Unclassified				
	6/7/21, 10:33 AM	333091	Unclassified				
	6/7/21, 10:33 AM	333087	Unclassified		0000	** * 0 1	
	6/7/21, 10:33 AM	333085	Unclassified				
	6/7/21, 10:33 AM	333084	Unclassified			Reconnect	
3	terns per page 18 •	21 - 80 of 17663	(< < >	21			

Configuration Change History

The Configuration Change History feature includes:

- Tracking configuration changes made to readers in a group
- Comparing previous configurations
- Reverting to a previous configuration
- Linking each configuration with a username automatically

Getting started

COGNEX				Admin User 🕕
A	Home » RTM » Configuration Change History			
Test				
EL_7	Compare Configurations			
EI_8				
tandalone Devices	Date & Time Range Riter			
WebHMI_3-Demo	2710/2020, 228 PM ~ 3710/2020, 228 PM			
EL_5				
WebHMI_2-Longkunning_Test	Actions	Date & Time 🤟	Device Name	Username
WebHMI 1				
WebHMI_4-E2E	± +9	3/3/20, 9:10 AM	DM4/4-WebHMI-EI	admin
	4 ⊥ ⊙	3/3/20, 9:09 AM	DM474-WebHMI-EI	admin
				ltems per page: 10 ▼ 1-2 of 2 <
IME				

ltem/lcon	Description
\odot	Click to restore configuration.
<u>+</u>	Click to download a configuration file with the reader settings of the entry.
Compare Configurations	After selecting two configurations, click to compare.
Date and Time	Date and time from when the configuration change was implemented.
Device Name	Name of the device on which the configuration change was initiated.
Username	Name of the user who made the configuration change.

() Note: Changes made from Dataman Setup Tool are labeled as admin changes.

Configuration Changes

		Read	Setup G
Variable Name		DM474-WebHMI-EI 3/3/20, 9:09 AM	DM474-WebHMI-EI 3/3/20, 9:10 AM
configuration.buffering.transfer.ftp	o.server.address	10.10.82.105	10.5.18.199
configuration.buffering.transfer.ftp	o.server.port	47778	21
configuration.buffering.transfer.ftp	o.server.username	CE_RTM	user
configuration.buffering.transfer.ftp	o.server.password	Flg6rLQM	5-15
configuration.buffering.what-resul	lts-to-buffer	4	5
Script Name			
No Script Changes found.			
			Close
Item		Dese	cription
Configuration Changes	Lists variables which have different values in the compared versions		
Variable Name	Name of the var versions.	riable which has dit	fferent values in the compared
Script Name	Name of the rec	cently modified scri	pt.
Read Setup	Name of the rea	ad setup.	

Device IP Configuration

letwork Configuration	
Device Name	
testlab-eibox	
etwork Interface: enp2s0	
Enable DHCP	
IP Address	
Subnet Mask	
Gateway	
etwork Interface: enp3s0	
Enable DHCP	
IP Address	
10.86.92.103	
Subnet Mask	
255.255.255.0	
Gateway	

The Edge Device page helps identifying and changing network settings for Edge Intelligence.

ltem	Description
Device Name	Name of the Edge Intelligence unit.
Network Interface	Network interface identifier belonging to the Edge Intelligence unit.
Enable DHCP	When enabled, the device automatically gets IP Address, Subnet Mask, and Gateway settings.
	When disabled, network settings must be done manually.
IP Address	Enter IP Address here.
Subnet Mask	Enter Subnet Mask here.
Gateway	Enter Gateway here.

Multi-Reader Sync (MRS) Grouping

The MRS Grouping feature includes:

Generating MRS group

= COGNEX			Admin User 🕚 🕣
☆ Home » Multi-Reader Configuration » DataMan			
Add selected to group Upload configuration Upload firmware Dc	winload as CSV Discover devices		Q. Search
🖍 Test			^
Actions Primary Name Type	MAC Address Firmware Version Address Typ	e IP Address Subnet Mask Gateway Source Network Interface	State Task Status
🗹 🖌 😧 🏷 🖌 El_8 DataMan470	00:D0:24:58:5A:C2 6.1.6_sr2 Static	10.86.92.53 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
🗆 🖌 🗑 🌖 El_7 DataMan470	00:D0:24:58:51:E8 6.1.6_sr2 DHCP	10.86.92.108 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
Standalone Devices Actions Primary Name	Type MAC Address Firmware Version	Address Type IP Address Subnet Mask Gateway Source Network Interface	State Task Status
🗆 🖌 🦞 🎝 WebHMI_2-LongRunning_Test	DataMan470 00:D0:24:3D:86:80 6.1.6_sr2	Static 10.86.92.12 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
🗆 🖍 🗑 Š 🛛 🖽	DataMan470 00:D0:24:58:52:90 6.1.6_sr2	Static 10.86.92.51 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
🗆 🖍 😧 S WebHML_3-Demo	DataMan470 00:D0:24:55:90:4E 6.1.6_sr2	Static 10.86.92.13 255.255.255.0 10.86.92.1 enp3s0	In Local Submet
□ ⁄ ¥ 5 8.5	DataMan470 00:D0:24:58:6A:5E 6.1.6_sr2	Static 10.86.92.50 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet
□ 🖌 👻 🏷 WebHMI_4-E2E	DataMan470 00:D0:24:3D:86:CA 6.1.6_sr2	Static 10.86.92.14 255.255.255.0 10.86.92.1 enp3s0	In Local Subset
□ 🖌 🗑 5 WebHMI_1	DataMan470 00:D0:24:3D:86:FC 6.1.6_sr2	Static 10.86.92.11 255.255.255.0 10.86.92.1 enp3s0	In Local Subnet

Button/Icon	Description
¥	Click to strobe the LEDs on a DataMan Reader to identify it.
=	Click to drag and drop item.
Ð	Click to restore the configuration.
Add selected to group	Add selected device(s) to a group of devices.
Upload configuration	Upload configuration to selected devices.
Upload firmware	Upload firmware to selected devices.
Download as CSV	Download device list with all data in CSV format.
Discover devices	Discover connected devices.

		e 15										
	Multi Device	Edit									*	
	Group *											
	Select an existing or create	a new one.								0/	/31	
	Primary *											
	Select a device from the list											
	Actions	Primary	Name	Group	Address Type	IP Address	Subnet Mask	Gateway	Task Status		- 1	
		~	EI_8	lest	Static	10.86.92.53	255.255.255.0	10.86.92.1			- 1	
	Use DHLP											
	IP Address Which IP do you want to in	crement from?									-	
1	Subnet Mask											
1	Select an existing or create	a new one.									-	
	Default Gateway											
	Select an existing or create a	a new one.										
	Generate Network	Settings)									
										Cancel	• Save	
ltem								Descr	iption			
Group			Sele	ect ar	ı existir	ıg group	or create	e a new	group.			
Primary			Sele	ect a	primary	/ reader	from the	list.				
Use DHCP			Ena	ble to	o use D	HCP se	ttings.					
IP Address			Ente	er IP /	Addres	s manua	ally. Whic	h IP do y	you war	nt to inc	crement from?	
Subnet Mask			Ente	er Su	bnet Ma	ask man	ually. Se	lect an e	existing	or crea	ate a new Subn	et Mask.
Default Gateway			Ente Gate	r De ∋way	fault Ga	ateway r	nanually.	. Select a	an existi	ing or o	create a new D	efault
Generate Network Set	ttings		Click to generate network settings.									
Password			App	licab	le/Ente	r only if	the devic	e requir	es a pas	ssword	I for making cha	anges.

	Upload configuration to selected devices				
	Password O				
	Only if device requires password for changes.				
	Browse a file with one of the following extensions: .cfg, .cdc, .dmb				
	Apply network settings				
	Cancel Upload				
ltem	Description				
Password	Password is only needed if the device to which the changes are to be applied requires a password.				
Browse	Browsing for .cfg, .cdc, .dmb files on your computer.				
Apply network settings	Toggle to apply network settings uploaded with the selected configuration file.				

	Upload firmware to selected devices
	Password O
	Only if device requires password for changes.
	Browse Browse a file with extension: .bin.gz
	Cancel Upload
ltem	Description
Password	Password is only needed if the device to which the changes are to be applied requires a password.
Browse	Browsing for .bin.gz.

() Note: Find the latest firmware updates on the MyCognex site: https://support.cognex.com

Firmware and Configuration Mass Update

The Firmware and Configuration Mass Update feature helps updating standalone or groups of readers with new firmware or configuration files.

	Admin User 🕚 🕣
🕈 Home = Multi-Reader Configuration = DataMan	
Add selected to group Upload configuration Upload firmware Download as CSV Discover devices	Q Search
	^
🖉 Actions Primary Name Type MAC Address Firmware Version Address Type IP Address Subnet Mask Gateway Source Network I	Interface State Task Status
🜌 🖍 👻 🕉 🛹 El & DataMan470 00.0024585AC2 6.1.6.942 Static 10.8659253 255255.255.0 10.86592.1 emp3a0	in Local Subset
🜌 🖍 🗑 👌 81,7 DataMan470 00.0024585158 6.1.6.j.x2 DHGP 10.86592.108 255255.255.0 10.86592.1 emp3i0	in Local Subnet
Upload firmware to selected devices	
Standalone Devices	^
Actions Primary Name Type MAC Address Only of december present for charges. Subset Mask Gateway Source Net	twork Interface State Task Status
Comparing Test DataMan470 00.002243D.8680 Browse Browse	In Local Subnet
□ 🖍 👻 5 EL6 DetaMar470 00:D0:24385290 Cancel Upload	In Local Subnot
□ 🖍 👻 5 WebHMI_3-Demo DataMar470 00.002/45590.4E 61.6_9r2 Static 10.6692.13 255255.255.0 10.8692.1 erp3x0	In Local Subnet
□ 🖍 🗑 5 EL_5 DataMar470 00.00.245.864.5E 6.1.6_sr2 Static 10.86.92.50 255.255.0 10.86.92.1 erp3x0	In Local Subnet
□ 🖍 🗑 \$ WebHMI_4-42E DetaMan470 00.002/43D266CA 6.16_sr2 Static 10.8692.14 2552552550 10.8692.1 emp3x0	In Local Subnet
□ 🖍 🗑 \$ WebHML1 DataMar470 00:D0243D86FC 6.16_sr2 Static 10:8692.11 2552552550 10:8692.1 emp3r0	In Local Subnot

To use this feature, select one or more devices, and click Upload firmware.

	Upload firmware to selected devices
	Password O
	Only if device requires password for changes.
	Browse a file with extension: .bin.gz
	Cancel Upload
ltem	Description
Password	Password is only needed if the device to which the changes are to be applied requires a password.
Browse	Browse files with .bin.gz. extension on your computer.

