

Cloud BOX

Micro Scada Industrial IoT BOX

Highlights

- **Built-in license free Micro SCADA for data visualization, send commands, email dispatcher, alarm and event log**
- **Data Recovery System**
- **Compatibility with SENECA advanced dataloggers advanced, RTUs, communication devices**
- **Compact fanless case**
- **50 devices /5000 tags (100 per device) management**
- **Communication protocols: HTTP, HTTPS, FTP**
- **Data export and backup**
- **User friendly interface through synoptic and dashboard pages with**
- **HMTL5 and CSS3**

Cloud BOX is a compact fanless PC Server IoT Cloud based system compatible with data logger, RTU and SENECA communications devices.

Cloud BOX is a system that can collect, store and visualize data, events and historical files of connected devices through HTML5 vector graphics web pages.

It also allows you to send commands to devices even without static or unreachable IP address.

Cloud BOX is accessible by custom and responsive web pages both locally and remotely, offering a Micro Scada in the Cloud service.

Cloud BOX offers an automated storage and retrieval system, without any data loss, in case of temporary lack of communication.



IoT



INDUSTRY 4.0



Cloud BOX - Micro SCADA



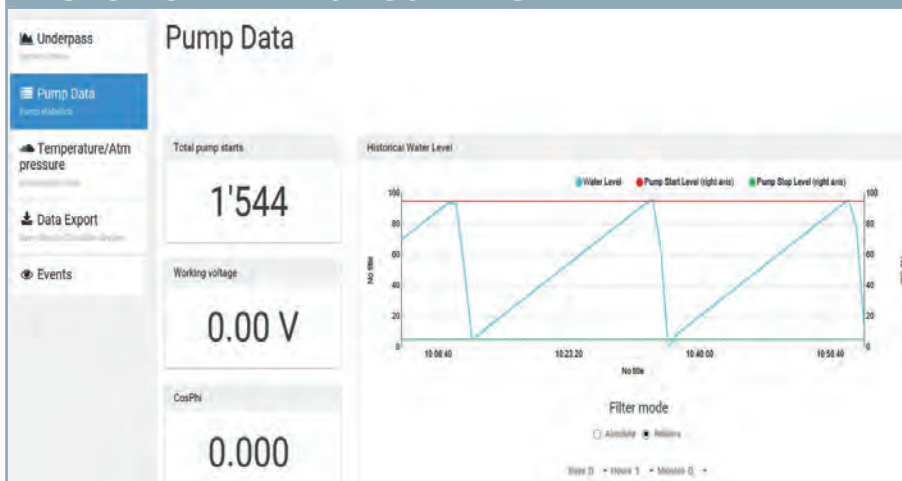
Cloud BOX provides several widgets (input status, chart, bars etc), i.e. element that represent the status of connected devices.

From these widgets are achievable responsive web pages (PC, tablet, smartphone) dashboardtype (eg. historical data, commands, events management, trend) or supervision interface.



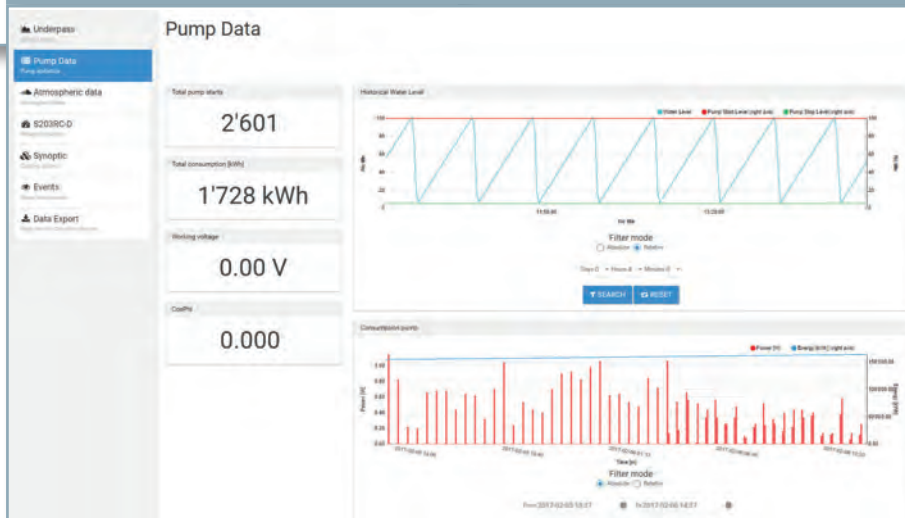
Access Micro Scada on your mobile device by QR-code

HISTORICAL DATA / LOG FILES



Historical data for statistical analysis.

