

DATASHEET

# iQunet.®

### Google Looker Studio iQunet Connector Editor User Manual

iQunet | Broekstraat 82, B-9220 Hamme, Belgium | T +32 52 86 00 25 | info@iqunet.com

page 1/17

### DATASHEET

### How to open, view and edit a Google Looker Studio dashboard

#### 1. Prerequisites

Read documentation: for example <u>https://support.google.com/looker-studio/?hl=en#topic=6267740</u> <u>https://support.google.com/looker-studio/topic/9207420</u> <u>https://support.google.com/looker-studio/answer/6370267?hl=en#zippy=%2Cin-this-article</u> (multipage reports)

#### 2. Open and read a Google Looker Studio dashboard.

2.1. Go to your Gmail account inbox and open the 'Invitation to edit' email. Click on 'Open'.

( metene @gmail.com) has invited you to edit the following file:



Remark: it is also possible to open the report via the report link. Simply copy the link into your browser to open the Looker Studio report.

If you do not have access to the report, ask iQunet to change the permissions.

### Can't access report

Your current account

@gmail.com can't access this report, or the report doesn't exist.

### DATASHEET

2.2. You will be asked to authorize the iQunet EC 1.7.4 Connector to view the complete report. If you immediately get a popup window when opening the report, click on the 'Authorise' button. If this popup does not show up, click on one of the authorization icons (looks like a checkmark on a shield) in one of the created charts.

iQunet.	Login to Server Dashboard	Monitoring: Demo Server Location: iQunet Hamme
	b6:f2:78:8d:	
	82:99:9c:fc:	
	af:e7:e9:fd:	

© 2023 iQunet bv

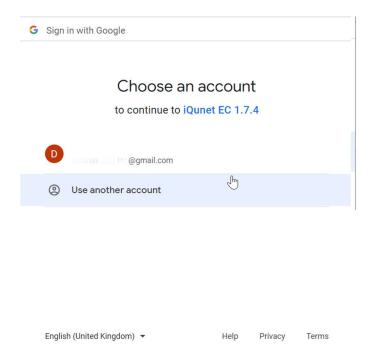
#### 2.3. Click on the 'Authorise' button.

The report	thorise connector to view complete report × that you're trying to view contains data from the following Community Connector. To view this data, you need to authorise the connector. einformation on Community Connectors	
iQunet."	iQunet EC 1.7.4 By IQunet bv Gateway for IQunet Edge Servers	
	It is your responsibility to review and comply with all applicable third party TOS.	
	Attention: This connector has not been verified or reviewed. It is recommended that you only use community connectors from trusted sources.	1
	LEARN MORE REPORT AN ISSUE	
Authori	Studio requires authorisation to use this community connector.	•

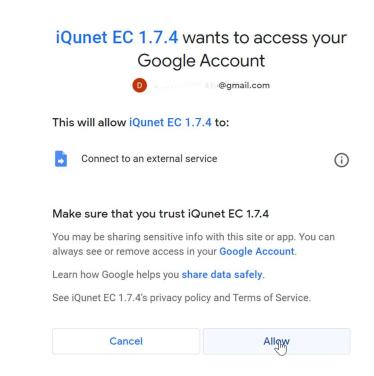
### DATASHEET

#### 2.4. Select your Google account.

Remark: you can always create a dummy Google account for the iQunet Sensor Dashboard and Looker Studio if you do not want to use your personal account.



2.5. Allow the iQunet EC 1.7.4 Connector to access your Google account.



#### DATASHEET

2.6. The iQunet EC 1.7.4 Connector is now authorized and the charts will start loading in the report.

Depending on your account's security settings you might receive a text message or email warning you about the granted access. You can ignore this mail or check the activity and confirm that you granted access.

Google
iQunet EC 1.7.4 was granted access to your Google account • Conservation @gmail.com
If you did not grant access, you should check this activity and secure your account.
You can also see security activity at https://myaccount.google.com/notifications
If you did not grant access, you should check this activity and secure your account. Check activity You can also see security activity at

2.7. You can scroll through the different pages in the report by clicking on the tabs at the left side of the page (underneath the report title).

o Demo Server iQunet	
Cverview	iQunet
, · · · · · · · · · · · · · · · · · · ·	
	$\boxed{\bigcirc\bigcirc\bigcirc}$
	$\boxed{}$

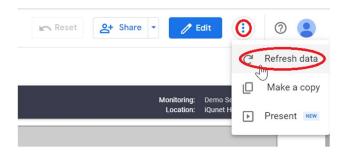
Remark: if you open a Google Looker Studio report or reopen it by refreshing the browser, the data used in the report will be refreshed. However, if the download of new data values takes longer than 5 seconds, the report will show old, cached history values (the data available after the previous refresh).