Feature Keys Management

The Feature Keys Management feature includes:

- Comparing feature keys in different readers
- Uploading new feature keys

	OGNE	X																Admin User	10
Home	 Multi-Reader (Configuration » F	Feature Keys																
Upload	feature keys	Download as CS	V Disco	ver devices													٩.5	arch	
Standalo	one Devices																	P Unlocked	• ^
Actions	Name	τ	lype	Firmware Version	Serial Number	Feature Keys											Task Status		
¥	WebHMI_1	C	DataMan470	6.1.6_sr2	1A1804XN001407	1DCodeQuality Imagefiltering	1DDataStitching IntimageBuffer	1DExtendedRes LadderAndPicket	2DCode 2D Omnidirectional	CodeQuality Bard	ode DPM_IDMx PowerGrid Scrip	x DotCode	FullSpeed	HORPlus	Quick Image	Download			
¥	WebHMI_3-De	mo D	DataMan470	6.1.6_sr2	1A1802PP019862	1DCodeQuality Imagefiltering	1DDataStitching IntimageBuffer	1DExtendedRes LadderAndPicket	2DCode 2D Omnidirectional	CodeQuality Bare	ode DPM_IDMx PowerGrid Scrip	x DotCode	FullSpeed	HDRPlus IC PTP Symbol	Ruick Imagel Diagnostics	Download			
¥	WebHMI_4-E28	: c	DataMan470	6.1.6_sr2	1A1804XN001382	1DCodeQuality Imagefiltering	1DDataStitching Intimagettuffer	1DExtendedRes LadderAndPicket	2DCode 2D Omnidirectional	CodeQuality Bard	ode DPM_IDMa PowerGrid Scrip	x DotCode	FullSpeed	HDRPlus (IC PTP Symbol	Diagnostics	Download			
¥	EI_5	C	DataMan470	6.1.6_sr2	1A1811PP147837	1DCodeQuality Imagefiltering	1DDataStitching Intimage@uffer	1DExtendedRes LadderAndPicket	2DCode 2D Omnidirectional	CodeQuality Bard	ode DPM_IDMa PowerGrid Scrip	x DotCode	FullSpeed	HDRPlus (IC	Quick Image	Download			
¥	WebHMI_2-Lor	ngRunning_Test [DataMan470	6.1.6_sr2	1A1804XN001369	1DCodeQuality Imagefiltering	1DDataStitching Intimagettuffer	1DExtendedRes LadderAndPicket	2DCode 2D Omnidirectional	CodeQuality Bare PostalCode	ode DPM_IDMa PowerGrid Scrip	x DotCode oting Validatio	FullSpeed	HORPhas	Quick Image	Download			
¥	El_6	C	DataMan470	6.1.6_sr2	1A1811PP143762	1DCodeQuality ImageFiltering	1DDataStitching Intimage@uffer	1DExtendedRes LadderAndPicket	2DCode 2D Omnidirectional	CodeQuality Bard	ode DPM_IDMa PowerGrid Scrip	x DotCode oting Validatio	FullSpeed	HDRPlus (C	Quick Image	Download			
st																		P IIA •	
Actions	Name Type	Firmware Version	e Serial Nu	umber Fr	eature Keys												Task Status		
¥	El_8 Data	Man470 6.1.6_sri	2 1A1811	PP145077	1DCodeQuality 1D LadderAndPicket	DataStitching 10 AST Omnidirecti	ixtendedRes 20 anal PostaKode	Code 2DCodeQ	ality BarCode Scripting Sym	DPM_IDMax	DotCode FullSp alidation PTP	pred HDRPlus	IDQuick	ImageDownload	ImageFilteri	ng IntimageBuffer			
¥	El_7 Data	Man470 6.1.6_sri	2 1A1811	PP143678	1DCodeQuality 1D LadderAndPicket	DataStitching 1D	Extendedites 20 onal PostalCode	Code 2DCodeQ	sality BarCode	DPM_IDMax	DotCode FullSp ilidation PTP	peed HDRPhs	DQuick	ImageDownload	ImageFilteri	g IntimageBuffer			

Button	Description
Upload feature keys	Upload feature key files.
Download as CSV	Download device list with all data in CSV format.
Discover devices	Discover connected devices.

Feature Key Color	Description
BLUE	The feature is unlocked for the device.
RED	The feature is unlocked for some devices in the group, but not for the respective device.

	✓ Unlocked ▼				
	Unlocked				
	All				
	Common				
	Difference				
ltem	Description				
Unlocked	Show unlocked feature keys for all devices.				
All	Show unlocked and locked feature keys for all devices.				
Common	Show feature keys which are unlocked for all devices.				
Difference	Show feature keys which have a different status among the devices.				

	Upload feature key files				
	Password				
	Only if device requires passoord for character. Browse Br				
	Verification File Name Device Name Serial Number Feature Keys In File ✓ COGNEX000010_DMFK_1 DM475-FocuStacking 1A1818P2555718 PPD MAT				
	Cancel Upload				
ltem	Descriptio				
Password	Password is only needed if the device requires a password.				
Browse	Browse files with .xml extension on your computer.				
Verification	Shows verified status.				
File Name	Name of the feature key files.				
Device Name	Name of the device which gets the new feature key file.				
Serial Number	Serial number of the device.				
Feature Keys in File	Feature keys contained in the file.				

Edge Intelligence Systems

Edge Intelligence CPU Processing Number Model Power of Data Streams	Power	I/O I	Memory Image Capacity	Image Storage 2
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¹ Assuming no-read images are saved at full resolution (3 megapixels) in JPEG format.

² With full resolution JPEG no-read images from all readers, on a system running 24/7 with 1 trigger per second at a performance of 99% read rate.

EI-200	Intel Celeron N3350 1.1 GHz	Dual Core	Up to 5 data streams	12 VDC input jack	Not supported	4 GB LLDDR4 2133 MHz	Up to 1 million images	Up to 244 data days
EI-300	Intel Atom E3950 1.6 GHz	Quad Core	Up to 10 data streams	9~36 VDC 3-pin terminal block	8-bit Isolated Digital I/O	8 GB LPDDR4	Up to 4 million images	Up to 487 data days
EI-700	Intel Core i7-8700T 2.4 GHz	Hexa Core	Up to 20 data streams	9~48 VDC 5-pin terminal block	8-bit Isolated Digital I/O	8 GB SO-DIMM DDR4 2666 MHz - Wide Temp	Up to 8 million images	Up to 487 data days

Edge Intelligence Kit

Specifications	EI-200	EI-300	EI-700
Edge Intelligence Model			
Number of Data Streams	Up to 5 data streams	Up to 10 data streams	Up to 20 data streams
El Kit Component	Mini Display Port-to-VGA male- to-female adapter DIN Rail Mounting Kit Power Adapter DC 12 V, 36 W - with Interchangeable Plug Thermal pads	Display Port-to-VGA male-to-female adapter DIN Rail Mounting Kit Power Adapter 60 W 12 V 5 A Computer Port & Dust Blocking Kit 3-pin Power Terminal Block Connector 3-pin CAN bus Terminal Block Connector 10-pin DIO Terminal Block Connector M.2 and mPCIe expansion card screws	Display Port-to-VGA male-to-female adapter Wall Mounting Bracket with Vibration Isolation Power Adapter 160 W 20 V 8 A Computer Port & Dust Blocking Kit 5-pin Power Terminal Block Connector 3-pin CAN bus Terminal Block Connector 10-pin DIO Terminal Block Connector 2-pin Remote Switch Terminal Block 5-pin Terminal Block to 6-pin Molex Adapter

Product Overview

The following table shows the layout of Edge Intelligence Boxes.

EI-200 Layout

Connector/Button	Function
	Function
1	Power Connector (12V DC input jack)
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
3	LED for Power
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
3	LED for Power
4	USB 3.0 Ports
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
3	LED for Power
4	USB 3.0 Ports
5	External Port to Network (DHCP)
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
3	LED for Power
4	USB 3.0 Ports
5	External Port to Network (DHCP)
6	Internal Port to Devices (192.168.1.100)
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
3	LED for Power
4	USB 3.0 Ports
5	External Port to Network (DHCP)
6	Internal Port to Devices (192.168.1.100)
7	MiniDisplay Ports
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
3	LED for Power
4	USB 3.0 Ports
5	External Port to Network (DHCP)
6	Internal Port to Devices (192.168.1.100)
7	MiniDisplay Ports
8	Audio Jack (Line out; Mic in)
1	Power Connector (12V DC input jack)
2	COM Port (RS-232)
3	LED for Power
4	USB 3.0 Ports
5	External Port to Network (DHCP)
6	Internal Port to Devices (192.168.1.100)
7	MiniDisplay Ports
8	Audio Jack (Line out; Mic in)
9	Power Button

EI-300 Layout

Connector/Button	Function
1	Port to External Network (DHCP)
2	Ports to Internal Network (Static IP: 192.168.1.100 and DHCP)
3	Video Display Ports
4	8-bit Isolated Digital I/O (4-in, 4-out)
5	3-pin CAN Bus
6	USB 3.0 Ports
6 7	USB 3.0 Ports Audio Jack (Line out; Mic in)
6 7 8	USB 3.0 Ports Audio Jack (Line out; Mic in) Micro-SIM Slot
6 7 8 9	USB 3.0 Ports Audio Jack (Line out; Mic in) Micro-SIM Slot Power Button
6 7 8 9 10	USB 3.0 Ports Audio Jack (Line out; Mic in) Micro-SIM Slot Power Button COM Ports (RS-232)
6 7 8 9 10 11	USB 3.0 Ports Audio Jack (Line out; Mic in) Micro-SIM Slot Power Button COM Ports (RS-232) 3-Pin Terminal Block Power Input (9 ~ 36 V)

EI-700 Layout



2	COM Ports (RS-232)
3	Audio Jack (Line out; Mic in)
4	Digital I/O (4-in, 4-out)
5	2-pin Remote Power Switch
6	External Mini-SIM Slot
7	Power Button
8	Grounding Nut
9	5-Pin Terminal Block Power Connector (9 ~ 48 V)
10	3-pin CAN Bus
11	Video Display Ports
12	USB 3.1 Gen 1 Ports
13	Port to External Network (DHCP)
14	Ports to Internal Network (Static IP: 192.168.1.100 and DHCP)
15	External Fan Connection

Edge Intelligence Unit Dimensions

Observe the following dimensions when installing your Edge Intelligence.

Note:

 $\textcircled{O}^{\mathsf{Dimensions}}$ are in millimeters and are for reference purposes only.

All specifications are for reference purposes only and can change without notice.

EI-200 Dimensions







EI-300 Dimensions









EI-700 Dimensions







27

Installation

This section describes the installation process.

Connecting the Edge Intelligence

Unpack your Edge Intelligence unit and check that the following components have been included: power cable, display port to VGA adapter, and DIN rail mounting kit.

