

# DATA SHEET

## CAL-EDGE-0

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## CAL-EDGE-0

Device is a highly sophisticated and affordable remote data logger with 4G LTE communication for compressed air systems. Device connects directly to CALMS web application which provides real time access to data from any web browser for any end user and their service partner. It can be configured for majority of compressors and sensors on the market.

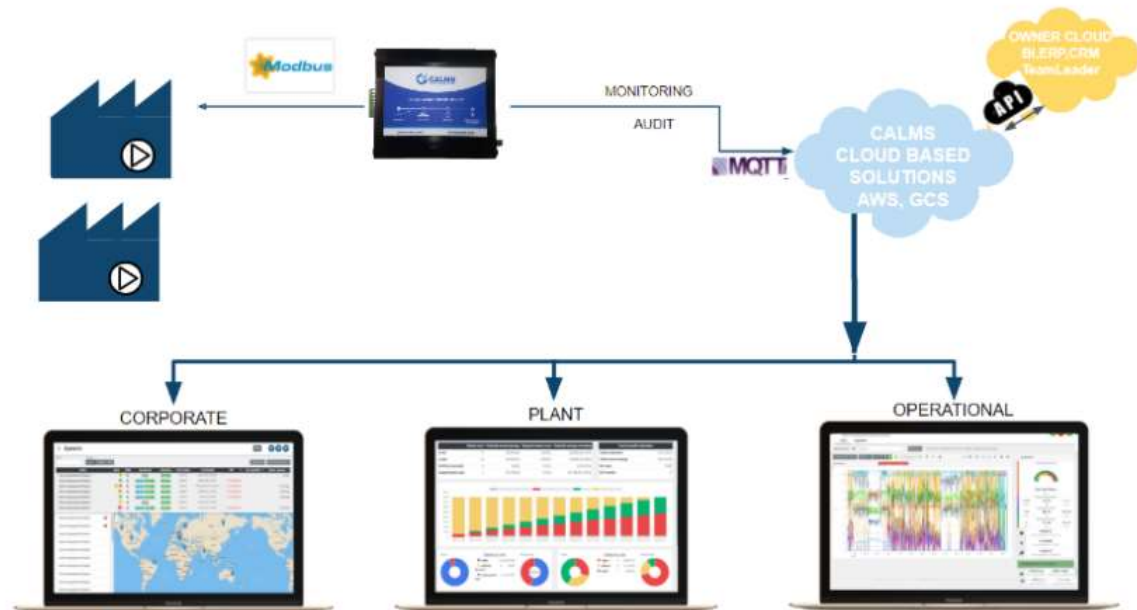
### Benefits:

- > The easiest and cheapest solution for doing air audit online with independent experts;
- > Shows where to save on energy costs;
- > Helps improve your energy efficiency;
- > Save your time and improve the organization;
- > Calculates costs in relation to actual consumption;
- > Increases the reliability of your equipment;
- > Creates forecast of energy consumption;
- > Increases your environmental image;
- > Improves the investment process (energy equipment);
- > [ISO 50001:2011, Energy management systems compliant.](#)

### Features:

- > Plug & Play device, remote monitoring / alarming / reporting / auditing, designed for compressed air systems;
- > WEB based application for total compressed air management;
- > Connect with config to almost any compressor and sensor;
- > Data logger for compressed air system provides readings for web based detailed analysis and simulation tools – 1 sec sample rate;
- > Energy management tools – Specific power, M/T, CUSUM analysis;
- > Detailed analysis of compressed air system with auto generated reporting, warning of poor efficiency with potential savings calculation compared to best in class efficiency from CALMS knowledge database;
- > SIMULATION module integrated;
- > Compressed Air Performance Scorecards;
- > Expandable;
- > Secure internet connection between device and CALMS web application;
- > Multiple data export options (CSV, XML), and easy online printing;
- > Automated monthly reports send by email;
- > Alarms & Warnings email or SMS notification including analysis data;
- > Multiple access for end users and experienced CA service providers;
- > Remote software upgrade capability;
- > LTE cellular modem 4G;
- > No need for local operator panels – access from anywhere with tablet or smartphone;
- > Robust industrial design.