Remark: you can check if data is coming from the cache by opening the report and looking in the bottom left corner. When all the charts on the current page are being served from the cache, you'll see a lightning bolt icon along with the time and date of the last update.

Data Last Updated: 22/09/2021 11:38:16 Privacy Policy

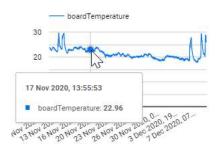
### DATASHEET

Remark: Google Looker Studio report data is only automatically refreshed every 12 hours. If you want to refresh the report data more often, you need to do this manually by clicking on the 3 dots in the righthand side of the report header. Select "Refresh data". Every page in the report must be refreshed separately. By refreshing every page separately, upload speed is improved.



Remark: the manual refresh button is not available for report viewers (only for editors). When an editor clicks on the refresh button, data will be updated at the global level and be available for all report users (including report viewers).

2.8. You can see the detailed data points by hovering the mouse over the graphs.



2.9. You can change the date range for the charts by clicking on the arrow icon. The selected range will apply to all charts on that page.

Select date range:	10 Nov 2020 - 9 Dec 2020		Ð			
0.4	51:ca:31;6e in box - IP67 - ser 0.4	ver-Temp only — mmsRmsy	1.5		90 20 10	noesture
0 23 Nov 2020, 0	0 8 23 Nov 2020, 09	23 Nov 2020, 08 23 Nov 2020	,090	23 Nov 2020, 08 23 Nov 2020, 09	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2000 1000 2000 000 19 2000 1000 2000 2000 00 4 M <sup>arg</sup> 50 M <sup>arg</sup> 50 M <sup>arg</sup> 70 M <sup>arg</sup> 2000 10

#### DATASHEET

#### 3. Edit a Google Looker Studio dashboard.

3.1. Change to edit mode by clicking on "Edit" in the righthand side of the report header.



Remark: change back to view mode by clicking on the same button which now shows "View".

3.2. Add a chart, table, map... by clicking on 'Add a chart' and selecting the desired type.

Remark: do not use a time series graph since this will try to calculate useless aggregate graphs (sum, average) of the data.

Remark: only one XY combination is allowed at this moment per graph. It is thus not possible to use multiple lines on the same graph.



Click on the created chart and edit the settings in the pane on the right.

- Data source = iQunet EC 1.7.4 (default setting)
- Dimension = sourceTimestamp (not default setting)
- Metric = value (default setting)
- Sort = SourceTimeStamp > ascending

### DATASHEET

SET-UP	STYLE	Q Search	
Data source		iQunet EC 1.7.4	×
iQunet EC 1.7.4		DATETIME	^
BLEND DATA	0	💼 sourceTimestamp	
		NBC string	
Dimension		123 value	
sourceTimestamp		ABC nodeldentifier ABC namespaceIndex	
Drill down		ABC serverId	
Breakdown Dimension			
Add dimension	l		
Metric			
sum value			
🚯 Add metric			
Optional metrics			
Metric sliders			
metric sinters			
		-	
ort			
sourceTimestamp			
<b>)</b>			
) Descending			
<i></i>			
Ascending			
Ascending			
efault date range:			
efault date range:			
efault date range: Auto			

This will not work yet since the node parameters are not set yet.

Scroll to the bottom of the set-up section to the Parameters section. Fill in the nodeldentifier, the namespaceIndex (mostly 2) and the serverId (server-xxxxxxx).

E.g. 367690843, nsIdx = 2, server-xxxxxxxx

### DATASHEET

SET UD	CTVLE	1 and 10	
SET-UP	STYLE	Q Search	
Default date range:		→ iQunet EC 1.7.4	>
Auto		DATETIME	9
		isourceTimestamp	
Custom		RBC string	
$\bigcirc$		123 value	
2 Dec 2022 - 31 Jan 2023		ABC nodeldentifier	
		nac namespaceIndex	
		ABC serverId	
Filter			
Line Chart Filter			
ADD A FILTER			
Parameters nodeldentifier	1		
Parameters nodeldentifier 602109697 namespacelndex			
ADD A FILTER  Parameters nodelidentifier 602109697 namespaceIndex 2 serverid			
Parameters nodeldentifier 502109697 tamespaceindex 2 serverld			
Parameters nodeldentifier 602109697 namespacelndex 2			
Parameters nodeldentifier 602109697 namespaceindex 2 serverid serverid			
Parameters nodeldentifier 602109697 nemespaceIndex 2 serverid Serverid Chart interactions			

The nodeldentifier and the namespaceIndex can be found in UA Expert at the right side after selecting the desired node in the address space.