Perform the steps below before connecting to the web user interface:

1. Connect Edge Intelligence unit to your Enterprise network using the External Ethernet port.



- 2. Connect Edge Intelligence unit to your reader network LAN using the Internal Ethernet port.
- 3. Connect any desired peripherals such as monitor, mouse, or keyboard to your Edge Intelligence unit using the USB ports before powering on the device.
- 4. Connect Edge Intelligence unit to power and start the device.

Accessing the Web Interface and Logging In

After connecting the Edge Intelligence, connect directly to a VGA monitor and peripherals or by using Cognex DataMan Setup Tool (6.1.8 or later) to discover and configure Edge Intelligence to access the Edge Intelligence web interface, which makes it possible to connect remotely via web browser from any device in the network.



Click the discovered device and enter your credentials in the pop-up Login page.



The following predefined users are available by default:

• Note: After creating the user profiles, changing the default password of each user profile is necessary to avoid security risks.

User	Password	Permission
admin	BnthWWSD	Has access to all apps and features.
engineer	TaRDpKVx	Has access to all apps and features.
operator	SxtXGmxs	User with read-only rights. The operator does not have access to the Multi-Reader Configuration app and the Settings.

You can click the information button which opens a pop-up to shows the following device details:

- Documentation a link that opens the reference manual stored on the box
- Network Interfaces- shows available and connected network ports with their configurations
- Component Versions highlights different features that run on the platform

Directly Connecting Using a Monitor

- 1. Connect your Edge Intelligence unit to a monitor using the provided Display Port to VGA adapter, or mini Display Port to VGA adapter when connecting El-200.
- 2. The login page appears.

COGNEX	
	Username
	Password
Edge intelligence	Login
6	

3. Click the information icon to get the external IP address. The internal IP address is 192.168.1.100 by default.



4. Take note of the external IP address, as you will need it to remotely connect to Edge Intelligence.

bout	EI-Demo	Unit						
cume	ntation							
Click h	ere to open do	cumentation.						
twork	Interfaces							
Name	Operational	MAC Address	Address Type	IP Address	Subnet Mask	Gateway	DNS Server	Domain
Name eth1	Operational	MAC Address 4C38D5107E3A	Address Type DHCP	IP Address 10.12.90.27	Subnet Mask 255.255.255.0	Gateway 10.12.90.1	DNS Server	Domain (none)
Name rth1 rth3	Operational	MAC Address 4C38D5107E3A 4C38D5107E3B	Address Type DHCP DHCP	IP Address 10.12.90.27 10.15.81.113	Subnet Mask 255.255.255.0 255.255.0.0	Gateway 10.12.90.1 10.15.205.205	DNS Server 127.0.0.53 127.0.0.53	Domain (none) (none)

Remotely Connecting Using DataMan Setup Tool

- 1. Open Cognex DataMan Setup Tool (6.1.8 or later) to discover and connect to Edge Intelligence device. For more information on Setup Tool and troubleshooting, see *DataMan Setup Tool Reference Manual*.
- 2. Double click on the icon of the discovered Edge Intelligence



3. Login to the Edge Intelligence software. For login information, see <u>Accessing the Web Interface and Logging In</u> on page 28.



Discovering Devices on the Network

The default IP address for the Internal Ethernet port of Edge Intelligence is set to 192.168.1.100. All devices on the network are discovered automatically, regardless of the network settings. However, discovered devices are labeled as misconfigured if they are not in the local subnet.

Discover Devices

Upon successfully logging in, the web UI launches, and Edge Intelligence auto-discovers the devices on your network, which appear listed on your home screen.

Click on the **Discover Devices** button in the header of the web interface to force a rediscovery if you have connected a new device after the initial auto-discovery.

	COGNEX Mome > Setting: > Edge Device	
	Network Configuration	
	ei-ditob5	
	Network Interface: enp1s0	
	D Enable DHCP	
)	P Address	
	Subret Mark	
	Gateway	
	Network Interface: enp2s0	
	Dable DHCP	
	(P Address 10, 10,82,15	
	- Subret Mark	

Network Settings

It is recommended that all Cognex devices be on the same network as Edge Intelligence. In order to make this happen, change the IP address of all readers on the network to be in the same network as 192.168.1.xxx, or change the IP address of the Ethernet port to match those of the readers.

() Note: The devices found on the network are listed on the first page of the Multi-reader Configuration Application.

= C		GN	EX													Admin	User 🚯 Đ
A Home	e » Mi	ulti-Rea	der Con	figuration » Da	taMan												
Add s	elected	l to gro	up	Upload configu	ration Uple	ad firmware	Download as CSV	Discover devices								Q. Search	
1	Test																^
	Action	ns		Primary	Name	Туре	MAC Address	Firmware Versio	n Address Type	IP Addres	s Subne	t Mask Ga	ateway 5	ource Network Interface	State	Task Status	
	1	¥	5	~	El_8	DataMan470	00:D0:24:58:5A:C	2 6.1.6_sr2	Static	10.86.92	.53 255.2	55.255.0 10	0.86.92.1 e	mp3s0	In Local Subnet		
	1	¥	5		EL_7	DataMan470	00:D0:24:58:51:E	6.1.6_sr2	DHCP	10.86.92	.108 255.2	55.255.0 10).86.92.1 ¢	mp3s0	In Local Subnet		
1	Standa	lone D	evices														^
	Action	5		Primary	Name		Туре	MAC Address	Firmware Version	Address Type	IP Address	Subnet Mask	Gateway	Source Network Interface	State	Task Status	
	1	¥	5		WebHMI_2-Lo	ngRunning_Test	DataMan470	00:D0:24:3D:86:80	6.1.6_sr2	Static	10.86.92.12	255.255.255.0	10.86.92.1	enp3s0	In Local Subnet		
	1	¥	5		EI_6		DataMan470	00:D0:24:58:52:90	6.1.6_sr2	Static	10.86.92.51	255.255.255.0	10.86.92.1	enp3s0	In Local Subnet		
	1	¥	5		WebHMI_3-De	mo	DataMan470	00:D0:24:55:90:4E	6.1.6_sr2	Static	10.86.92.13	255.255.255.0	10.86.92.1	enp3s0	In Local Subnet		
	1	¥	5		EI_5		DataMan470	00:D0:24:58:6A:5E	6.1.6_sr2	Static	10.86.92.50	255.255.255.0	10.86.92.1	enp3s0	In Local Subnet		
	1	¥	5		WebHMI_4-E2	E	DataMan470	00:D0:24:3D:86:CA	6.1.6_sr2	Static	10.86.92.14	255.255.255.0	10.86.92.1	enp3s0	In Local Subnet		
	1	¥	5		WebHMI_1		DataMan470	00:D0:24:3D:86:FC	6.1.6_sr2	Static	10.86.92.11	255.255.255.0	10.86.92.1	enp3s0	In Local Subnet		

Remote Connection Troubleshooting

This section lists the most common errors and their solutions.

Error	Illustration	Solution
Edge Intelligence is not visible in the Setup Tool or in the browser	This site can't be reached 10.12.90.23 took too long to respond. Try: • Checking the connection • Checking the proxy and the firewall • Running Windows Network Diagnostics	Check wire connectons, secure them if necessary.
Failed login error message	Login failed with Http Status Code 404. OK	Check the credentials and re-enter username and/or password.
Component load error message	You do not have permission to access any app. Please contact your System Administrator. Unable to login because the application sync request failed. OK	Reboot device and wait for services to start.
No data/images available	Callect Rander Callect No Callect Collect Configuration State ↑ Statistics Rend Images Triggers Changes Changes (h Local Schorer)	Check reader availability and setup.

Note: An Ethernet connection to your network is recommended, as Wi-Fi may not allow the connection depending on your network settings.

Note : The IP address of your device is lis	ted o	on th	e logir	n pag	le.				
1	About Document Click: Network Name eth1 eth3 eth2	EI-Demo tation ere to open do interfaces Operational	MAC Address 4C38D5107E3A 4C38D5107E3C	Address Type DHCP DHCP Static	IP Address 10.12.90.27 10.15.81.113 192.168.1.100	Subnet Mask 255 255 255 00 255 255 00 255 255 00	Gatessay 10.12.90.1 10.15.205.205	DNS Server 127.0.0.53 127.0.0.53	Domain (none) (none)

Edge Intelligence User Interface

The Edge Intelligence user interface provides the following applications:

- Real Time Monitoring (RTM)
- Performance Analytics
- Validation Failure
- Multi-Reader Configuration (MRC)
- Reporting
- User Management
- Settings

Click the Menu icon in the upper left corner to open the navigation pane. Use the tree to navigate between the available apps and their pages.



Real Time Monitoring (RTM)

Real Time Monitoring (RTM) is a software application that collects statistical data including configuration history from readers on the network. RTM pages provide visualization of the collected data real-time, as well as over a longer period. The app provides the user with options of manual classification for no reads to troubleshoot the performance of the readers quickly.

RTM visualizes collected data in counters and trackers on 2 overview pages while users are able to view and change settings on 2 other pages:

• Live - home page of Edge intelligence, allows the user to asses the activity of the readers on the network in real time, group by group or per reader

- Performance Overview allows the user to assess the performance of the readers on the network over a period of time
- No Read Trigger Review provides a list of No reads, allows manual classification of no reads and provides the no read images in the image panel
- Configuration Change History lists past configuration for a given group or reader, allows the user to compare configurations in a time frame
- Settings the user can add and discover devices, view reader data like IP address, firmware version, model and change collection settings

RTM provides the user rich data on system performance in different arrangement and detail on the pages. Standalone readers and groups provide RTM with collectable information about:

- Read rate
- Throughput
- Good read
- No read
- · Passed validations
- · Failed validations
- Trigger overrun
- · Buffer overflow
- Missed triggers

Live

The Live page is the home page of Edge intelligence. It provides real-time information from grouped or standalone devices.

The device tree on the left lets the user select groups, or standalone readers. If a reader is a member of a group it is not possible to select it in this device tree. On the Dashboard the user sees an overview of read rate of the selected group or reader per 15 minute intervals. Above the read rate table a percentage counters for read rates show the percent of good reads per 1 minute, 1 hour and 1 day. Below the read rate table this data is sectioned throughput, good reads, and no reads aligned to the passed minute, hour, and day.

