



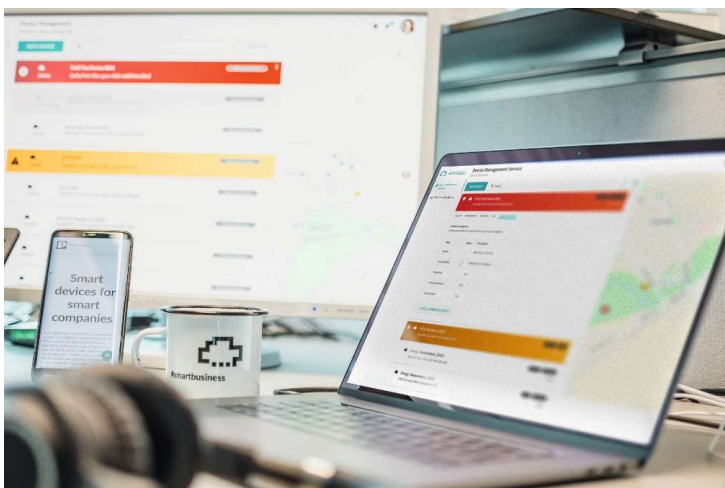
Welcome

Plataforma de servicios SMART de Phoenix Contact



Webinar IMA Noviembre 2020

Plataforma de servicios SMART de Phoenix Contact



Fecha	12 Noviembre 2020
Hora	9:00
Hora	16:00
Duración	1 hora
Costo	gratuito

Conozca la nueva plataforma de servicios digitales lista para la conectividad desde la nube, hasta las prestaciones a futuro necesarias dentro de la digitalización inteligente.

Durante el seminario usted conocerá la nueva plataforma de Servicios SMART de Phoenix Contact que abarca desde los Servicios de Administración de dispositivos, Servicios de los dispositivos inteligentes, y los Servicios de Soluciones Inteligentes desarrollados en nuestra tecnología PROFICLOUD.

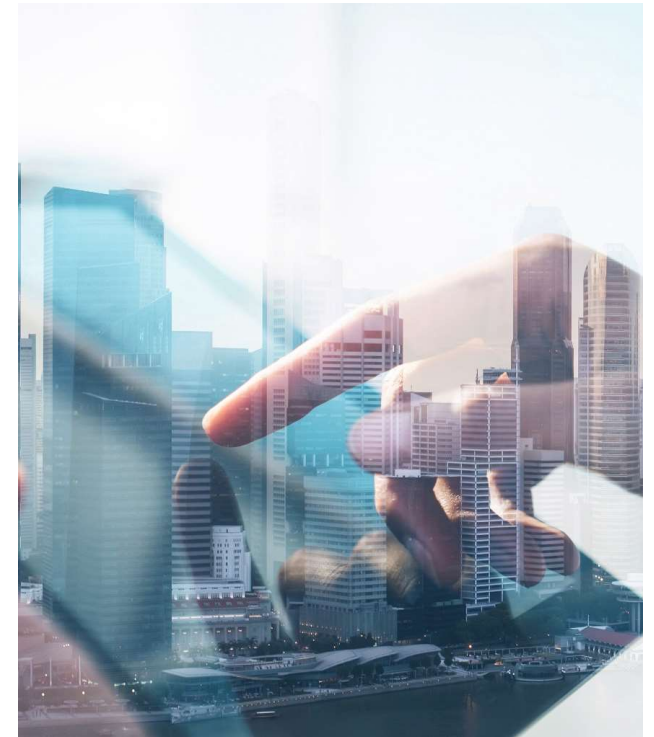
Estas categorías ya están disponibles en aplicaciones y seguiremos en continuo desarrollo para que usted utilice todo el potencial de digitalización desde cualquier dispositivo inteligente y poniendo a su alcance toda la información necesaria y útil hacia los servicios que usted requiera en nuestra nube.



Webinars

Agenda

- Phoenix Contact Smart Business GmbH
 - All Smart COMPLETE line products
 - Types of SMART Services
 - Device Management Services
 - PROFICLOUD 2
 - Example TSD
 - Dashboards on Proficloud
 - Cloud possibilities
-



Cloud based Smart Services

Phoenix Contact Smart Business GmbH



Location

21 Employees in Bad
Pyrmont & Berlin



Competence

Frontend & Backend
Development, UX/UI
Design, Machine Learning,
Software Architecture



Task

Become the Smart Service
and Data Science Competence
Center for the Phoenix Contact
Group

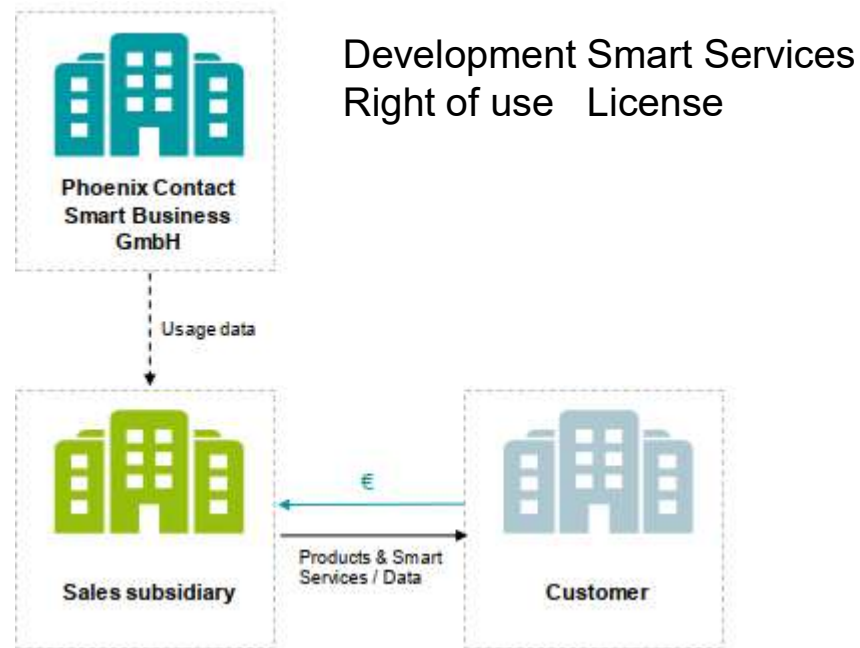


Management

M. Weßelmann (GM)
Dr. T. Schlichting (CDNB)

Phoenix Contact Smart Business GmbH

Business Model



Smart Services

Smart Business



Smart Services on Any Cloud

Increased reach of our Smart Services after testing them on our own platform



Smart Services on Proficloud

Establishment of recurring revenue models through development and operation of Device Management Services, Smart Device Services & Smart Solution Services