Remark: you can find more information on how to connect to UA Expert here: <u>https://iqunet.com/resources/knowledge-base/how-can-i-extract-data-from-the-opc-ua-server/</u>.

### DATASHEET

🗋 🖉 🕞 🖉 🔷 🗕	ə 🗙	🔌 🤰  🖻	¥ 🛄							
Project	ð×	Data Access View					٥	Attributes		
✓ <sup>™</sup> Project		# Server	Node Id isplay Nar	Value	Datatype	rce Timesta ver Timesta Statuscode		🧿 🧹 陆	0	
✓								Attribute		Value
FreeOpcUa Python Server								✓ Nodeld		ns=2;i=1241638991
✓									paceIndex	2
📁 Data Access View								Identifi		Numeric
								Identifi	er	1241638991
								NodeClas	s	Variable
								BrowseNa	ame	2, "batteryVoltage"
								DisplayNa	ame	"", "batteryVoltage"
								Descriptio	on	"", "batteryVoltage"
								WriteMas	k	0
Address Space	ð×							UserWrite	Mask	0
S No Highlight	-							RolePermi	issions	BadAttributeIdInvalid (0x80350000)
> \$ 52:41:b9:92	^							UserRoleF	Permissions	BadAttributeIdInvalid (0x80350000)
> 🐥 68:90:43:13								References		
> 🜲 7c:7e:7c:d5									Forward •	
✓ ♣ 81:68:a1:5e								and the second s		
> accelerationPack	-							Reference	Target Display	Name
> 👄 axis								HasType	BaseDataVaria	bleType
> 🔤 batteryVoltage										
> 📟 beatperiod										
> boardTemperature										
CaptureStats	~									
Log										
¥ 🕞										
Timestamp Source Server Mess	age									
11/09/20 Attribute FreeOpc Read	attribute	s of node 'NS2 Nu	meric 1375128266' succ	eeded [ret =	Good].					
11/09/20 Reference FreeOpc Brow	se succee	ded.								
11/09/20 Attribute FreeOpc Read	attribute	s of node 'NS2 Nu	meric 1241638991' succ	eeded [ret =	Good].					
11/09/20 Reference FreeOpc Brow	se succee	ded.								

Right click on the identifier value and select "Copy Value" to copy the identifier value.

Attributes			8
💋 🥪 દૂધ 💿			C
Attribute	Value		1
✓ Nodeld	ns=2;i=12	41638991	
NamespaceIndex	2		
IdentifierType	Numeric		
Identifier	124163		
NodeClass	Variable	Expand All	
BrowseName	2, "batt	Collapse All	
DisplayName	"", "batt	Copy Value	
Description	"", "batter	yVoltage"	
WriteMask	0		
UserWriteMask	0		
RolePermissions	BadAttrib	uteldInvalid (0x80350000)	
UserRolePermissions	BadAttrib	uteldInvalid (0x80350000)	
	S	U U L (0 00050000)	
References			8

#### DATASHEET

3.3. Change the plot style in the style section on the right (opened after clicking on the graph).

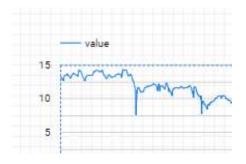
2	📈 Chart		~
	SET-UP	STYLE	
Serie	es no. 1		
۲	Line		
0	Pubs <mark>, B</mark> ars		
	È		•
_	*		
	Cumulative		
	Show Points		
	Show data labels		
Gene	ral		
	Smooth		
	Stacked B <mark>a</mark> rs		
Numbr 5000	er of Points		

Remark: do not use "bars" in a line chart since the number of bars is very limited and not all data points will be shown on the plot.

Set the line weight to 1.

Set the "Number of Points" to 5000 (the maximum) to show all (or most of the data) that is downloaded by the connector via OPC UA.

3.4. Create a more descriptive label in the graph instead of "value".



#### DATASHEET

For this, click on the pencil icon next to the value metric (in the set-up section).

Metri	ic
The	value
V	Add metric

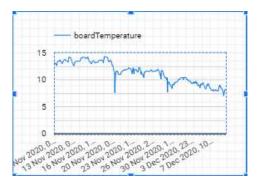
Fill out a more descriptive name (for example boardTemperature).

Change the aggregation setting to 'Average' instead of 'Sum'. Since the accuracy of Looker Studio is limited to 1 second, using Sum will lead to peaks if two or more datapoints occur in that one second.