									Admin User 🕕 🄁
✓ Test EL.7 EL.8 Standalone Devices WebHML3-Demo EL.5		Live 100%	95%	6596	100%	95%	65%	100%	95%
WebHML2-LongRunning_Test EL_6	READ RATE PER 15 MINU	TES							
WebHML1	110 105 95	18:00	21500	FEB 07	03:00	06:00	09:00	12:00	READ RATE
	90	18:00	21:00	FEB 07	03:00	06:00	09:00	12:00	_
	THROUGHPUT IN THE L	ST MINUTE		THROUGHPUT IN THE LAST HO	UR		THROUGHPUT IN THE LAST	DAY	
		120			14,312			343,878	
	GOOD READS IN THE LA	ST MINUTE		GOOD READS IN THE LAST HO	IR		GOOD READS IN THE LAST D	JAY	
	120				14,312		343,878		
DRVCE INFO	NO READS IN THE LAST MINUTE			NO READS IN THE LAST HOUR			NO READS IN THE LAST DAY		
Test DATE AND TIME 2/7/20, 3:02 PM		0			0			0	

ltem	Description
Top ribbon	Main menu, About section pop-up window, and Log out button are located on the yellow top ribbon. The ribbon displays the type of the user signed in.
Device tree	The left side of the window shows the readers or reader groups.
Dashboard	The window arranges the collected Throughput, Good read and No read rates data for the selected group or reader. The window orders the data by the last minute, hour or day.

Device tree


The device tree shows the user what devices, readers and reader groups, are on the network. Click on the group or standalone reader to view the live data collected from it. IDs of the individual readers within a group are displayed in grey, but data collected separately from the individual readers within a group is unavailable. The bottom of the pane displays information about the selected group and the date and time.

Dashboard

The window arranges the collected data in 3 time-frames:

- Last minute
- Last Hour
- Last Day



The top row indicates the percentage of Good Reads in the time frames. Percentage measurements start from 60% up to 100%. The Good read percentage overview allows the user to assess performance of the MRS group or reader at a glance.



The middle section shows a fifteen minute interval read rate tracker. The user is able to select the time range of the tracker in the header by dragging the selector nob to view shorter ranges of time in more detail. To return to the maximum value, click on the **Show all** option. The user is able to see and get detailed data about good and bad reads from the tracker. Hovering over the tracker highlights events and Good Reads or Bad reads bringing up the details of the event like percentage and time stamp.



The bottom 3 rows of the dashboard separates the collected read rate date into:

- Throughput count per time frame
- Good Reads count per time frame
- No Reads count per time frame

For more clear overview the data is color coded: BLACK indicates Throughput, GREEN indicates Good Reads, and RED indicates No Reads.

O Note: To navigate to a different RTM page or to a different app, use the Main menu opening from the top left side corner.

Performance Monitoring

Edge Intelligence can track a number of trigger statistics from DataMan readers, and visualize the data in various ways. This suite of tools includes the following:

- Rolling data that updates every minute in real time for increments of 1 minute, 1 hour, and 24 hours
- Global selector of time range to specify data range
- · Showcasing system events within the read rate graphics
- Ability to zoom into the collected data in different increments and have it displayed accordingly:
 - by day for sets larger than 24 hours
 - by hour for sets smaller than 24 hours
- Throughput chart with stacked bars of good reads and no reads per hour, with tool tips giving values of bars.





Overall reader statistics:

GOOD READS	NO READS	PASSED VALIDATIONS	FAILED VALIDATIONS
205	15	0	0
TRIGGER OVERRUNS	BUFFER OVERFLOWS	OVERALL THROUGHPUT	MISSED TRIGGERS
1	0	221	1

C	Date &	Time R	ange F	ilter			
	<		Ма	r 2020) 🕶		>
	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Trigę	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	28
	29	30	31				
		1	^ 0) [/	٩M	
	From:				3/1/20	020, 10	:00 AM
	To:				3/19/20	020, 10	:00 AM
		Cance	el			Set	

Date and Time Range Filter:

Set the time range to define a period of time from which performance data is collected for the charts.

Performance Overview

The Performance Overview page of the RTM app provides the performance data from time intervals older than 24 hours. The user is able to select the time range for a group or reader. The Dashboard displays the data collected in trackers arranged to performance over time, throughput over time and an adjustable tracker at the bottom of the dashboard. The dashboard also displays counters for:

- Good Reads The number of triggers where a code was successfully decoded.
- No Reads The number of triggers where a code was not decoded.
- Passed Validations The number of good reads whose encoded data passes a specified content, format, or quality standard.
- Failed Validations The number of good reads whose encoded data does not pass a specified content, format, or quality standard.
- Trigger Overruns The number of times that the image could not be acquired because the reader was busy (for example, due to an ongoing burst or a long exposure).
- Buffer Overflows The number of times it was possible to acquire an image, but there is no space left to save it on the reader. In other words, images are acquired faster than they can be processed. One possible situation is when decoding takes longer than what the image/trigger interval is.
- Overall Throughput The sum of good reads and no reads.



• Missed Triggers – The sum of trigger overruns and buffer overflows.

Dasboard Item	Description
Date and Time Range Filter	Enables setting date and time range of collected data to view on the Dashboard.
Performance Over Time tracker	Shows color coded performance data in the selected range of time.

Throughput Over time tracker	Shows color coded throughput data in the selected range of time.
Counters	Shows numbers of good-reads, no-reads, passed validations, failed validations, trigger overrun, buffer overflow, overall throughput, and missed triggers in the selected range of time.

To select a standalone reader or group, click on the name in the device tree.

To set a time range click in the date and time range filter field and chose the dates from the drop down calendar and clock.

Note: The date and time range selected on the Performance Monitoring page remains the same when navigating to other RTM app pages, except from the Live page.

Trackers

Trackers provide detailed information about each event. To see details of an event, hover the mouse over the tracker. To zoom in, use the slides above the trackers. To returned to the selected time range, click Show all.

Performance Over Time Tracker



The tracker is dynamic chart that sums up read rate, passed validations and missed triggers over the given time range. The data showed in the chart is color coded.

Color	Description
BLUE	Read rate
GREEN	Passed validation
RED	Missed triggers

To see the percentage of Read rate, Passed Validation, and Missed Triggers hover the mouse over the tracker. To take a more detailed look over a certain part in the time range given, drag the slides above the tracker. To return to the overview, click on Show all.

Throughput Over Time Tracker



The tracker is dynamic chart that sums up throughput over the given time range. The data shown in the chart is color coded.

Color	Description

GREEN	Good reads
RED	No reads

To see the number of Good Reads or No reads hover the mouse over the tracker. To take a more detailed look over a certain part in the time range given, drag the slides above the tracker. To return to the overview, click on Show all.

Counters

Counters provide statistical data separated into categories of the overall read rate pertaining to the given time range. The Counters are color coded to give the user an at-a-glance overview of the performance of the group or standalone reader.

GOOD READS	NO READS	PASSED VALIDATIONS	FAILED VALIDATIONS
9,834	0	8,311	1,523
TRIGGER OVERRUNS	BUFFER OVERFLOWS	OVERALL THROUGHPUT	MISSED TRUGGERS
545	0	9,834	545

Color	Description
BLACK	Count of passed Validation and Overall Throughput. The numbers that display neutral information about the performance of the readers or group.
GREEN	Count of Good Reads.
RED	Count of No Reads, Failed Validation, Trigger Overrun, Buffer Overflow, and Missed Triggers. The counters with RED number signal problems that occurred during the given time range.

Note: To navigate to a different RTM page or to a different app, use the Main menu opening from the top left side corner.

No Read Trigger Review

The No Read Trigger Review page gives an overview of images and events when no reads occurred during collection. The user is able to set a time frame for overview, classification type and is able to classify the No Read images manually. The user is able to view a maximum of 100 No Read events on a single page.

To view images from a secondary reader (from MRS group), first enable trigger collection on the primary reader on the Settings page.

✦ Home » RTM » No Re Classification Filter	ad Trigger Review	Normalize images Example Classification Submit
🗖 Date & Time 🖌 🛛 Trig	gger Index Classification	
✓ 8/12/20, 3:11 PM 10.	399 Unclassified	
✓ 8/12/20, 3:10 PM 10.	396 Unclassified	
8/12/20, 3:08 PM 10.	370 Unclassified	THE LANDAUR AT LAL AL AND THE HAD AND
8/12/20, 3:05 PM 10	Unclassified	
8/12/20, 3:05 PM 10	Unclassified	
8/12/20, 3:04 PM 10	336 Unclassified	
1 – 10 of 191	128 < < > >	
	Items per page: 10 💌	Trigger Classification: Unclassified - Device: DM374-EI-Demo-Online - Image index: 0

Dasboard Item	Description
Classification Filter	The user is able to chose the classification types from a drop down menu that the table below will filter for:
	Damaged Code
	Motion blur
	No Label
	Unclassified
	Any other manually entered classification options
Date and Time Range Filter	The user sets date and time range of collected No Read data to view on the No Read Image table and display.
Normalize Image check box	Check to enhance the quality of images. Normalizing improves the contrast by stretching the intensity values of an image.
Classify trigger(s)	The user is able to manually classify No read images by entering their own classification or choosing from a drop down menu.
lieid	Damaged Code
	Motion blur
	No Label
	Unclassified
	Any other manually entered classification options

Submit	The Submit button saves the new classifications you assign in the Classify trigger(s) text field.
No Read	The table shows No Read data in three columns:
Image table	Date and Time
	Trigger index
	Classification
	Each entry in the table represents 1 No read trigger event. To view the No Read image, click on the row of the trigger event and the image is displayed on the right side of the table. The user is able to arrange the data by clicking on the headers of the three columns.
lmage Display window	This window displays the No read image of the selected row of the No read trigger Image table.

Note: To navigate to a different RTM page or to a different app, use the Main menu, which opens from the top left corner.

Configuration Change History

The Configuration Change History page tracks changes made to the configuration of all readers respectively and allows the user to view the changes in a customized fashion. The window displays the Device tree with available grouped and standalone readers. The upper ribbon with the Main menu is used to navigate between pages, apps and the Dashboard.

					Demo User 🕦 🔁
All Standalone Devices	🔒 Home	» RTM » Configuration	n Change History		Date & Time Range Filter
DM374-EI-Demo-Online	Compare C	Configurations			4/8/2020, 2:58 PM ~ 4/9/2020, 2:58 PM
		Actions	Date & Time 🔸	Device Name	Username
		± ⊙	4/9/20, 7:05 AM	DM374-EI-Demo-Online	admin
		⊥ ⊙	4/9/20, 7:03 AM	DM374-EI-Demo-Online	admin
		±⊙	4/9/20, 5:06 AM	DM374-EI-Demo-Online	admin
		±⊙	4/9/20, 5:04 AM	DM374-EI-Demo-Online	admin
		± ⊙	4/9/20, 3:06 AM	DM374-EI-Demo-Online	admin
		±⊙	4/9/20, 3:04 AM	DM374-EI-Demo-Online	admin
		± ⊙	4/9/20, 1:06 AM	DM374-EI-Demo-Online	admin
		±⊙	4/9/20, 1:04 AM	DM374-EI-Demo-Online	admin
DEVICE INFO		± ⊙	4/8/20, 11:06 PM	DM374-EI-Demo-Online	admin
DM374-tl-Demo-Online 192,168.1.113 6.1.6_SR1		⊥ ⊙	4/8/20, 11:04 PM	DM374-EI-Demo-Online	admin
DATE AND TIME 4/9/20, 3:21 PM					ltems per page: 10 ▼ 1 – 10 of 24 < >

Dashboard overview:

ltem	Description
Compare Configurations button	Enables comparison in a pop-up window.
Date and Time Range Filter	Enables setting date and time range of collected data to view on the Dashboard.
Configuration tables	List of readers and groups available for comparison.