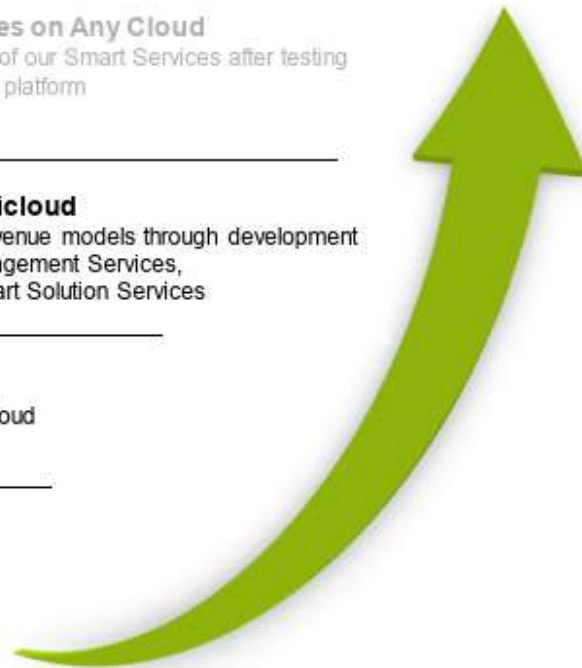
Smart Device Connectivity

Easy connection in Proficloud to Any Cloud



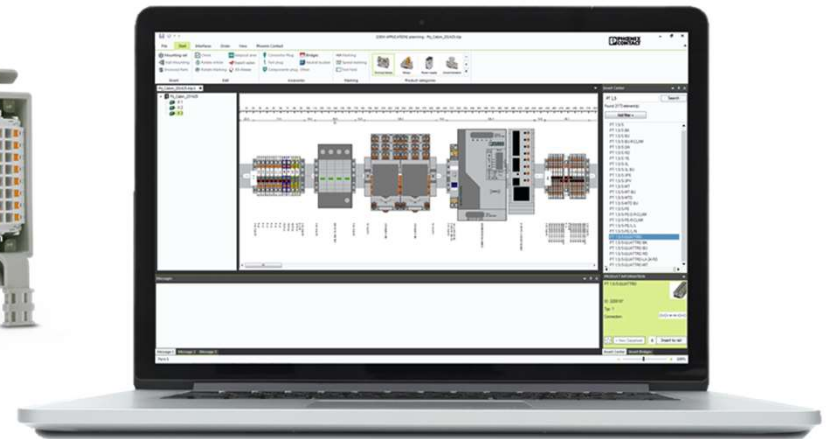
IoT Plattform für Phoenix Contact

Proficloud based on flexible microservice architecture

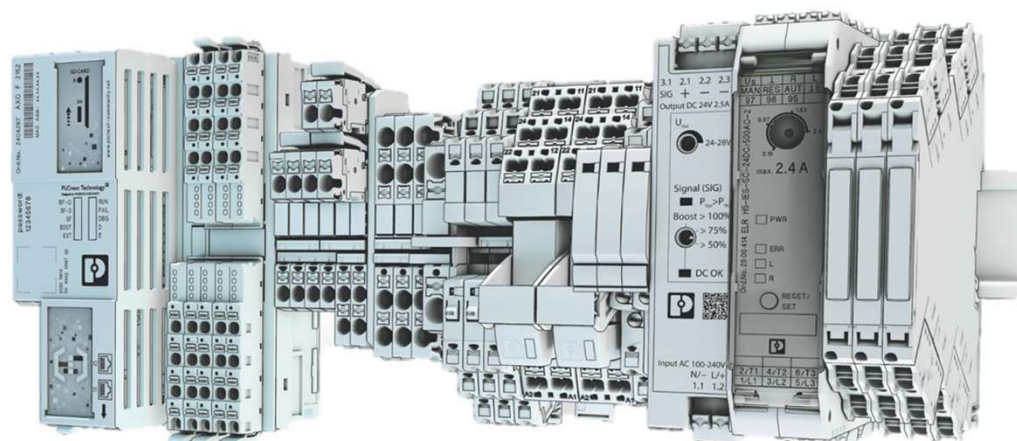


All Smart COMPLETE Line products

COMPLETE line



COMPLETE line



COMPLETE line

Products

COMPLETE line



Short-term machine construction
PHOENIX CONTACT

Cloud based solution

All Smart COMPLETE line Products

Objective: All smart COMPLETEline products support Proficloud by 2023



PROFICLOUD Ready



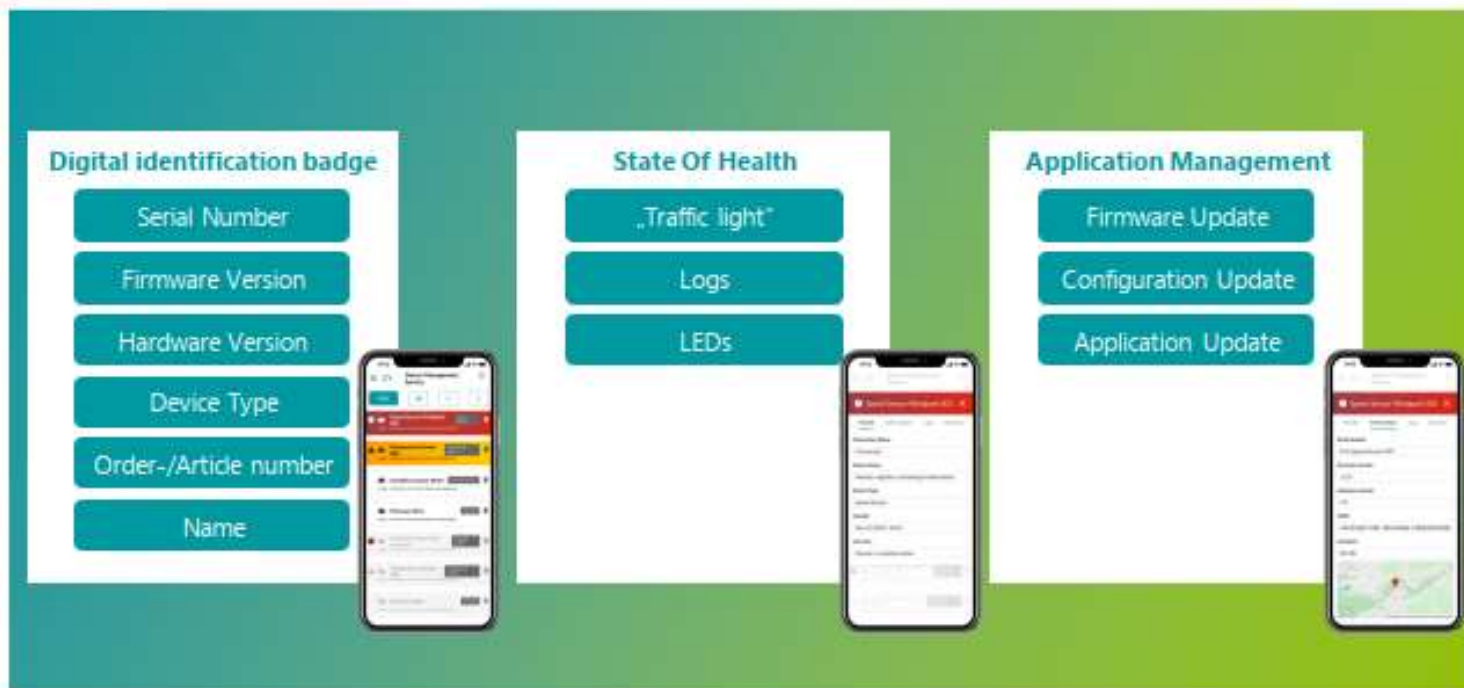
Planned for PROFICLOUD-readiness

Smart Services

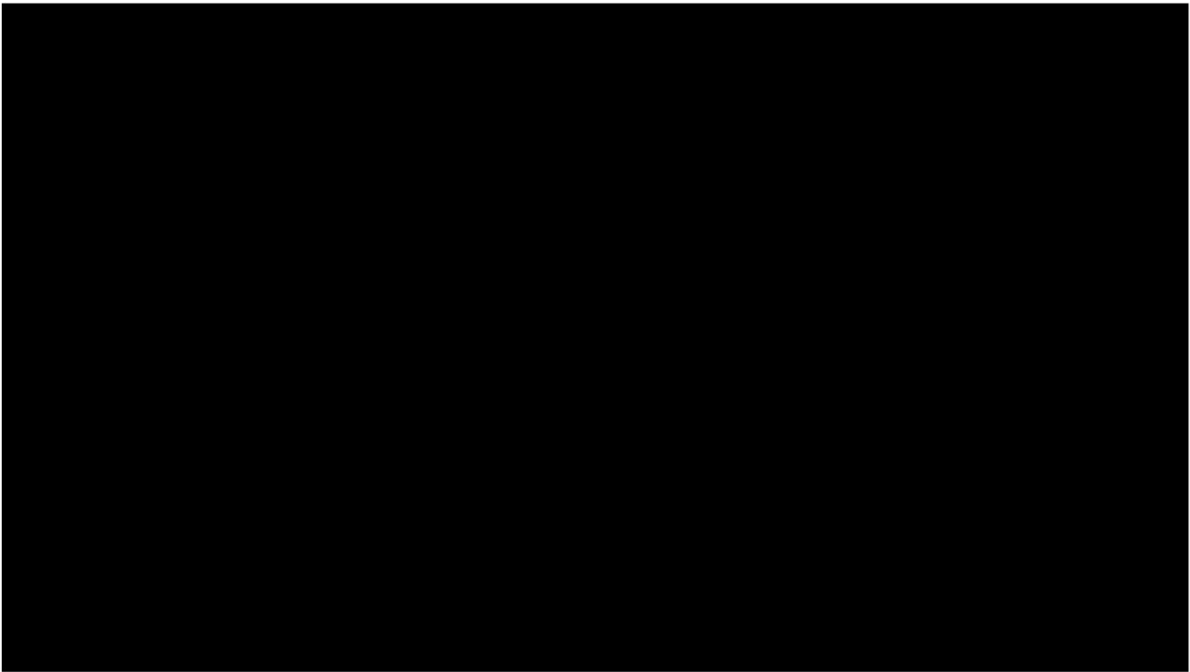
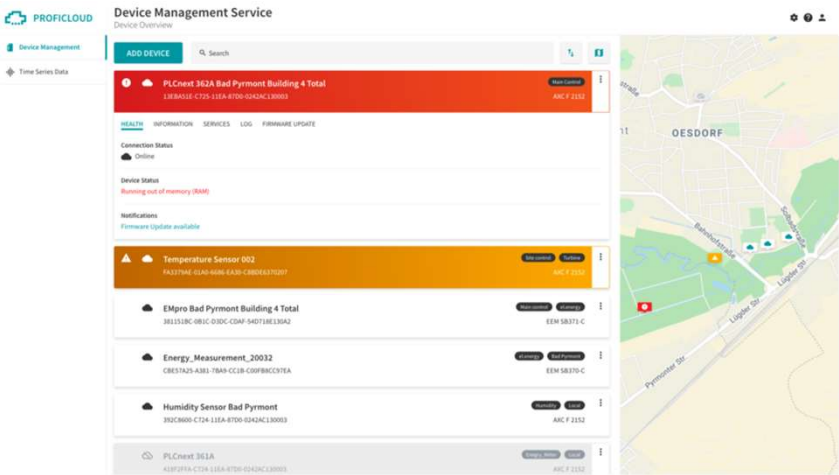
Types of Smart Services

DEFINITION	DEVICE MANAGEMENT SERVICE	SMART DEVICE SERVICES	SMART SOLUTION SERVICES
	Minimal standard for all PROFICLOUD-compatible products	Standardized value-added service for different industries / applications	Industry or application-specific value-added service
	Standardized, application-independent device information in real time	Direct linkage to one or more PROFICLOUD-capable products	Combination of Smart Device Services
	Fulfillment of minimum requirements for industrial products in the digital age	High data value added and additional customer willingness to pay	
			Value add

Device Management Service



Device Management Services



Video Device Management Services

Definition

PROFICLOUD



PROFICLOUD

Elements

PROFICLOUD

Our cloud solutions

