

4-CHANNEL CURRENT LOOP SENSOR

**ELECTRONICS
4ALL**

TECHNICAL DATA SHEET

ORDER CODE: CLS-4-420-TH
CATEGORY: Sensors

Effortlessly connect off-the-shelf 4-20mA probes for instant, flexible monitoring.

PRODUCT OVERVIEW

General Description

E4A's Current Loop Sensor (CLS) is a versatile four-channel 4–20 mA sensor designed for seamless integration across a wide range of environments. Compact and easy to install, it mounts conveniently on a DIN rail and supports any off-the-shelf 4–20 mA probe, offering maximum flexibility in sensor selection. With the ability to monitor four channels simultaneously, the CLS enables comprehensive, real-time data collection from multiple parameters—streamlining operations and improving efficiency. This multi-channel capability reduces the need for multiple sensors, saving both space and cost while also enhancing the ability to identify meaningful correlations between measurements. Once connected, the CLS communicates effortlessly with any E4A gateway, becoming a reliable part of your infrastructure and supporting efficient, dependable system management.



PRODUCT BENEFITS

01 Flexible Sensor Integration

Supports any off-the-shelf probe with a 4-20mA output, providing flexibility in selecting the most suitable sensor for specific applications.

02 Multi-Channel Monitoring

Monitors up to four different parameters simultaneously, offering real-time data collection from multiple sensors on a single device.

03 Space and Cost Savings

By consolidating multiple sensors into a single unit, the CLS reduces the need for additional equipment, saving valuable space and lowering overall costs in industrial environments.

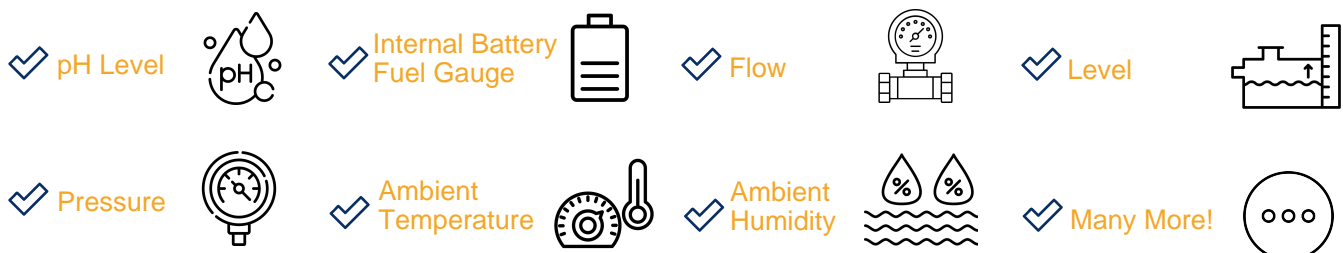
04 Correlation and Analysis

With the ability to monitor multiple channels, the CLS helps identify correlations between different measurements, leading to more informed decision-making.

05 Equipment Health Monitoring

By simultaneously tracking multiple parameters, the CLS sensor helps monitor the health of industrial equipment in real-time, enabling early detection of potential issues.

MEASURED PARAMETERS



FEATURES

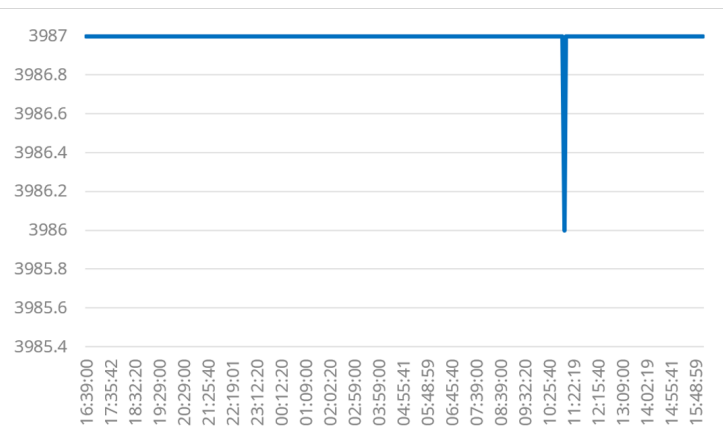
- ✔ **24/7 Alarm Notifications**
Continuous alerts for immediate awareness of battery issues
- ✔ **Broad Compatibility**
Off-the-shelf 4-20mA loop powered transducers, such as: pressure, vibration, temperature, and others!
- ✔ **User-Defined Reporting**
Customizable intervals for generating reports
- ✔ **Simple Installation**
Compact design mounts easily on a DIN rail, simplifying installation and reducing setup time
- ✔ **Customizable Alarm Limits**
Allows users to set specific thresholds for alerts
- ✔ **Wireless Data Transmission**
Utilizes Bluetooth 5.0, eliminating the need for LAN cable pulls into the room
- ✔ **Autonomous Operation**
Powered by external power supply, and equipped with internal battery for emergency use
- ✔ **Coverage**
One sensor monitors up to 4 channels