Click somewhere next to the popup to close it.

ve boardTemperature	
Name	
boardTemperature	
Source field: value	
Aggregation	
O Sum	
R Average	
Count	
O Count Distinct	
O Min	
O Max	
O Median	
Standard deviation	
O Variance	
Туре	
Number	
Comparison calculation	
None	×
Running calculation	
None	- ?

The label is now changed to our more descriptive custom name.



### DATASHEET

3.5. Add a scorecard for a single value.

iQunet.®

Remark: make sure that there is no SourceTimestamp listed in the set-up pane on the right. If there is, delete it. If there is no Sourcetimestamp listed in the request, the connector will download the latest value instead of the history.

ta	http://www.add	a chart '	* 85 *		Add a cont	rol 🕶	<
	Table						
						- 1	
	Scoreca	d				- 1	
— We	Total 1,168	Sessions 69.3K					
01	Scorecard	my	N		-		
~~	Bar		~			- 1	
	Dui .						
	ontro	- <:	> 1	AI 🔨	• O1•		
	_	1	Water Pum	np Base	Battery		
	-		2.88	510			
	•				7		
	-				7.		
	-						
	_						
	-						

3.6. Add additional nodes by adding new charts, tables... using the other nodes parameters.

Remark: Google Looker Studio currently has a limit of 50 elements (charts, controls, tables) on one page.

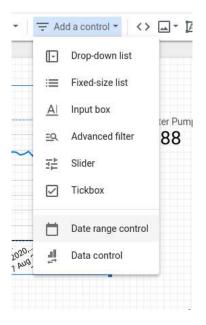
Remark: Google Looker Studio does not throttle data requests. If you place 100 graphs on the dashboard, it will download all graphs concurrently. The current OPC UA Server only allows 32 simultaneous OPC UA connections per server. Google Looker Studio does not close the OPC UA connections. There is a timeout of 20 seconds before a connection is closed after the last data is transmitted through this connection.

### DATASHEET

3.7. Add a Date range control. Click on "Add a control" and select the Date range control. The date range control can only be tested in view mode.

Remark: if you want the control to work only for a single graph instead of for the whole page you can group the control with the graph by selecting the control and the graph and then clicking on Group in the Arrange tab.

Remark: currently only a limited number of history continuation point reads is supported, so not the whole selected date range may be visible and downloaded.



You can for example set the Date Range Control to Advanced and set today-1 to today.

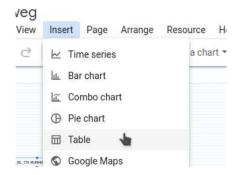
	-	Date range control Properties		
Server		SET-UP	STYLE	
Hamme		Default date range:		
			Advanced 👻	
Start date		End d	ate	
Mon, 30 Jan 2023		Tue, 31 Ja	n 2023	
Today	*	Today	v	
Minus	•	Minus	*	
1	\$	0		
Day	v	Day		
		CANCEL		

#### DATASHEET

3.8. Add a string datatype (for example to display the sensor device tag).

Remark: string datatypes only work with tables.

Insert a table into the report.



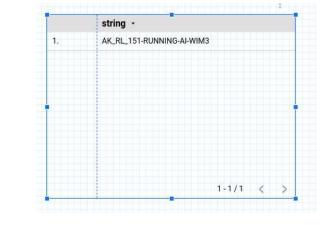
Click on the created table and edit the settings in the pane on the right.

- Dimension = "ABC string"
- Delete the metric
- Sort = "ABC string"
- "rows per page" = 1

### DATASHEET

Chart	~	🔁 Data	
SET-UP	STYLE	Q Search	
Data source		iQunet EC 1.7.4	)
iQunet EC 1.7.4		DATETIME	2
😌 BLEND DATA	0	sourceTimestamp	
Dimension		123 value	
ABC string		ABC nodeldentifier	
Add dimension		nac namespaceIndex	
Add dimension		RBC serverid	
Drill down	<b>.</b>		
Vletric			
Add metric			
Optional metrics			
Metric sliders	. D		
Rows per Page			
1			
Summary row			
Show summary row			
Sort			
ABC string			
Descending			
		🕒 Add Data	

Fill out the nodeldentifier, the namespaceIndex (mostly 2) and the serverId (server-xxxxxxx). E.g. 367690843, nsIdx = 2, server-xxxxxxxx



iQunet | Broekstraat 82, B-9220 Hamme, Belgium | T +32 52 86 00 25 | info@iqunet.com

Subject to reasonable modifications due to technical advances

#### DATASHEET

Remove the table header, row numbers and table footer in the "Style" tab.

Set the used "Table Colours" to transparent.