With the PROFINET and Time Series Data cloud solutions, Phoenix Contact offers you cloud-based automation solutions that are perfectly tuned to your company's requirements and needs. This lets you benefit from fast value creation and full cost transparency, thanks to the pay-per-use model.

Cloud gateway for PROFINET

The Cloud gateway is the secure connection between your local PROFINET network and Proficloud, and makes it possible to use the cloud services.

PROFINET cloud solutions

Thanks to PROFINET cloud solutions, you can make your existing PROFINET network cloud-capable and add cloud services. This lets you directly see the benefits of Proficloud, e.g. for remote applications or when using services such as monitoring, reporting, or calculation.



Cloud controller for PROFINET

The modular Axiscontrol controller makes communicating with Proficloud possible.

Elements

PROFICLOUD

Time Series Data cloud solutions

The Time Series Data cloud solutions allow you to capture, evaluate, and visualize the process data from your machines and systems. This forms the basis for predictive maintenance and other big data applications. Thanks to web-based dashboards, you have access to your data anywhere and at any time.

Cloud controller with PLCnext Technology

With PLCnext Control based on PLCnext Technology, you connect directly with Proficloud and individually integrate cloud services.



PLCnext TechnologyTM
Designed by PHOENIX CONTACT

Cloud IoT Gateway

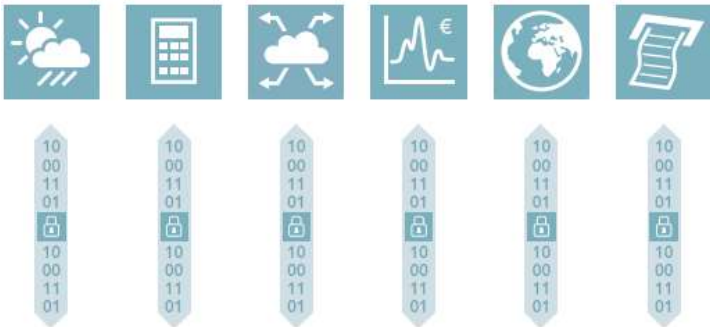
With our Cloud IoT Gateway, you integrate new and existing systems into Proficloud without the need for additional engineering effort. Thanks to its support of various protocols, it enables tailored and fast process integration.