Real-Time Alarm Level Display and Historical Data

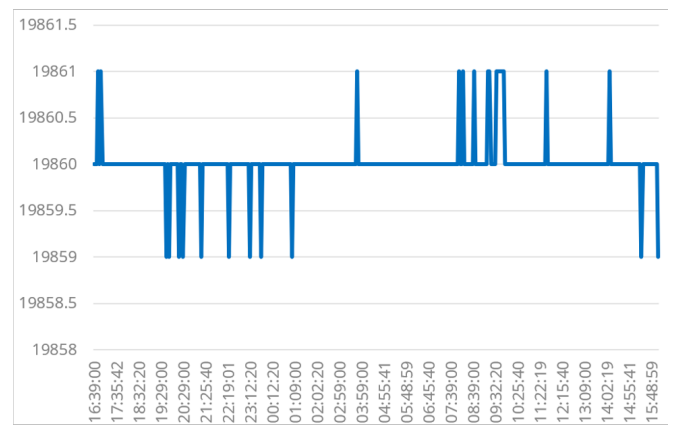
E4A's software that accompanies the CLS sensor provides a powerful tool for visualizing and managing sensor data. Users can view the output of each channel on a detailed graph, making it easy to monitor real-time performance across multiple parameters. Alarms can be defined based on the output of the connected transducers, ensuring that operators are alerted to any critical changes or anomalies. Additionally, the software allows access to historical data, enabling the analysis of trends and the identification of patterns in equipment performance over time. This capability supports proactive maintenance, helping to optimize equipment lifespan and reduce downtime.

The graphs below demonstrate sample data collected from two transducers connected to two channels of the CLS sensor, showcasing its ability to track and analyze various parameters in a clear, visual format.

Channel 1: Configured @ 4 mA



Channel 2: Configured @ 20 mA



E4A IOT MANAGER

Unlock the full potential of your sensor network with E4A's IoT Manager — a powerful, web-based platform designed for real-time monitoring, control, and analysis of your IoT devices.

- 01 Real-Time Sensor Dashboard
- 02 Advanced Data Analytics
- 03 Customizable Alarm Thresholds
- 04 Remote Setpoint Configuration
- 05 Historical Data Review
- 06 Plus Much More!

SIGN UP HERE!



Don't Have an Account? No Problem!

Just scan the QR code and follow the prompts. Once you contact us, we'll handle the setup and get you connected — quick and hassle-free.

TECHNICAL SPECIFICATIONS

Power Supply

Main Power	7-15VDC @ 1.5A (external AC-DC adapter)
Other Power (Optional)	USB Type B (5VDC @ 500mA)
	Internal Battery (3.6VDC, 3500mAh Li-ion)
Maximum Charging Current	1.5A (AC-DC adapter)
	500mA (USB Type B)
Li-ion Charge Time	2.2 hours / 3.2 hours (AC-DC adapter)
	6.6 hours / 7.6 hours (USB Type B)
External Sensors	24VDC 30mA output per channel, isolated

Operating Specifications

Operating Temperature	-20°C to +60°C
Internal Battery	Battery charging disabled above 45°C
	Battery charging disabled below 10°C
	Battery discharging disabled above 60°C
Storage Temperature	-40°C to +85°C (battery installed)
	-40°C to +85°C (battery not installed)
Operating Humidity	20-85% (operating and storage)
Ingress Protection Rating	IP30
Pollution Degree	2

Measurement Characteristics

Analog Front End	4 channels for current measurement
	0-25mA input per channel
Resolution	24-bit resolution
Temperature Measurement	-20°C to +60°C (±0.5°C accuracy)
Humidity Measurement	20-85% relative humidity (±3.5% accuracy)

Physical Characteristics

Housing Material	ABS plastic
Physical Dimensions	Height: 120mm / 4.7 inches
	Width: 50mm / 1.9 inches
	Depth: 90mm / 3.5 inches
Weight	250g
Mounting	Universal DIN rail 35mm width
	Magnetic mount

Communications

Wireless Module	2.4GHz Bluetooth 5.0 transceiver
Communication Range	300m line of sight
Communication Interval	User programmable in 10 second increments
Output Power	Up to +5dBm with temp. compensation
Receiver Sensitivity	-105dBm, 125kbps
Security	AES 128-bit crypto accelerator
	ECC and RSA public key accelerator (PKA)
	SHA2 accelerator (full suite up to SHA-512)
	True Random Number Generator (TRNG)

Interface

Indicators	Front fascia membrane (red, green, orange LED)
User Interface	3 push buttons (user-programmable)
	1 power button
	2 rotary encoders
Current Measurement	2 x 6 pin connector
Communication Port	USB 2.0 debugging interface

SPARE PARTS AND ACCESORIES

Part Description	E4A Part Number
Dual Band Gateway	E4A-BFA-00004-01
Quad Band Gateway	E4A-BFA-00005-01
DIN Rail Mounting Clip	E4A-ENC-00008-00
Internal Battery	E4A-BAT-00004-00
AC/DC Adapter	E4A-PWS-00001-01
Mating Connectors	E4A-CON-00049-01 (4-pin)
	E4A-CON-00017-01 (6-pin)

CERTIFICATIONS

FCC	2AXVCLS01
Industry Canada	26661-CLS01
Safety	UL/CAN/CSA-C22.2 No. 61010-1
	UL/CAN/CSA-C22.2 No. UL 61010-2-30



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DISTRIBUTORS