Configuration table overview:

Column Name	Description	Display
Check box	To select a reader or group for comparison, click the check box.	$\mathbf{<}$
Actions	Download	<u> </u>
	Restore	Ð
Date and time	Date and time of the configuration change.	3/3/20, 9:10 AM
Device name	Name of the reader on the network.	
Username	Name and type of the user who made the configuration change.	

To compare two configurations, select the readers to compare. Click on the Compare Configurations button.

A pop up window appears with a table containing the comparison results.

Variable changes:

Configuration Changes

	Read Setup 0				
Variable Name	DM374-El-Demo-Online 4/9/20, 7:03 AM	DM374-El-Demo-Online 4/9/20, 7:05 AM			
configuration.imager.gain-factor	15.00	5.00			
Script Name					
No Script Changes found.					

Column Name	Description
Variable Name	List of variables that have different values in the compared configuration versions.
Read Setups	Display the name of the readers compared, and the difference in values pertaining to the row of the configuration variables.

Close

Script changes:

Close

Variable Name		
No Variable Changes fi	ound.	
Script Name	DM474-628155 4/15/20, 1:02 PM	DM474-628156 4/15/20, 2:08 PM
communication.script	<pre>// Comms script that triggers the reader twice/second var timerHandler = nult var trigger_delay = 0.5; // trigger twice/second function CommHandler() (return (noConnect: function (peerName) { // Disable the handler for this connection: if (peerName.indexOf("COM") >= 0) (timerHandler = this: timerHandlersetTimer(trigger_delay); return true;) return false; }, onDisconnect: function (1), onError: function (errorMsg) { }, onExpectedData: function (inputString) (return true;), onOnexpectedData: function (inputString) (return true;), onTimer: function () (diceCommand("TRIGGER", "ON"); if (timerHandler != null) timerHandler.setTimer(trigger_delay);), onEncoder: function () (} })</pre>	<pre>// Comms script that triggers the reader twice/second function CommHandler() return (onConnect: function (peerName {// Disable the handler for this connection: return false: }. onDisconnect function () {. onError: function (errorMsg) {. onExpectedData: function (inputString) (return true: }. onUnexpectedData: function (inputString) (return true: }. onTimer: function (}. onEncoder: function (}) }</pre>
format.script	<pre>// Default script for data formatting function onResult (decodeResults, readerProperties, output) { if (decodeResults[0].decoded) { output.content = decodeResults[0].content; } }</pre>	<pre>// Default script for data formatting function onResult (decodeResults, readerProperties, output) { if (decodeResults[0].decoded) { output.content = decodeResults[0].content: } else { output.content = "Not able to decode condidates"; })</pre>

Configuration Changes

Column Name	Description
Variable Name	List of variables that have different values in the compared configuration versions.
Read Setups	Display the name of the readers compared, and the difference in values pertaining to the row of the configuration scripts.

Settings

The Settings page of the RTM app lists all discovered devices on the network, provides options to subscribe for various statistical data from a reader or groups of readers. The window consists of a Top ribbon, where the Main Menu, the user info, the About section, and the Log out button resides. The window also consists of the Dashboard which contains information and settings options for all readers, standalone or in a group.

(i) Note: To view images from a slave reader (from MRS group), first enable trigger collection on the master reader.

e = RTM = S	EX iettings											Admin User 1
Add devi	ce Discover devices											Q. Search
dalone Devices												
ions Primary	Name	IP Address	Model	Firmware Version	Password		Collect Reader Statistic	s Collect No Read Images	Collect Triggers	Collect Configuration Changes	State	Task Status
ř.	WebHMI_3-Demo	10.86.92.13	DM474	6.1.6_sr2		٥					In Local Subnet	
ř	EI_5	10.86.92.50	DM474	6.1.6_sr2		٥		-			In Local Subnet	
7	WebHMI_2-LongRunning_Test	10.86.92.12	DM474	6.1.6_sr2		٥					In Local Subnet	
ł.	El_6	10.86.92.51	DM474	6.1.6_sr2		٥	•	-	•		In Local Subnet	
¥	WebHMI_1	10.86.92.11	DM474	6.1.6_sr2		ø					In Local Subnet	
ř.	WebHMI_4-E2E	10.86.92.14	DM474	6.1.6_sr2		Θ					In Local Subnet	
ions Primary	Name IP Address I	Vodel Firm	ware Version	n Password		Collect	Reader Statistics Co	ollect No Read Images	Collect Triggers	Collect Configuration Changes	State	Task Status
	EI_7 10.86.92.108	DM474 6.1.6	6_sr2		ø	-		•	•	•	In Local Subnet	
· ~	EL R 10.96.92.53	204474 614	5 #2		0			•			In Local Subort	

ltem	Description
Action ribbon	Ribbon contains actions that can be performed on this page: Save - To save changes to the settings of a reader Add Device - To manually add a device not automatically recognized by the RTM app Discover devices - To trigger the RTM app to find more devices on the network
Standalone reader list	A table view of the settings of the standalone readers that are discovered on the network with options that can be enabled or disabled for the reader
Grouped reader list	Table views of the readers in a group sorted alphabetically by group name with options that can be enabled or disabled for the individual reader
Search Field	Allows searching for a reader by Name, Model or Firmware version

The table view of the standalone or group readers displays information and allows setting changes to the individual readers.

Column Title	Description
Actions	To flash led, click on the Flash icon
Primary	A check mark signifies the primary reader
Name	A customizable name of the reader
IP address	The IP address of the reader
Model	The type of the reader
Firmware version	The version of firmware installed on the reader
Password field	Password of the user allows making changes to the settings
Collect Reader Statistics	Enable or disable collecting statistics from the reader
Collect No Read images	Enable or disable collecting No Read images from the reader
Collect Triggers	Enable or disable collecting triggers from the reader
Collect Configuration Changes	Enable or disable collecting configuration changes from the reader

State	Displays the state of the reader, which can be:
	In Local Subnet
	In Remote Subnet
	In Remote Subnet Behind NAT
	Waiting For DHCP
	Misconfigured
	Unknown
Task status	Displays the status of the task

Note: To navigate to a different RTM page or to a different app, use the Main menu, which opens from the top left corner.

Performance Analytics

The Performance Analytics application of the Edge Intelligence user interface provides additional analytics options over the Performance Monitoring page in the RTM application.

Dashboard

The **Dashboard** page of the Performance Analytics application provides a configurable set of saved charts that visualize the performance data of connected devices. The Dashboard allows you to create and save new charts, and edit existing ones, with multiple chart type display options and a wide array of data sets. You can also set the date and time range, and the charts on the Dashboard update accordingly.

The Dashboard page:



Edit Dashboard

Click **Edit Dashboard** in the top left corner of the page to enable creating, editing, moving, and deleting charts on the Dashboard.

= CO(↑ Home » Per	GNE	X Analytics » D	ashboard
Save Dashboard	Cancel	Add Chart	
Chart Type Step		•	Devices Line42-N1-DM374

To create a new chart at the top of the Dashboard:

- 1. Click Add Chart to create an empty chart.
- Set the Chart Type, Devices, or Data Fields properties of the chart by clicking on the property box and selecting the desired settings from the dropdown. For a list of available Chart Types and Data Fields, see <u>Performance</u> <u>Review on page 50</u>.
- 3. Fill in the Chart Name text box to give the chart a name.

To edit an existing chart, click on its properties and change the settings. The chart updates automatically to reflect the new settings.

To move a chart up or down on the Dashboard, click on the arrow icons in the top right corner of the chart.

To delete a chart, click on the trash icon in the top right corner of the chart.

Once you are done editing the Dashboard, click **Save Dashboard** to save your changes, or **Cancel** to discard your changes.

You can zoom into areas of interest on the charts by clicking and dragging the cursor. Click **Reset Zoom** to return to the full time range.

Performance Review

The **Performance Review** page of the Performance Analytics application allows you to configure a chart that visualizes the performance data of connected devices with multiple chart type display options and a wide array of data sets. You can also set the date and time range, and the chart updates accordingly.

The Performance Review page:



Click on a chart property to open a dropdown with the available configuration options.

Chart Type	
Step	
Line	
Column	
Scatter	

Select one of the available Chart Types:

- Step
- · Line (default)
- Column
- Scatter



The **Devices** property provides a list of all connected devices. Check the checkbox of one or more devices to add their data to the chart.



Select one or more of the available Data Fields:

- Good Read Count
- No Read Count
- Read Rate
- Throughput
- Validation Rate
- Failed Validation Count
- Passed Validation Percent
- Missed Trigger Percent
- Buffer Overflow Count
- Trigger Overrun Count

You can zoom into areas of interest on the chart by clicking and dragging the cursor. Click **Reset Zoom** to return to the full time range.

If you want to keep your chart configuration, you can also save it as a chart on the **Dashboard** page. Click **Add to Dashboard** in the top right corner of the chart.

Results Explorer

With Results Explorer you can filter the results collected by Cognex devices and find the data that is most important to you.



On the device tree select the reader you wish to use with Results Explorer.



Double-clicking the selected device automatically brings you to the Results Explorer window, which provides a list of all trigger acquisitions on thereader and further information about each.



To filter acquisition details for the selected device, fill in the entry fields on the top of the Results Explorer window:



- . In Read string entry field, you can look over the triggers that contain a specific character string.
- In Trigger Index entry field, you can filter trigger acquisitions by typing in or copy the number of the trigger Index.

- In the Trigger Type Filter drop-down menu, you can choose from the options:
 - Good Read
 - No Read
 - Validation Failure

☆ Home » Performance Analytics » Results Explorer											
		Trigger Type Filter									
Read String	Trigger Index	Good Read	🖿 🗖 Date & Time Range Filter								
INVESTICA -		No Read									
		Validation Failure									
	아이는 것이 아이는 것 같아?	Constant Strategy									

- Use the Date & Time Range Filter to specify the time range of the results
- Click the **Download** button to download the captured images to your computer.
- Select the **Normalize images** checkbox, to increase image contrast. Unselect the checkbox to set the images back to default.

		admin 🚹	€
1			
	Download	🗌 Normaliz	e images

In the sidebar on the right, you can see more in-depth decode results for each of the trigger acquisitions on the list.

	✓ Decode Results		4						
	∨ 0								
	Decode Time: 24								
	Image Index: 714,132								
1	Is Good Read: true								
	Module Size: 10.95								
	✓ Process Control Metrics								
4	✓ Grades								
	Uec:								
	Contrast: A								
	Edge Contrast Min: A								
	Modulation:								
	Reflect Min:								
	✓ Metrics								
	Uec:								
	Contrast: 0.868		•						
		•							

Multi-Reader Configuration (MRC)

The Multi-Reader Configuration application of the Edge Intelligence user interface provides a list of standalone devices and device groups, shows device information, and allows you to modify settings on individual devices as well as multiple devices simultaneously. You can also save entire tables of device configuration data to your local machine.