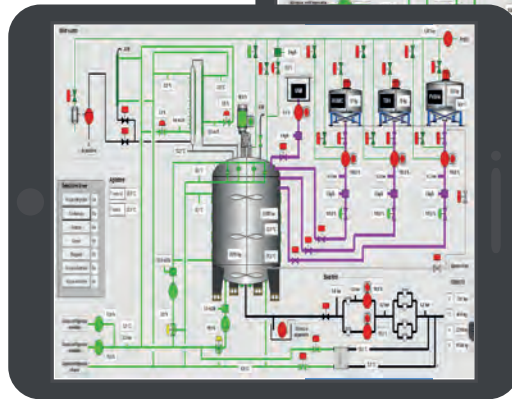
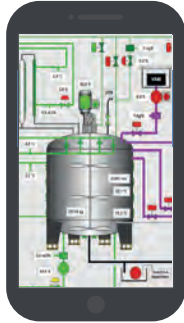
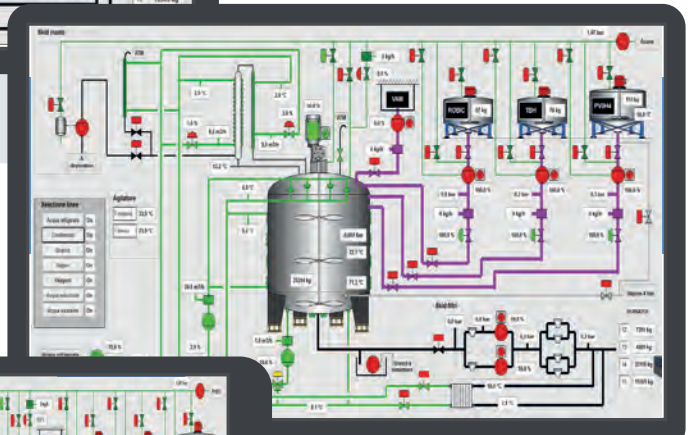
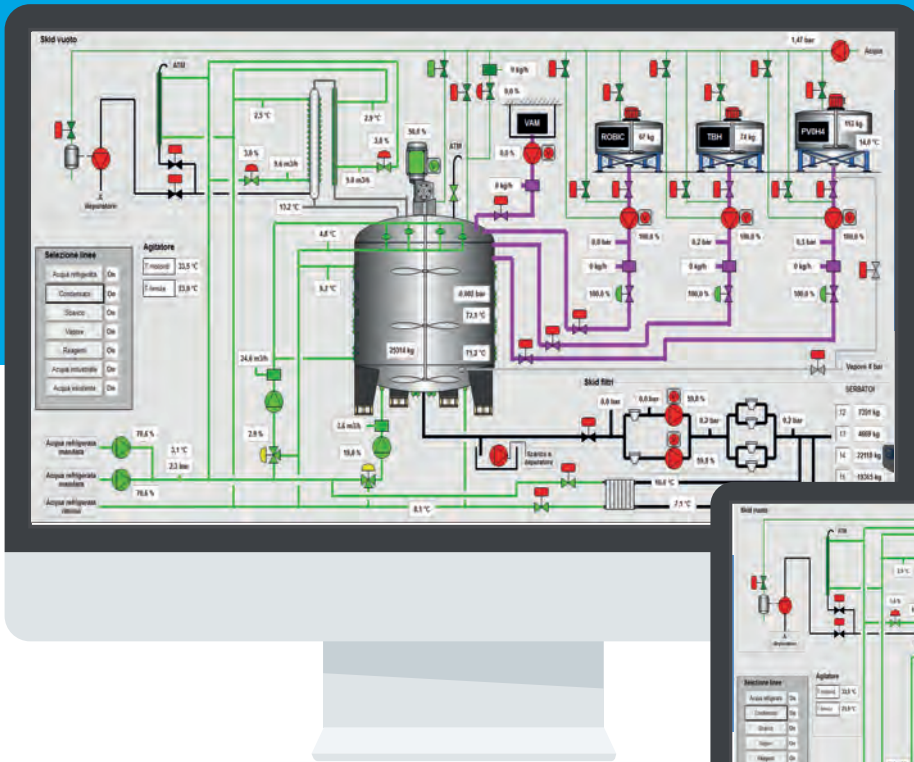
GRAPHICS VISUALIZATION



Simultaneous graphics visualization.