## CALMS - Process diagram



Sensors inside the factory are connected to the **CAL-EDGE-0** via MODBUS RS485. CAL-EDGE-0 is reading all values from sensors and sending them to the CALMS virtual cloud. All data inside the cloud will be sent to the CALMS platform, where data are shown. That allows you to analyze your compressed air system.

## Specifications: CAL-EDGE-0

Description:		Remarks:
<b>Hardware</b>	Quad core Cortex-A53 (ARM v7) 64-bit SoC @ 1.5GHz, 1GB DDR2 RAM	
<b>Protocol</b>	MODBUS RTU, MODBUS TCP/IP, ADS, OPC UA, Database queries	Up to 20 sensor per one device
<b>Interfaces</b>	1x 10/100 Ethernet adapter	
<b>Analog inputs 4...20mA</b>	0	
<b>RS485</b>	Standard: 1x	2-wire RS485 (half duplex)
<b>WEB management</b>	Yes	
<b>Min logging interval</b>	1sec (configurable)	
<b>CAL to CALMS web upload interval</b>	1 sec to 24 h (configurable)	
<b>Data Storage</b>	eMMC 8 GB	
<b>Cloud connection</b>	Mobile 3G/4G / LAN	
<b>Operating Range</b>	0 – 50 C (32 F – 131 F)	
<b>Power supply</b>	9-24VDC	Recommended: <b>60W</b> . Depends on sensor usage
<b>Cellular modem</b>	LTE (LTE-M)	Depends on network coverage
<b>Antenna interface</b>	Standard SMA interface-antenna included	
<b>Size</b>	H 30 x W 110 x L 130 mm H 1.18 x W 4.33 x L 5.12 Inches	
<b>Weight</b>	511 g / 1,13 lb	
<b>Materials</b>	Enclosure: Aluminum	
<b>Mounting</b>	DIN rail or wall mounting	
<b>EMC</b>	EN 61000-6-2/EN 61000-6-4	
<b>IP rating</b>	IP54	
<b>Approvals</b>	CE,UL	

## Order codes and information:

Order code:	Description:
<b>CAL-EDGE-0</b>	<p>CALMS-EDGE-0 survey device LTE 4G with Modbus RTU &amp; TCP/IP;            Portable measurement device with Ethernet, RS485 and CAN interface connection            Supported protocols: Modbus RTU, TCP/IP, ADS, OPC UA, HTML, MQTT;            (without sensors)            3G/4G Modem SMA with external antenna (with SIM card provided EU/Global);            1 x Ethernet port 10/100 Base-T (LAN);            1x RS485 port and 1x CAN port;            1x mPCIe: optional: WiFi, Bluetooth, LoRa, Zigbee, XBEE, enOcean RF IO...            Internal memory eMMC 8GB, optional µSD 256 GB            Ambient temperature range: -25°C to +60°C            Power Supply 24VDC, 2,5A, 60W;            Approval UL / CE / FCC Class A</p>
Accessories:	Description:
<b>CAL - SIM</b>	SIM LTE (3G/4G) subscription per audit device - charged annually
<b>CAL-W-MOD</b>	<p>CALMS RADIO mesh transceiver for Wireless-Modbus RTU signals , for wireless sensor connection;            External power supply 24VDC;            Wall mounted;            Dimensions: 85x85x25 [mm]</p>
<b>CAL-EXP</b>	<p>Explorer case CA - carrying case -water proof 30lit (7.7 gal); Dimensions: 474x415x214 [mm]            (18,7x16,3x8,5 [inches]); prepared for CALMS CAL-lite installation;            Weight: 4,7kg (10,4lbs).</p>
<b>CAL-SENSORS SENSORS</b>	<p>Cable 4-wire with connector on one side and open wires on the other side for custom sensor connection;            Length 0.5m            Measuring equipment</p>



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