DataMan

The DataMan page of the Multi-Reader Configuration application provides a list of standalone devices, as well as device groups, including device data. You can edit the configuration, flash the LED, reboot, or access the WebHMI of individual devices from the DataMan page. You can perform mass configuration or firmware updates for device groups.

The DataMan page:

elected to g	group Uple	oad configura	tion Upload	d firmware Download as CSV	Discover devices					Q Search	
Stand	dalone Devic	es									
DM3	03-4F5D92										
A	Actions		Primary	Name	Туре	MAC Address	Firmware Version	Address Type	IP Address	Subnet Mask	Gateway
	/ ¥	5 ¢		DM303-4F5D92	DataMan300Series	00:D0:24:4F:5D:92	5.0.0	DHCP	10.15.81.23	255.255.0.0	10.15.205.2
DM3	03-4F5DC6										
A	Actions		Primary	Name	Туре	MAC Address	Firmware Version	Address Type	IP Address	Subnet Mask	Gateway
	× ¥	5 \$		DM303-4F5DC6	DataMan300Series	00:D0:24:4F:5D:C6	5.0.0	DHCP	10.15.81.47	255.255.0.0	10.15.205.2

Click on the Discover devices button in the header to refresh the list of connected devices.

Click on the **Download as CSV** button in the header to save the device information for the connected devices in CSV format.

Individual Device Actions

Actions			
1	¥	5	\$

You can perform actions on an individual device by clicking on the icons in the **Actions** column of the row for the selected device:

- Click the **Single Device Edit** button to modify the name, IP address, Subnet Mask, and Default Gateway of the device. Enter the device password if required.
- Click the Flash LED button to remotely trigger the LED of the device for easy identification.
- Click the Reboot button to initiate a reboot on the device.
- Click the Open WebHMI button to open the WebHMI in a new tab. For more information on the WebHMI, see <u>WebHMI on page 57</u>.

Device Group Actions

To perform group actions, check the checkbox of the selected devices, enabling the group action buttons in the header:

= C											
1 Home	» Multi-I	Reade	er Conf	iguratior	n » DataN	<i>l</i> an	_				
Add selecte	d to group	Ľ	Jpload o	onfigurat	ion Up	load firmware	Download as CSV	Discover devices			
	Actions				Primary	Name		Туре			
	1	¥	5	\$		A3STB2	72BP01	DataMan260			
	1	¥	5	\$		DM_Ado	nay_CGX49LScan8	DataMan370			
	1	¥	5	\$		DM260-6	5C7B1E	DataMan260			
	1	¥	5	\$		DM262-2	26DB3E-YE	DataMan260			
	1	¥	5	\$		DM262-	5577F4	DataMan260			

Click the Add to selected group button to open the Multi Device Edit window:

Enable Group Trigger	ring							
Group *								
Select an existing or create a r	iew one.							0/31
Primary *								
Select a device from the list.								
Actions Primary	Name	Group	Address Type	IP Address	Subnet Mask	Gateway	Task Status	
= ¥	DataMan-370-01		DHCP	10.15.81.50	255.255.0.0	10.15.205.205		
ag and drop this item.	DataMan-370-02		DHCP	10.15.81.142	255.255.0.0	10.15.205.205		
= ¥	DM_Adonay_CGX49LScan8		DHCP	10.15.81.14	255.255.0.0	10.15.205.205		
Use DHCP								
IP Address								
Which IP do you want to increr	nent from?							
Subnet Mask								

In the Multi Device Edit window, you can:

- · add the selected devices to an existing group
- · create a new group with the selected devices
- define a primary device in the group
- reorder the devices
- flash the LEDs of the individual devices for easy identification
- manually configure the IP Address, Subnet Mask, and Default Gateway

Enter the device password if the device is set up to require it. Click Save to apply any changes.

To upload a saved configuration file to selected devices, click the **Upload configuration** button, opening the **Upload configuration** to selected devices window:



Click **Browse** to select the configuration file for upload. Enable **Apply network settings** to apply network settings. Enter the device password if the device is set up to require it, and click **Upload**.

To update the firmware on selected devices, click the **Upload firmware** button, opening the **Upload firmware to** selected devices window:

Password			O
Only if device	requires password for	changes.	
Browse	Browse a file with	n extension: <i>.bin.gz</i>	

Click **Browse** to select the firmware file for upload. Enable **Apply network settings** to apply network settings. Enter the device password if required, and click **Upload**.

WebHMI

The WebHMI application provides a live view of device reads, results and statistics, and allows you to pause the feed and scroll back to analyze or download individual result images. You can manually trigger or tune devices and adjust device settings from the WebHMI.

> C O A	Not secure 10.12.9	0.27:10000				🕁 📒 🇯
Apps 📃 Managed	bookmarks					Other bookmarks
	me Actions Settings Sj	ystem				
9/	Read Rate			8	APPART AND A STREET	e
<u>^</u>	73.27%				TERTER	0
	Good Reads				Call 3	Ċ
·	224,265				Exception and	φ
	No Reads					Q
×	81,814					Q
	Triggers				March 1997	۲.
	306,079				http://grotings.com Data Astrika, 53.56 Pere	23
						8
						Ð
					http://gototags.com	
	Image	Result T	Decode Time	Arrival Time	Read String	
	25	~	12ms	10:29:01.528 AM	http://gototags.com	
	E	~	13ms	10:29:00.487 AM	http://gototags.com	
	2	~	12ms	10:28:59.435 AM	http://gototags.com	

You can access the WebHMI for a connected DataMan device from the DataMan page of the Edge Intelligence user interface by clicking on the gear icon labeled **Open WebHMI** in the **Actions** column of the selected device.

Home

The WebHMI Home page displays a live feed of the device with statistics and result logs.

On the left side, the WebHMI home page shows statistics for:

- Read Rate percentage
- Number of Good Reads
- Number of No Reads
- Number of Triggers

The display on the right side of the page provides a live feed of the device view with additional controls on the right side of the display for changing orientation and zoom:

- Rotate Left 90°
- Rotate Right 90°
- Reset Rotation
- Zoom In
- Zoom Out
- Zoom To Original Size
- Reset Zoom
- Move Center
- Reset All Settings

You can also filter the feed to display only **Good Read**, **No Read**, or **Validation Failure** results by clicking on the **Images** icon in the top right corner of the display.



The result logs of the last 50 captures are listed on the bottom of the page. You can browse the list using the navigation buttons in the bottom right corner of the pane.

	Image	Result T	Decode Time	Arrival Time	Read String	
	2	~	13ms	12:03:18.947 PM	12	
	2	~	12ms	12:03:17.783 PM	http://www.google.com	
	2	×	13ms	12:03:16.586 PM		
II Pause	*	Download I	Result Image(s)		Items per page 3 💌 1 – 3 of 50 🛛 🕹 🕹 🕹	>

Click on the **Pause** button in the bottom left corner to pause the live feed. Pausing the feed allows you to select and download result images. Click on a log to put the result image on the display.

To download the image currently on the display, click on the **Download Result Image(s)** button without selecting any images from the result logs.

Check the checkboxes in the rightmost column of the result logs to select images for download, or check the checkbox in the table header to select all images. Click on **Download Result Image(s)** while multiple images are selected to download a ZIP file containing the selected result images.

Actions

The Actions page of the WebHMI allows you to manually trigger, start or stop, tune, or untrain the device.



Click Trigger to trigger the device manually.

Click Live to show the live feed of the device camera.

Click Tune to initiate an automatic recalibration. Open the Tune dropdown to optimize brightness or focus individually.

```
() Note: When you tune a device, the device stops triggering.
```

Click Untrain to untrain the device.

Settings

The **Settings** page of the WebHMI allows you to manually change the device configuration, upload, download, or save the current configuration, or reset the device to a previously saved configuration.

COGNEX Home Actions Settings System		
Table View	Configuration 🞜	í
	🖺 Upload 📑 Download 🛃 Save	් Reset
Variable Name		Setup 0
← Read Setup		
Name		Setup 0
Enabled		
Enable Distance Check		
Min Distance (mm)		0
Max Distance (mm)		10000
Starting Setup		0
Last Successful Decode		
 ✓ Tuning 		
Train Code		

- Click **Expand All** or **Collapse All** at the top of the page to expand or collapse the setting categories in the settings table.
- Click Add New Read Setup to create a new setup using default settings or an existing setup as a template.

Setup name *	
Setup 1	
Copy values from setup	
use default settings	•

- Click Upload to upload a local configuration file to the device.
- Click Download to save the device configuration locally.
- Click Save to save the configuration on the device flash memory.
- Click Reset to reset the device configuration to default or a saved configuration.

The settings table provides you with detailed and in-depth configuration options for all device functionality. For a detailed description of the available settings, see Device Settings in WebHMI on page 1.

System

The System page of the WebHMI displays detailed device information, reader statistics, feature keys, and device time.

Device Information		Feature Keys
Device Model: DM374 Serial Number: 1A1806XN002064	Firmware Version: 6.1.10_sr1 Installed Hardware: LiquidLens, Custom	1DCodeQuality, 1DDataStitching, 1DExtendedRes, 2DCode, 2DCodeQuality, BarCode, DotCode, IDMax, FullSpeed, IDQuick, ImageDownload, ImageFiltering, ImageFoV_Full, IntImageBuffer, LadderAndPicket, MST, Omnidirectional, PostalCode, PowerGrid, Scripting, SignopticSig, Validation
Device Name: Line42-N1-DM374	Bootloader Version: 2017.11-45-g87f355f	Davies Time
MAC Address: 00-D0-24-3D-BB-38	OS Version: 6.1.10_sr1	Local Time:
IP Address: 192.168.1.30		Jan 26, 2019, 2:36:11 AM Uptime: 601h 36m 13s
Reader Statistics		ී Clear
Total Triggers: 1,376,159	Missed Triggers: 0	
Total Reads: 1,225,743	Passed Validations:	
Read Rate: 89.07%	Failed Validations:	
Total No-Reads: 150,416	Buffer Overflows:	
No-Read Rate: 10.93%	Trigger Overruns: 0	
	Item Count:	

Feature Keys

The Feature Keys page shows the feature keys applied on each discovered reader.