HMI SYNOPTIC PAGE MANAGEMENT

Through Cloud BOX is easy to import background images and insert animated widget to build intuitive HMI synoptic pages of the plants directly from the web.



EVENTS / ALARMS

Events

Message:

Filter mode: Absolute Relative

Days: 10

Hours: 0

Minutes: 0

Event type: All

Devices: All Z-GPRS3 Test

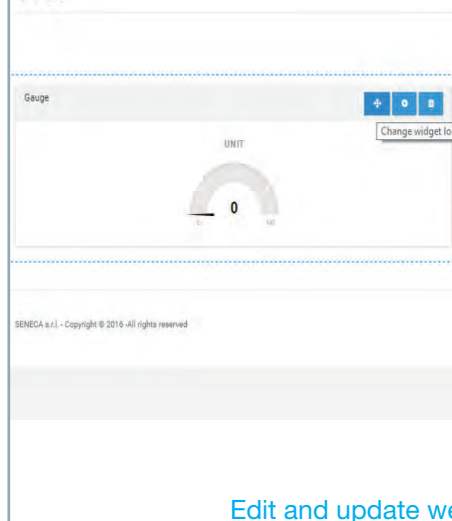
Per page: 20

#	Device	Timestamp	Event	Source	Message
1	Z-GPRS3 Test	2016-10-05 10:59:15	Event Control Message	ID 1	stop
2	Z-GPRS3 Test	2016-10-04 17:18:21	Event Control Message	ID 0	start
3	Z-GPRS3 Test	2016-09-25 17:55:49	Event Control Message	ID 1	stop
4	Z-GPRS3 Test	2016-09-26 17:55:43	Event Control Message	ID 0	start

Events and alarms storage.

ONLINE WEB PAGE EDITING

Test



Edit and update web page

CONTROL COMMANDS / STATUS

The screenshot shows a control panel for an 'Underpass'. It includes a 'Water Level' gauge with a value of 40, a 'Sump Level' gauge, and a 'Time water level' graph. The graph plots 'Water Level' (blue line), 'Pump START Level (approx)' (red line), and 'Pump STOP Level (approx)' (green line) over time. Below the graph, there are input fields for 'Pump START Level' (95.0 cm) and 'Pump STOP Level' (5.0 cm) with an 'EDIT' button.

Sending commands to devices and status remote visualization.

TRENDING AND EXPORTING DATA

The screenshot shows the 'Data Export' interface. It includes a 'Devices' dropdown menu, a 'Filter mode' section with 'Absolute' and 'Relative' options, and a table of export records. The table has columns for '#', 'Status', 'Message', 'Created', and 'Updated'. Two records are visible, both with a status of 'OK' and a 'DOWNLOAD' button.

Collected data can be visualized through historical trends and exported to csv or excel file

TAGS CALCULATION

Calculation

- Active
- Add calculation to log (debug)

Available tags (real only)

[V0 - F] +>

Expression (case sensitive)

$(V1*V2)-(V3*V4)$

Logical Operators

- not or !
- and or &&
- or or ||

Arithmetic Operators

- + (addition)
- - (subtraction)
- * (multiplication)
- / (division)
- % (modulus)
- ** (pow)

Bitwise Operators

- & (and)
- | (or)
- ^ (xor)

You can perform calculations on different tags / variables of the same device.

The screenshot shows a 'Gauge' widget with a value of 0. It includes a 'UNIT' label and a '+' button.

pages layout directly from the web.

Cloud BOX - Overview

WHAT CLOUD BOX IS



Cloud - IoT solution for data centralization, remote connections management, multi-user custom supervision pages editing.