Further information on the
Cloud IoT Gateway:
Simply type the web code into the
search field on our website.

 Web code: #1810

Elements

PROFICLOUD



Cloud services

Benefit from the almost unlimited possibilities that cloud services or the software development kit offer for your automation.

PROFINET cloud solutions	
	
Software Development Kit CLOUD SDK4J	Cloud services: weather, calculation, system couplers
Order no. 2404475	Order no. 2403325
Download free of charge	Order no. 2403326
	Order no. 2404449

Time Series Data cloud solutions	
	
Software Development Kit CLOUD SDK4J	Grafana dashboard
Order no. 2404475	Free of charge
Download free of charge	Access via www.proficloud.net

Elements

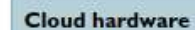
PROFICLOUD



Cloud Credits
Simple, transparent pricing models enable you to operate flexibly.

Your currency in the Proficloud			
			
Cloud Credit 1 Credit: 8,760 units	Cloud Credit 2 Credit: 17,520 units	Cloud Credit 5 Credit: 43,800 units	Cloud Credit 10 Credit: 87,600 units
Order no. 2402989	Order no. 2402988	Order no. 2402987	Order no. 2402986

PROFICLOUD



Cloud hardware enables you to easily connect to new and existing machines, systems, and processes.

Cloud gateway for PROFINET Cloud Coupler-Pro

Order no. 2402990



**Cloud controller for PROFINET
AXC Cloud-Pro**

Order no. 240298

**AXC F 2152 cloud controller
with PLCnext Technology**

Order no. 2404267



Cloud IoT Gateway

Order no. 1031235



AXC F 1152



AXC F 2152



AXC F 3152



RFC 4072S



EEM-SB370-C

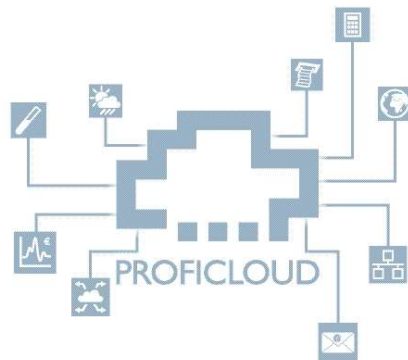


C EEM-SB371-C



IPCH-4X-PCL-TCP-24DC-UT

PROFICLOUD Generation 2 enables state of the art Smart Services



Secure

- From the cloud to the device
- Hosting (IaaS) at the market leader with server location in Frankfurt

Powerful

- Unlimited memory and computing power
- Access and user management
- Build-In Visualization
- Easy integration of ML algorithms

Extendable

- Multi-Cloud ready
- Connectivity to AWS, AZURE, Alibaba, ...

Connective

- SDK for PHOENIX- and 3rd party devices
- Data normalization for common protocols

Intuitive

- Easy user interface
- User centric dashboard
- Single-Sign-On for all Services related to Software at PHOENIX CONTACT

Flexible

- Different IaaS applicable e.g. AWS, Alibaba, ... (later relocation possible)
- Comprehensive support of recurring revenue streams, e.g. subscription fees

Smart Services
by
PHOENIX CONTACT

PROFICLOUD

[PROFICLOUD 2](https://proficloud.io) <https://proficloud.io>

PROFICLOUD

IaaS

PaaS SaaS

IaaS, PaaS, SaaS and the PROFICLOUD

PROFICLOUD

IaaS (Infrastructure as a Service)

- Storage, networks, fundamental computing resources ...
- Consumer does not manage or control the underlying cloud infrastructure



PaaS (Platform as a Service)

- Consumer created applications, created using programming language, libraries ...
- Consumer does not manage or control the underlying cloud infrastructure (e.g. network, computer resources)



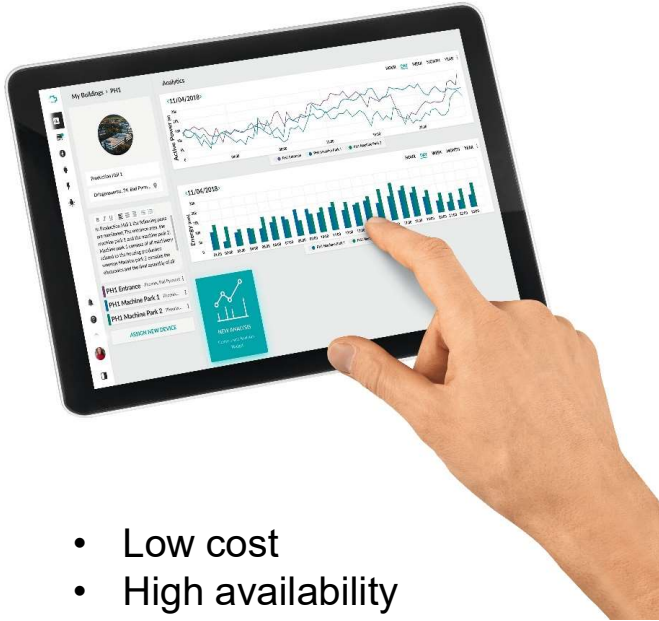
SaaS (Software as a Service)

- Consumer uses provider's applications, accessible from client interface ...
- Consumer does not manage or control the underlying cloud infrastructure or platform