= C	<mark>OGN</mark>	EX																	Admin User	0 9
🔒 Home	 Multi-Rea 	der Configuratio	n » Feature	Keys																
Upload	l feature keys	Download	as CSV	Discover devices														Q Search		
Standa	one Devices																		P Unlocked	• ^
Action	s Name		Туре	Firmware Version	Serial Number	Feature Keys											Tas	ik Status		
¥	WebHMI_		DataMa	n470 6.1.6_sr2	1A1804XN001407	1DCodeQuality Imagefiltering	1DDataStitching IntimageBuffer	1DExtendedRes LadderAndPicket	2DCode Omnidirection	2DCodeQuality	PowerGrid	IDMax DotCo Scripting Val	ide FullSpee	HDRPlus	IDquick (mageDownload				
¥	WebHMI_	-Demo	DataMa	n470 6.1.6_sr2	1A1802PP019862	1DCodeQuality Imagefiltering	1DDataStitching	1DExtendedRes	2DCode Omnidirection	2DCodeQuality	BarCode DPM	IDMax DotCo Scripting Val	ide FullSpee Idation MST	HORPLUS	IDQuick (mageDownkoad				
¥	WebHMI_4	I-E2E	DataMa	n470 6.1.6_sr2	1A1804XN001382	1DCodeQuality Imagefiltering	1DDataStitching IntimageBuffer	1DExtendedRes	2DCode Omnidirection	2DCodeQuality	PowerGrid	IDMax DotCo Scripting Val	ide FullSpee	HDRPlus	IDQuick I	mageDownload				
¥	EI_S		DataMa	n470 6.1.6_sr2	1A1811PP147837	1DCodeQuality Imagefiltering	1DDataStitching	1DExtendedRes	2DCode Omnidirection	2DCodeQuality	BarCode DPM	IDMax DotCo Scripting Val	ide FullSpee	HDRPlus	IDQuick (mageDownload				
¥	WebHML2	-LongRunning_1	est DataMa	n470 6.1.6_sr2	1A1804XN001369	1DCodeQuality Imagefiltering	1DDataStitching	1DExtendedRes	2DCode Omnidirection	2DCodeQuality	BarCode DPM	IDMax DotCo Scripting Val	ide FullSpee	HORPhas	IDQuick (mageDownload				
¥	EI_6		DataMa	n470 6.1.6_sr2	1A1811PP143762	1DCodeQuality	1DDataStitching	1DExtendedRes	2DCode Omnidirection	2DCodeQuality	BarCode DPM	IDMax DotCo Scripting Val	ide FullSpee	d HDRPlus	IDQuick (mageDownload				
Test																			P All 👻	^
Action	s Name	F Type	rmware /ersion	rial Number	Feature Keys												Tas	ik Status		
¥	EL_8	DataMan470 6	.1.6_sr2 1	A1811PP145077	1DCodeQuality 1 LadderAndPicket	DDataStitching 100 MST Ormidirectio	inal PostalCode	Code 2DCodeQu PowerGrid	scripting S	mbolDiagnostics	DotCode Validation	FullSpeed HD	RPlus IDQui	ck ImageDov	miload (mage	Filtering	Buffer			
¥	EI_7	DataMan470 6	.1.6_sr2 1/	A1811PP143678	1DCodeQuality 1 LadderAndPicket	DDataStitching 106	inal PostalCode	Code 2DCodeQ	uslity BarCod Scripting	e DPM_IDMax	DotCode Validation	FullSpeed HD	IRPlus IDQui	ck ImageDov	wnload (Image	Filtering Intimage	Buffee			

The following actions are available:

- Uploading feature key files
- Downloading Feature Keys page information in CSV
- Discovering devices

	Upload feature keys	Download as CSV	Discover devices			
E	Button	Description				
Upload feature keys		Upload feature key files.				
Download as CSV		Download device list with all data in CSV format.				
Discover devices		Discover connected devices.				

The Feature Keys page also allows comparing uploaded feature keys between readers in a group:

Feature Key Color	Description
BLUE	The feature is unlocked for the device.
RED	The feature is unlocked for some devices in the group, but not for the respective device.

Click the **Difference** dropdown menu to select the following menu items for comparison:

	P Unlocked 🗸 🔨					
	Unlocked					
	All					
	Common					
	Difference					
ltem	Description					
Unlocked	Show unlocked feature keys for all devices.					
All	Show unlocked and locked feature keys for all devices.					
Common	Show feature keys which are unlocked for all devices.					
Difference	Show feature keys which have a different status among the devices.					

Click the Upload feature keys button to upload a feature key file from your computer:

	Upload feature key files			
	Password			
	Only if device requires paravort for changes.			
	Browse files with adension. and			
	Verification File Name Device Name Serial Number Feature Keys In File			
	COGNEX000010_DMFK_1 DM475-FocusStacking 1A1B18PP255718 (PP) M8T			
	Cancel Upload			
ltem	Description			
Password	Password is only needed if the device requires a password.			
Browse	Browse files with .xml extension on your computer.			
Verification	Shows verified status.			
File Name	Name of the feature key files.			
Device Name	Name of the device which gets the new feature key file.			
Serial Number	Serial number of the device.			
Eastura Kova in Fila	Feature keys contained in the file.			

User Management

The **Roles** page allows an admin level user to create roles and define which EI features those roles have access to. The **User** page allows an admin level user to create users and assign them roles.

User Management

The Users page provides tools for managing the user profiles available on the device. Admins can add, remove, and edit other user profiles. Each profile has a username, password, and role permissions.

		cognex 🕚 🔁
A Home ≫ User Management ≫ Users		0 cost
	1	C Search
Actions	Create User	Roles
/ =	Username *	Admin
/ 1	f Role -	Admin
	Admin	Engineer
	Operator	Operator Items per page: 10 ▼ 1 - 4 of 4
	Confirm Password *	
	Cance	

The following predefined users are available by default:

Note: After creating the user profiles, changing the default password of each user profile is necessary to avoid security risks.

User	Password	Permission	
admin	BnthWWSD	Has access to all apps and features.	
engineer	TaRDpKVx	Has access to all apps and features.	
operator	SxtXGmxs	ser with read-only rights. The operator does not have access to the Multi-Reader configuration app and the Settings.	

Users

The Users page allows creating new users and assign them Roles.

			cognex 🚺 🔁	
☆ Home » User Management » Users				
Create User			Q Search	
Actions	Usemame ↑	Roles		
1	admin	Admin		
/ =	cognex	Admin		
/ =	engineer	Engineer		
/ =	operator	Operator		
		Items per page: 10 T - 4	of 4 < < > >	
ltem		Description		
Create User		Brings up the pop-up window to add a new user.		
User management table		Table listing the existing users, the ass roles.	igned Username and	

The Create user action is available on the top ribbon. Set the following options for each user:

Cre	eate User	
Us	ername *	
Ro	e *	~
Pat	isword *	0
Co	nfirm Password *	0
		Cancel Create
ltem		Desc
Username	The username	of the user for logging
Role	The role of the	user:
	Admin	
	Engine	ər
	Operato	or
Password	The password	of the user for logging
Confirm Password	Reenter the pa	ssword.

() Note: A user with admin rights can also edit the same options for each user by clicking the Edit button.

The Users page lists the existing users. Edit or delete an existing user by clicking the appropriate icon.

lcon	Description		
1	Click Edit to edit the settings of a user.		
Ĩ	Click Delete to delete a user.		

Roles

This page allows admin level users to create new roles and grant access to certain applications.



ltem	Description
Roles	List of roles.
Accesses	List of accesses for the role specified.

Settings

In the Settings app, you can configure the Edge Device.

Edge Device

The Edge Device page shows the network configuration and allows editing and saving the network settings of the Edge Intelligence device.

Network Configuration	Clear Databases	Network Time Protocol No NTP Servers found.
ever-operation.	· · · · · · · · · · · · · · · · · · ·	+
Network Interface: enp1s0		Save
Enable DHCP		
(# Address		
10.86.80.88		
Solver Mask		
2525234		
Gateway		
10.86.80.205		
Network Interface: enp2s0		
Enable DHCP		
10 Address		
IT MULIESS		
Control Mark		
Subiret MidSk		
Gilanav		
outring.		
NAT		
Enable NAT Settings		
+		

To set up the NAT execute the following steps:

1. Make sure that the DataMan readers have their Default Gateway set to be the IP address of the EI network port they are connected to.

2. Set the switch to enable NAT Settings.

Nome » Settings	» Edge Device	
IP Address		
Subnet Mask		
Gateway		
NAT		
NAT Enable NAT Se	ttings	
Enable NAT Se	ttings	
Enable NAT Se External IP 10.10.82.253	linternal IP 192.168.1.101	×
Enable NAT Se Enable NAT Se External IP 10.10.82.253	Internal IP 192.168.1.101	×

- 3. Click the + symbol to Add New Mapping.
- 4. Set the reader IP address as the Internal IP.
- 5. For the External IP, enter an available IP address you want to map to the reader.
- 6. Click Save.

	Network Configuration
	Network Interface: enp1s0
	Enable DHCP
	IP Address
	10.86,80.6
	Subnet Mask
	255.255.255.0
	Gateway
	10.86.80.205
ltem	Description
Device Name	The name of the Edge Intelligence device.
Enable DHCP	Toggle the switch to enable using DHCP protocols instead of static protocols.
IP Address	The IP Address of the Edge Intelligence device.
Subnet Mask	The Subnet Mask of the Edge Intelligence device.
	() Note: Do not set more than one network port to the same subnet mask.
Gateway	The Gateway of the Edge Intelligence device.

Network address translation (NAT) remaps IP address spaces into other IP address spaces by modifying network address information in the IP header of information packets. Scroll down for the NAT option. Toggle the switch to enable **NAT Settings**.

IP Address		
Subnet Mask		
Gateway		
NAT		
Enable NA	T Settings	
External IP	Internal IP	
	192 168 1 101	×

Under **Clear Databases** in the Dashboard, an Admin level user can clear the device lists, data, and images from the El device, and create a new state.

Under Network Time Protocol in the Dashboard, any user can sync the time between the El device and an NTP server:

- 1. Click the + symbol to Add New Address.
- 2. Enter IP address of the NTP Server.
- 3. Click Save.

Network Time Protocol No NTP Servers found.	
+	
	Save

Software Update

Perform the Edge Intelligence software update through the DataMan Setup Tool. Make sure that you have installed the latest available version of the DataMan Setup Tool.

 Make sure that the DataMan Setup Tool identifies the Edge Intelligence system as an accessible network device. If the DataMan Setup Tool has not yet identified the Edge Intelligence system, navigate to the Maintenance: Repair and Support menu and click Add Network Device.



2. Specify the Edge Intelligence system by entering the IP address then click OK.

Add Network Device	3
IP Address:	0.0.0.0
0	Cancel

• Note: Click the **Pen Symbol** to enable pasting a copied address. Clicking the **Pen Symbol** alternates between an automatically segmented and a manually segmented address format.