- Sending commands to dataloggers, RTUs and communication devices
- Incoming data storage from field devices into a centralized database
- Access to Cloud BOX through custom web pages



HOW IT WORKS



SUPERVISION

Editing Web pages with built-in dashboards, synoptics and widgets for field device supervision



DATA STORAGE

Centralized data storage and alarms



DATA VISUALIZATION

Web Page visualization (graphic mode)



EXPORTING DATA

Export data to csv file



HISTORICAL DATA / ALARMS

Historical data, events and alarms web page visualization



SENDING COMMANDS

Sending commands to connected devices bypassing SIM blocks or firewall



REMOTE CONNECTION

Communication management with dataloggers and RTUs through 2G / 3G+ / Ethernet with HTTP, HTTPS, FTP protocols



SENDING EMAILS

Sending alarm email to an active directory

Cloud BOX - Technical Data



**Micro Scada
Industrial IoT BOX**



TECHNICAL DATA

GENERAL DATA

Power Supply	230 Vac -15 +10 % with external power supply, 90 W max
Operating temperature	0 °C – +40 °C
Storage temperature	-20 °C – +85 °C
Protection degree	IP20
Dimension	185,14 x 32 x 205 mm
Factory IP adress	Configured in DHCP
Supported SIM card	M2M standard
Case	Compact, fanless
Normative	CISPR 22, 24 EN 55022, 55024 EN 61000-3-2, EN 61000-3-3 IEC/EN 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-11 EN 60950-1

HARDWARE DATA

Processor	Intel x86
Processor Speed	1.86 GHz
Nr. Core	2
Cooling system	Fanless
Front side I/O	Nr 2 USB 2.0 ports, On-Off button
Rear I/O	Nr 2 USB 2.0 ports for high currents Nr 2 USB 2.0 ports Nr 1 VGA port Nr 1 HDMI port Nr 1 LAN 1Gb port Nr 2 Jack Audio Nr 1 power supply jack (8 V to 19 V)
RAM (min size)	2 GB
Memory speed	1066MHz
Hard disk	SSD mSATA
Supply Voltage	8~19 V through external power supply
Power Input	Onboard DC jack

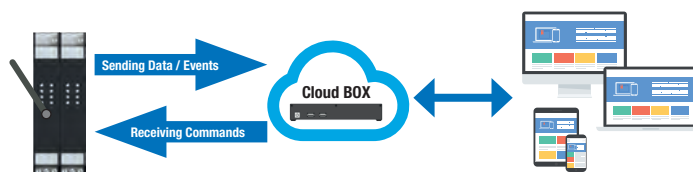
MICRO SCADA DATA

Funzioni	Telemetry visualization Sending commands Historical data analysis Alarms / Events log analysis
Media	Desktop, Tablet, Smartphone, Smart TV
Synoptics	Yes
Dashboard	Yes
Widget	Yes
Browser	Chrome, Android, iOS
Data export format	csv
Software	SEAL, SDD (Seneca Discovery Device)

CONNECTIVITY

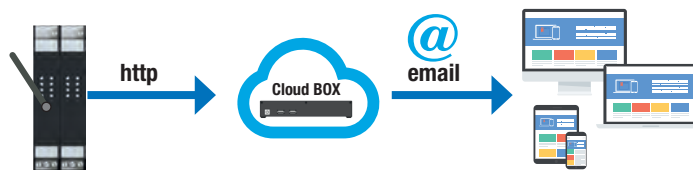
Connectable devices	Max 50
Connection protocols	http, https, Ftp
Tags	Max 100 per dispositivo
xDSL conection	With public static IP address

LOGIC CONNECTION



For each connection Cloud BOX can receive data from devices and send asynchronous commands according to the widget settings in the dashboard. If the device is not able to send data to the Cloud BOX, these are stored inside. Recovering connection Cloud BOX retrieves the data range missing from the device.

ALARM DISPATCHER



You can define a phone directory with a virtually unlimited number of users to whom send alarm email. Cloud BOX receives real-time alerts from the field and them forwards users.

ORDER CODES

Code	Description
CLOUD BOX	Micro Scada / Industrial IoT BOX

SOFTWARE

SEAL	SENECA Advanced language, software prog. avanzata
SDD	SENECA Discovery Device, IP scanner

SUPPORTED DEVICES*

Z-GPRS3	GSM/GPRS datalogger with built-in I/Os, telecontrol functions, voice alarms
Z-LOGGER3	Datalogger with built-in I/Os, voice alarms
Z-UMTS	3G+ datalogger with built-in I/Os, telecontrol functions, voice alarms

*list to be expanded