CLOUD

Advantages



- Low cost
- High availability

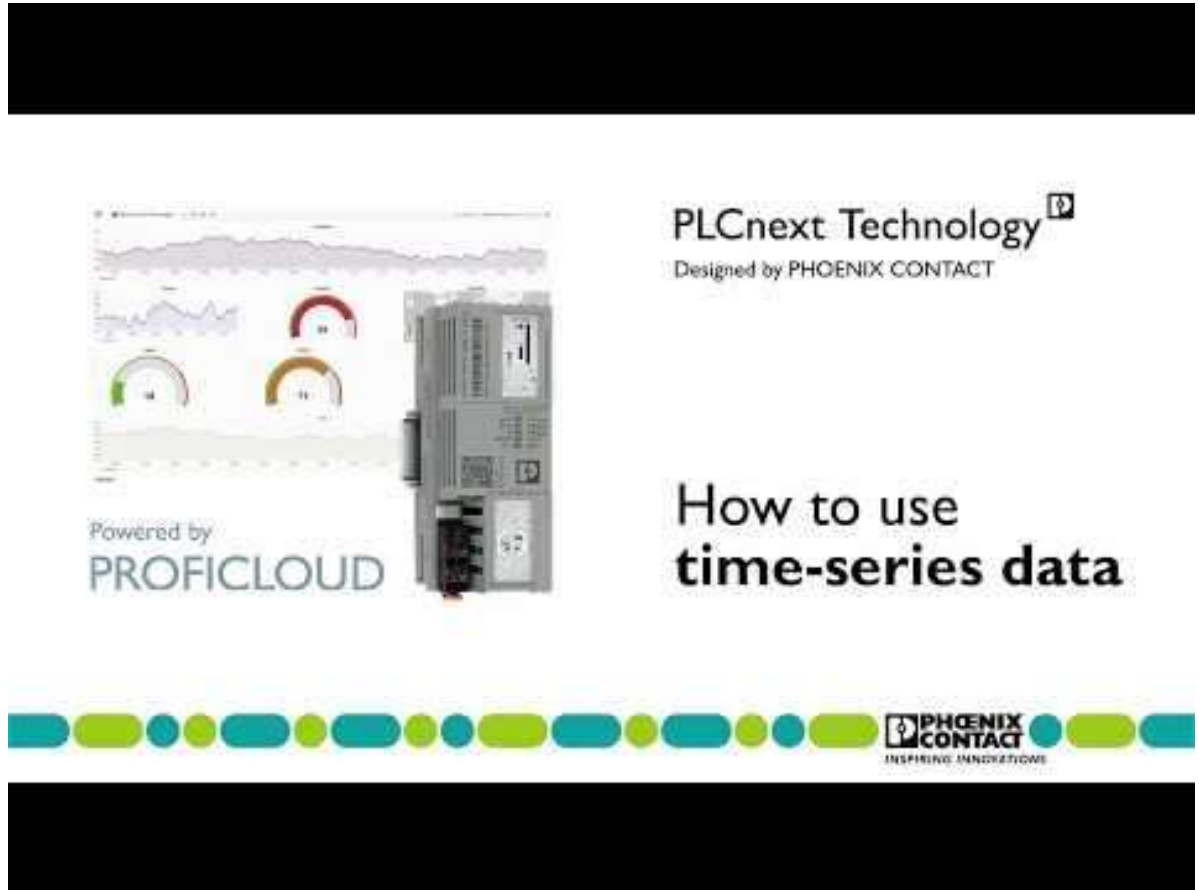


TSD Time Series Data

PROFICLOUD

TSD is a series of data indexed in time order.

The proficloud TSD Service allows customers to send data from their devices into Proficloud and have it visualized on our own dashboarding solution



PLCnext Technology[®]
Designed by PHOENIX CONTACT

How to use
time-series data

Powered by
PROFICLOUD

PHOENIX CONTACT
INSPIRING INNOVATIONS

Energy Management Service

Dashboards on Proficloud



AXC F 2152 and PROFICLOUD Tutorial

Content

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AXC F 2152 Setup Cloud Variables

- This guide shows how to setup a Proficloud Dashboard using an AXC F 2152 controller with the following variables configured

	Name	Type	Usage	Comment	Init	Ret...	OPC	HMI	Proficloud
▼	Default								
	xEnable	BOOL	External						
	analogIN	INT	Local		INT#0	☐	☐	☐	☐
	threshold	INT	Local		INT#15000	☐	☐	☐	☐
	xOutput	BOOL	External						
	Channel1	WORD	External						
	xEnable_cloud	BOOL	OUT Port		FALSE	☐	☐	☐	☒
	xOutput_cloud	BOOL	OUT Port		FALSE	☐	☐	☐	☒
	analogIN_cloud	INT	OUT Port		INT#0	☐	☐	☐	☒
	Enter variable name here					☐	☐	☐	☐

AXC F 2152 Setup Source Code

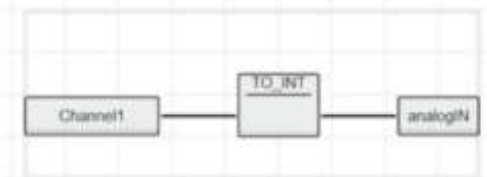
- > xEnable = DI1
- > xOutput = DO1
- > analogIN = AI1
- > Threshold = 15000

ST Code

```
IF xEnable = TRUE THEN
  IF analogIN > threshold THEN
    xOutput := TRUE;
  ELSE
    xOutput := FALSE;
  END_IF
ELSE
  xOutput := FALSE;
END_IF

//Proficloud Data
xEnable_cloud := xEnable;
xOutput_cloud := xOutput;
analogIN_cloud := analogIN;
```

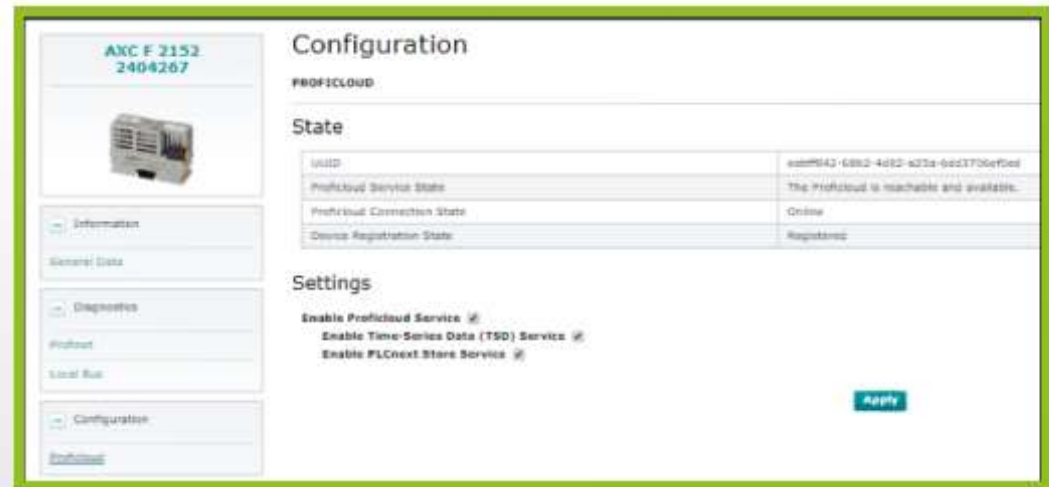
LD Code



AXC F 2152 Setup

Web-based management configuration

- Enable the Proficloud, TSD, and PLCnext store services
- Verify the Proficloud service state is “reachable and available”
- Verify Proficloud Connection State is “Online”
- Verify Device registration state is “Registered”
(The device will need to be added to proficloud first)