3. Navigate to the Maintenance: Update Firmware menu.

🏭 🕴 💻 📄 💿				DataMan Setup Tool							÷	23
Home View										Q 8	8 A	Help
Connect	Firmware File											
Maintenance	\											
Repair & Support	- Target Devices	oterface Type	Eilter Eilter	ViewHiddee (0)								
	Grouping D	Ture	Filter Filter		Onter	Oran in December	Interfere	MAC Address	Carial analysis MDC Cares			-
Васкир		Туре	Address	rimware version	Status	Open in Documents	Internace	MAC Address	Serial number Mints Group			-
Restore	Network											
Lindate Firmware	RTM Lean	RTM Controller	127.0.0.1		Discovered		Network	02-00-00-00-00-00				
opulater annuare	ei-dev-88-UltraPointz	Edge Intelligence Bo	x 10.86.80.88	1.2.0-perfanalytics.5+15.fd6eb496d31e0ae1768d701324eb21b6f5956cfb	Discovered		Network	00-22-4D-D8-1F-57				
Reader Groups												
Image Playback												
Options												
About												
Exit												
										Upload	d Firm	ware

4. Select your Edge Intelligence device and browse the appropriate **.pkg** file from the Cognex network or local directories by clicking the ellipsis icon.

≝ ∮ <u>■</u> 0	DataMan Setup Tool	- 6	9 83
Home View		Q & A	Help
Connect	Yimmade the		
Maintenance	L Janet Devices		
Repair & Support	🕜 Refresh - Grouping Interface Type - Filter Filter 💌 🛓 🏜 🔲 View Hidden (0)		
Backup	Name Type Address Firmware Version Status Open in Documents Interface MAC Address Serial number MRS Group		
Restore			
Update Firmware	KI M Lean KI M Controller 12/10.1 Discovered Network 0/24040-0400 el-der-88-UltraPoint: Edge Intelligence Box 10.65.80.88 12.0-perforal/rice.5F15/6564/95631eQue/7658/701324eb2/956956cb Discovered Network 0/22-40-02-1F-57		
Reader Groups	9		
Image Playback			
Options			
About			
Exit			
		Upload F	irmware

5. Select the .pkg file and click Open.

- Firmware File							G G M H
Target Devices							
C Refresh - Grouping Inter	face Type 🔹 Filter Filter	💌 📩 📩 🗌 View Hidden (0)					
Name	Type Address	Firmware Version	Sta	tus Open in Docum	ents Interface M	MAC Address Serial number MR	(S Group
A Network	Sopen (Copen)				×		
BTM Lean F	$\leftarrow \rightarrow \cdot \uparrow $	p-id-eibuild > Shared > 1.1.1 > 1.1.1.450	ٽ ~	, Search 1.1.1.	450	10-00-00-00-00	
ei dev 88 IlltraPointz	Organise 🔻 New folder				- 🗆 🕜	2-4D-D8-1E-57	
D	Images ^	Name	Date modified	Туре	Size		
	OneDrive - Cogne	linux-x64-scd	12/04/2021 13:52	File folder			
	This PC	EL_1.1.1.450.pkg	12/04/2021 13:52	PKG File	587,950 KB		
	3D Objects						
	Desktop						
	Documents						
	- Downloads						
	Music						
	Videor						
	Local Disk (C:)						
	Cog_vault (D:)						
	- Network						
	v received v						
	File nar	me: El_1.1.1.450.pkg		 Firmware (*.bin.g 	z;*.pkg;*.bin) ∨		
				Open	Cancel		
	Target Devices Crouping Inter Name Name Network RTM Lean RTM	Target Devices Pitter filter Name Type Connection RTM Lean RTM Lean	Target Devices Grouping Interface Type Filte Filter Image: Imag	Parton Grouping Interface Type Filte Time Image: I	Type Filter Filter Type Filter Filter Status Open in Docum Where Type Address Firmware Version Status Open in Docum Image: Commany Firmware Version Status Open in Docum Image: Commany Firmware Version Status Open in Docum Image: Commany Firmware Version Image: Open in Docum Image: Name Date modified Type Image: Organize Name Date modified Type Image: Image: Image: Image: Type File folder Image: Image: Image: Image: Type File folder File Image: Image: Image: Image: Image:	Target Devices Grouping Interface Type Filter Filter ■ ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	Type Piter Fitter: Image:

6. Click the Upload Firmware button.

🔛 🐔 💻 🔛 🕲				DataMan Setup Tool					
Home View	Comuses Dia								Q&A Hei
Connect	\\bubb.id.ebuild\Sbared\110\110	429\FL 1 1 0 429 pkg							0
Maintenance									line in the second seco
Repair & Support	GRefresh - Grouping Int	terface Type 👻 Fi	ilter Filter	💌 📩 📋 🔟 View Hidden (0)					
Backup	Name	Туре	Address	Firmware Version	Status	Open in Documents Interfac	e MAC Address	Serial number MRS Group	
Restore	A Network								
Update Firmware	RTM Lean	RTM Controller	127.0.0.1		Discovered	Network	02-00-00-00-00-00		
Reader Groups	ei-dev-88-UltraPointz	Edge Intelligence Box	10.86.80.88	1.2.0-perfanalytics.5+15.fd6eb496d31e0ae1768d701324eb21b6f5956cfb	Discovered	Network	00-22-4D-D8-1F-57		
Image Playback									
Options									
About									
Exit									
									Upload Firmwar

7. Confirm the firmware update by clicking Yes.

🕮 🐔 💻 🔛 🕲	DataMan Setup Tool	의 등
Connect Maintenance	- Fernszer: File C. Ween lavash Desktop VE_1.1.1.450 pkg - Target Desicos	
Repair & Support	🕜 Refresh - Grouping Interface Type - Filter	
Backup Restore	Nome Type A Address Firmware Version Status Open in Documents Interface (MAC Address Sens) number (MRS Group) A Belanck	
Update Firmware	Bit ei winz Edge Intelligence Box 10 56 50 22 1.2 0. develop=16 z4555621950417ac2960+17/605c26911679111b Discovered Network 00-22-4D-1F-74-64 R	
Reader Groups		
Image Playback Options	Do you want to update firmware to 1.1.1.450 ?	
About	ei-avas [5gentellinger] 1-3.0.6 ei-avas [5gentellinger]	
Exit		
	Backup device before firmware update	
	Yes No	
		Upload Firmware

() Note: Creating a backup by selecting the checkbox is optional.

8. Wait until the update procedure is complete then click Close.

🏭 f 🖳 🗎 ô	DataMan Setup Tool	- 6 :
Home View		Q&A Hel
Connect	/ Finware File	1
Maintenance	Louders and Deskop (EL_1) - 1 - A SO (A)	
Repair & Support	arget Devices C Refresh + Grouping Interface Type + Filter Filter I 🛓 🎽 🛄 View Hidden (0)	
Backup	Name Type A Address Firmware Version Status Open in Documents Interface MAC Address Serial number MRS Gri	qup
Restore	Network	
Lindate Eirmware	Sei-avas Edge Intelligence Box 10.86.80.22 1.2.0-develop=16.afddde2190e47ac2906117/60dc2891167/911b Discovered Network 00-22-4D-1F-74-64	
opuater i miniare	RTM Lean RTM Controller 127.0.1 Discovered Network 02-00-00-00	
Reader Groups	Mass Firmware Update	
Image Playback		
Options	Firmuse indate on device aliquize: Started	
About	Firmware update on device ei-avas: Completed	
5.4		
Exit		
	Lise	
		Upload Firmwar
Edge Intelligence Specifications

Specification category	EI-200	EI-300	EI-700
Weight	453 g (15.98 oz)	1360 g (47.97 oz)	5851 g (206.38 oz)
Housing	Fanless cast aluminum, steel	Fanless aluminum extrusion, steel	Fanless aluminum extrusion, steel
Power Input	12 VDC input jack	9~36 VDC 3-pin terminal block	9~48 VDC 5-pin terminal block
Power Consumption	9.2 W	19.04 W	80.64 W
Operating Temperature	0-40°C (32-104°F)	-25-70°C (-11-158°F)	-40-70°C (-40-158°F)
Storage Temperature	0-60°C (32-140°F) -40-85°C (-40-185°F)		
Environmental Protection	IP50		
Image Storage ¹	Up to 1 million images	Up to 4 million images	Up to 8 million images
Image Storage ²	Up to 244 data days	Up to 487 data days	Up to 487 data days

¹ Assuming no-read images are saved at full resolution (3 megapixels) in JPEG format.

² With full resolution JPEG no-read images from all readers, on a system running 24/7 with 1 trigger per second at a performance of 99% read rate.

Cleaning and Maintenance

To clean the outside of the chassis, use a dry cleaning cloth.

CAUTION: Do not clean Edge Intelligence products with liquids.

CAUTION: Do not attempt to clean any Edge Intelligence product with harsh or corrosive solvents, including lye, methyl ethyl ketone (MEK) or gasoline.

Regulations/Conformity

Note: For the most current CE declaration and regulatory and conformity information see OnLogic support site:.<u>onlogic.com/support</u>.

Safety and Regulatory					
Variants	EI-200	EI-300	EI-700		
Certifications	2002/96/EC (WEEE Directive) 2011/65/EU (RoHS 2 Directive) Additional Safety and EMC certifications pending CB scheme CE EN 55024 EN 55032 EN 62368-1 FCC 47 CFR Part 15 IEC 62368-1 UL Listed	UL Listed configurations available CB Scheme FCC 47 CFR Part 15 Low-Voltage (2014/35/EU) Electromagnetic Compatibility (2014/30/EU) Radio Equipment (2014/53/EU) - Only applicablefor configurations with wireless transmitters EN 55032 EN 55035 RoHS 3 (2015/863/EU) WEEE Directive (2012/19/EU) Power Immunity According to E-Mark 7637-2 & 16750-2 EN 50121 EN 62368-1 IEC 62368-1	FCC 47 CFR Part 15 Low-Voltage (2014/35/EU) Electromagnetic Compatibility (2014/30/EU) Radio Equipment (2014/53/EU) - Only applicablefor configurations with wireless transmitters EN 55032 EN 55035 RoHS 3 (2015/863/EU) WEEE Directive (2012/19/EU) Power Immunity According to E-Mark 7637-2 & 16750-2 EN 50121 Additional Safety and EMC certifications pending. Some certifi-cations configuration dependent.		
Manufacturer	USA: OnLogic 35 Thompson Street South Burlington, VT 05403 USA Europe: OnLogic De Boedingen 39 4906 BA Oosterhout The Netherlands				

Open Source Licences

The table below shows the open source licences used by Edge Intelligence:

angular-resize-event	MIT
angular2-moment	MIT
core-js	MIT
dateformat	MIT
daterangepicker	МІТ
fullscreen	MIT
moment	MIT
ngx-daterangepicker-material	MIT
ngx-spinner	МІТ
primeicons	MIT
rxjs	Apache-2.0
rxjs-compat	Apache-2.0
screenfull	MIT
socket.io	МІТ
socket.io-client	MIT
zone.js	MIT
@amcharts/amcharts3-angular	Paid