TSD Device Manager

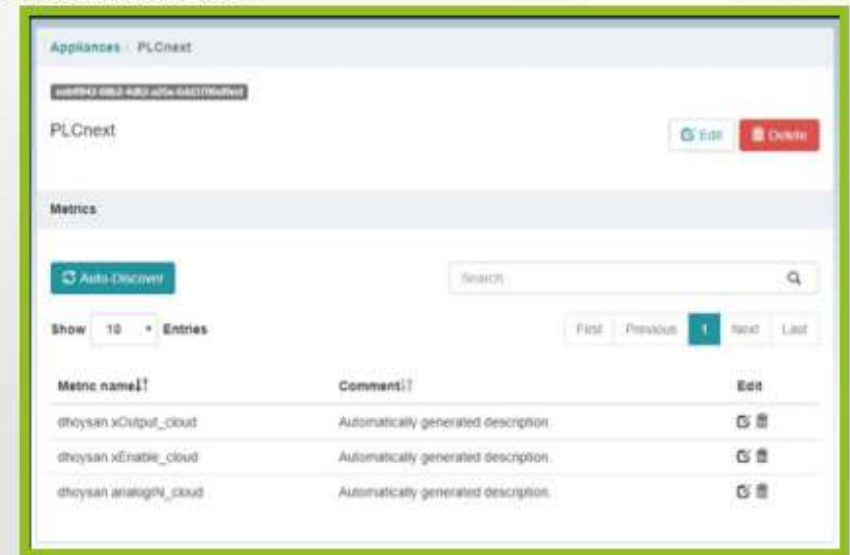
TSD Device Manager

- Choose TSD Device Manager from the Proficloud home screen



TSD Device Manager Device Registration

- Register the AXC F 2152 controller on the Proficloud by creating an “appliance” and adding the device UUID (1).
- Verify the device is online and can “auto-discover” all cloud variables



TSD Device Manager

Creating multiple accounts (nice to know, not required)

- Create a second account (1) and add a new user to the account (2) (use a secondary email)

The screenshot displays the Phoenix Contact TSD Device Manager interface. On the left, a sidebar menu is visible with the following options: 'Back to Appliances', 'Manage Account', 'Settings', 'Members', and 'Add Account'. The 'Add Account' option is highlighted with a red circle containing the number 1. The main content area shows the 'Members Customer 1' page. At the top left of this page is an 'Add user' button, which is highlighted with a red circle containing the number 2. Below this button is a table listing users. The table has three columns: 'Username', 'User role', and 'Edit'. The first row shows a user with the role 'Admin', and the second row shows a user with the role 'User'. The 'Edit' column contains icons for editing and deleting each user. A search bar and pagination controls are also visible at the top right of the main content area.

Username	User role	Edit
Admin	Admin	 
User	User	 

TSD Analytics - General

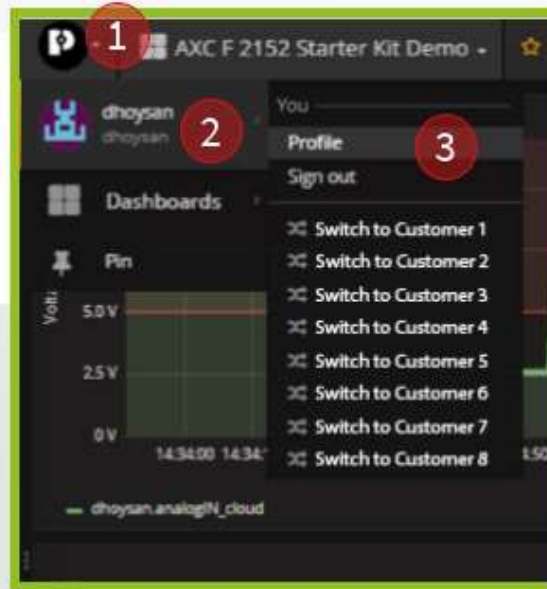
Application Access

- Go to TSD analytics from the Proficloud home page (1)
- Go to TSD analytics from the TSD Device Manager (Look out for how the dashboard changes based on which account you are on) (2)



TSD Analytics - General Dark Mode

- Change TSD analytics to dark mode
 - Click on PxC-Logo (1)
 - Click on User (2)
 - Click on Profile (3)
 - Click on UI Theme (4)



TSD Analytics - General

Rename, save, and tag a dashboard

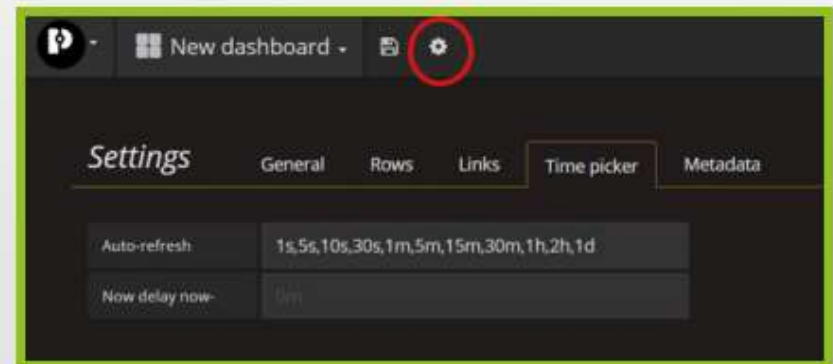
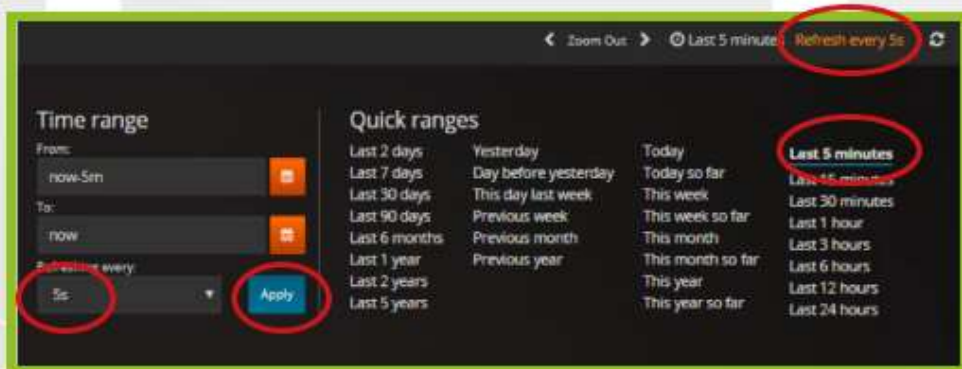
- Click on Gear (1)
- Rename the dashboard (2)
- Tag the dashboard (3)
- Save your dashboard (4)



TSD Analytics - General

Time Range & Refresh Rate

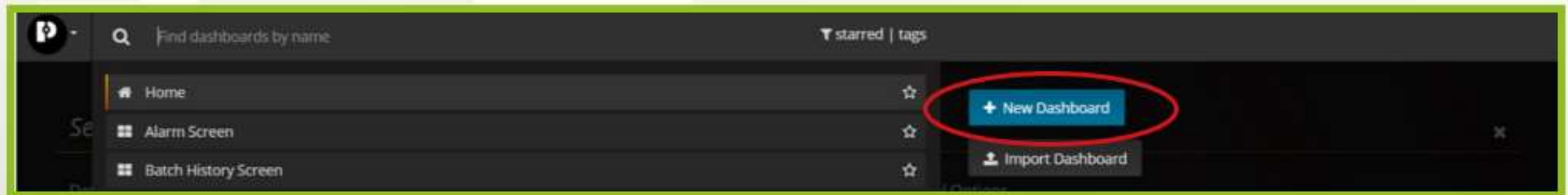
- Configure Proficloud to refresh every 5s
- Change the data range to Last 5 minutes
- Edit the Time picker settings to enable Proficloud to refresh every 1s



TSD Analytics - General

New Dashboard

➤ Create a new dashboard



TSD Analytics - Graphs

Dashboard Setup

- Create a new dashboard and add a graph (drag and drop)



- Add a single stat next to the graph (expand the menu in the upper left to find the add panel option)



TSD Analytics - Graphs

Dashboard Setup

- Add a second row with 1 graph and 2 single stats



- Add a third row with a table



TSD Analytics - Graphs

Graph Settings

➤ Click “panel title” above the first graph to edit



TSD Analytics - Graphs

General Settings

➤ Change the title to Analog Input

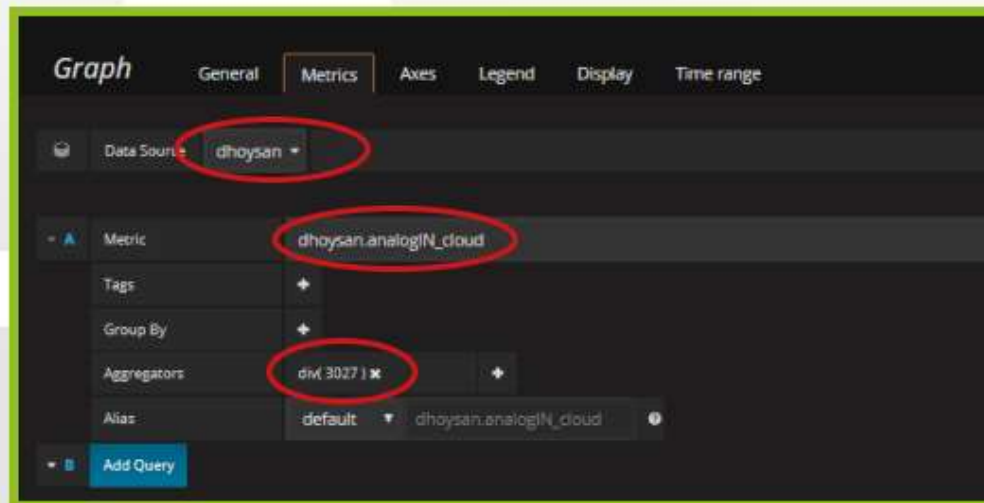
The screenshot shows the 'General' settings tab for a graph in TSD Analytics. The interface is dark-themed. The 'Title' field is highlighted with a red circle and contains the text 'Analog Input'. The 'Description' field contains the text 'Panel description, supports markdown & links'. The 'Dimensions' section includes 'Span' (8), 'Height' (100px), and a 'Transparent' checkbox. The 'Templating' section includes 'Repeat Panel' and 'Min span' dropdowns. The 'Drilldown / detail link' section has an '+ Add link' button.

Graph		General	Metrics	Axes	Legend	Display	Time range
Info							
Title	Analog Input						
Description	Panel description, supports markdown & links						
Dimensions							
Span	8						
Height	100px						
Transparent	☐						
Templating							
Repeat Panel							
Min span							
Drilldown / detail link							
+ Add link							

TSD Analytics - Graphs

Metric Settings

- Change the data source and add the analogIN_cloud metric (hint: just start typing and Proficloud will help you find it)
- Add an aggregator to scale the analog input values from 0-30270 to 0-10



TSD Analytics - Graphs

Axes Settings

- Set the units to Volts.
- Fix the Y Axis from 0-12
- Add a voltage label

Graph General Metrics **Axes** Legend Display Time range

Left Y		Right Y		X-Axis	
Show	☒	Show	☒	Show	☒
Unit	Volt (V)	Unit	short	Mode	Time
Scale	linear	Scale	linear		
Y-Min	0	Y-Min	auto		
	Y-Max	Y-Max	auto		
	12				
Decimals	auto	Decimals	auto		
Label	Voltage	Label			

TSD Analytics - Graphs

Legend Settings

- Configure the Legend to display as table
- Configure the legend to display min, max, average, and current values

Graph General Metrics Axes **Legend** Display Time range

Options		Values				Hide series	
Show	☒	Min	☒	Max	☒	With only nulls	☐
As Table	☒	Avg	☒	Current	☒	With only zeros	☐
To the right	☐	Total	☐	Decimals	auto		

TSD Analytics - Graphs

Display Settings

- Change the Fill to 2 and Line Width to 5



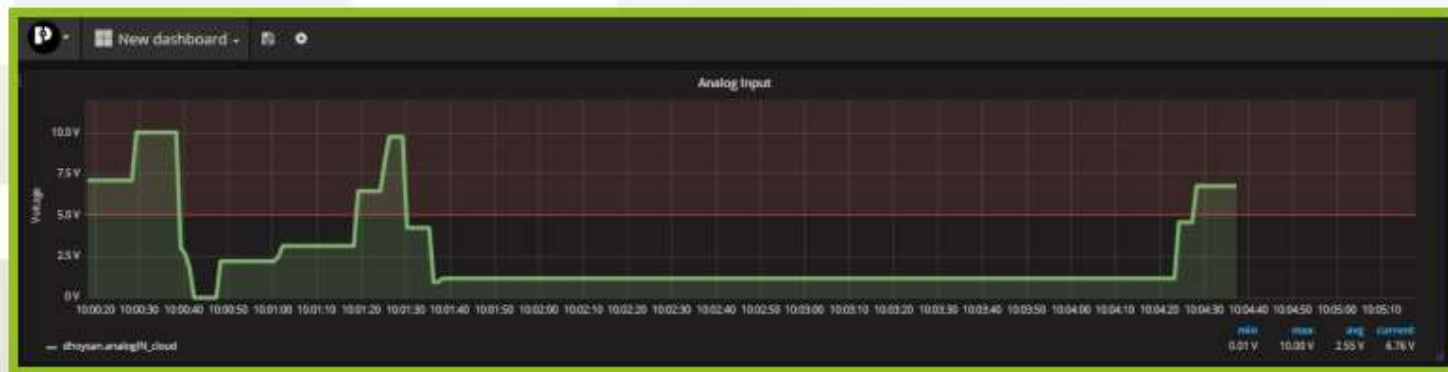
- Add a critical threshold at 5



TSD Analytics - Graphs

Analog Input Graph Check

- Your graph should now be formatted to look like this
- Change the analog input on the AXC F 2152 and watch the value change



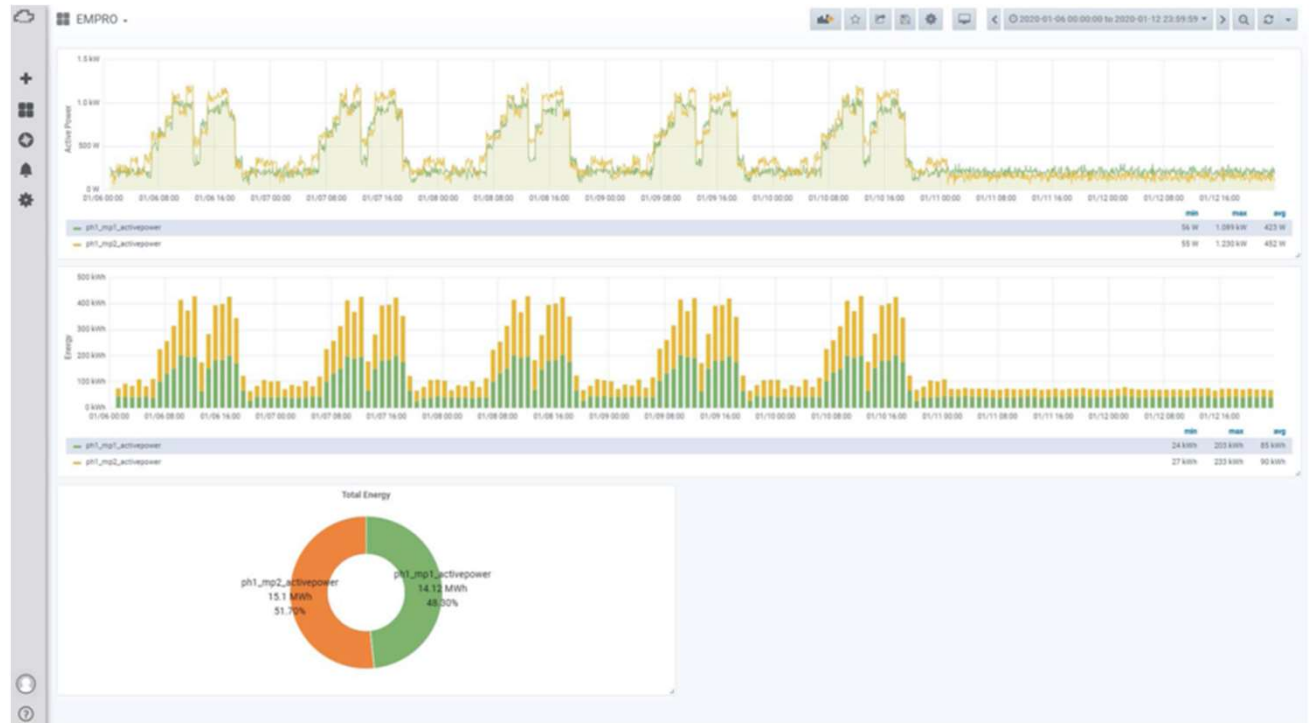
TSD Analytics – Single Stats Verification

- Verify that the panel changes from OFF and Grey to ON and Green whenever the digital input tied to xEnable is toggled

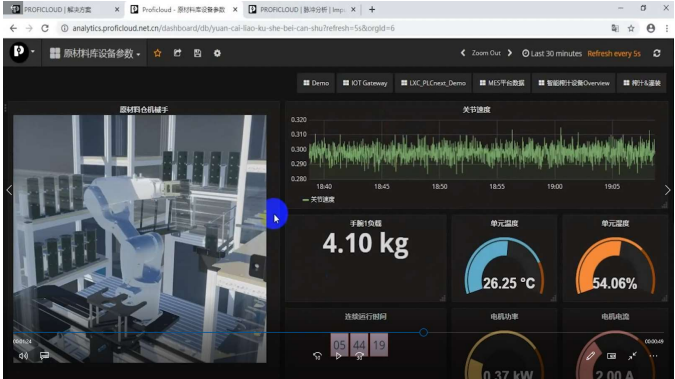
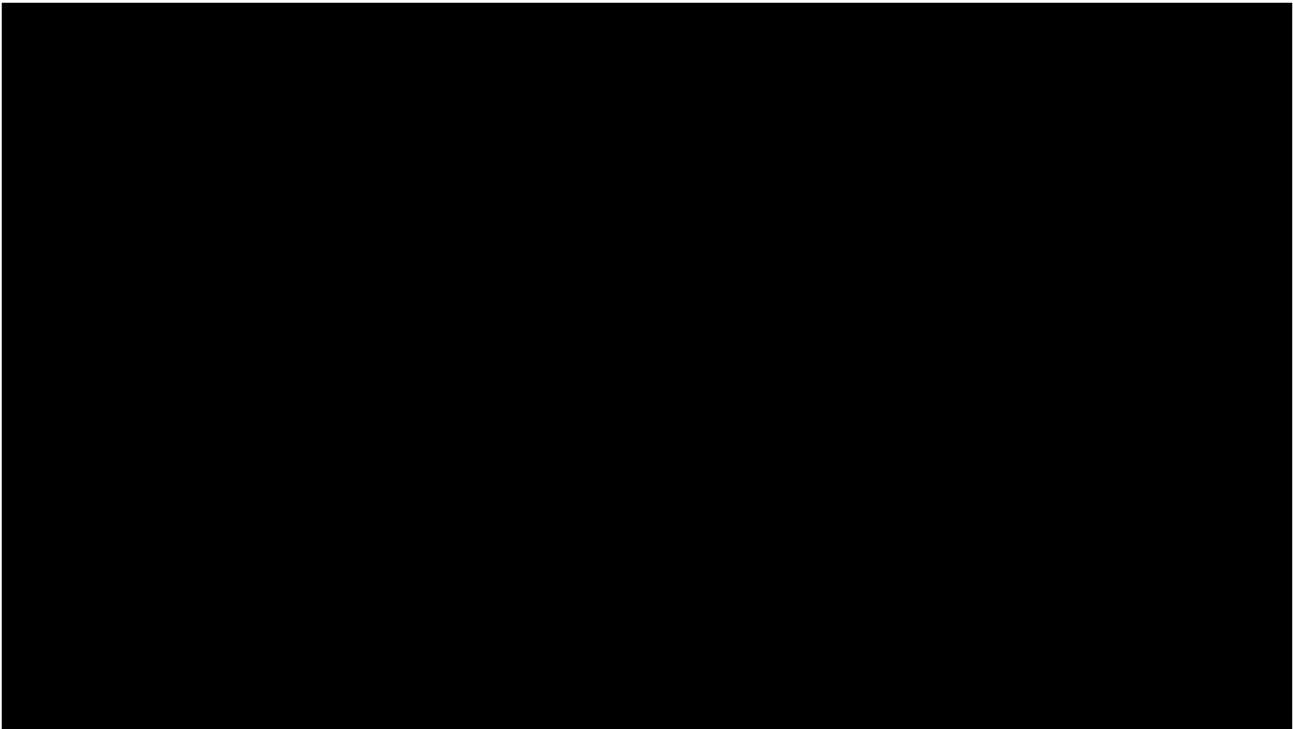


Example

TSD Time Series Data



Smart Services



Video ALIBABA Cloud PXC China

Webinar IMA 2020

Mayor información



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