

TECHNICAL DATA SHEET

WIRELESS ANALOG GAUGE READER



ORDER CODE: AGR-100
PRODUCT CATEGORY: SENSORS

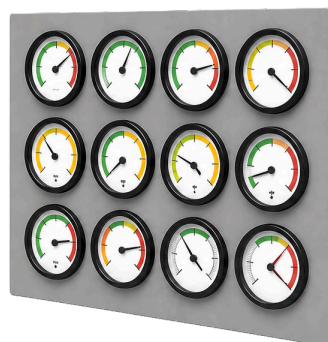
Your Analog Gauges, Translated into Digital Intelligence.

PRODUCT OVERVIEW

General Description

E4A's Analog Gauge Reader represents a new generation of industrial sensing technology, delivering autonomous analog gauge monitoring through Bluetooth® 5.0 connectivity, advanced edge AI, and a sophisticated live feed + AI-enabled provisioning/calibration interface. Using an integrated camera system, the AGR-100 accurately interprets and analyzes multiple gauge readings from a single device, enabling fast, reliable, and cost-effective deployment across demanding industrial environments.

The intuitive live feed interface simplifies setup, remote calibration, and device provisioning, reducing commissioning time while improving operational accuracy. Edge AI processing ensures dependable performance with real-time visual analysis and enhanced data reliability in dynamic field conditions. Powered by E4A's rechargeable BP-100R battery pack, the AGR-100 is engineered for uninterrupted, long-term operation with minimal maintenance.



View Your Analog Gauge Readings from Anywhere!



TECHNICAL SPECIFICATIONS

Power Supply

Main Power	BP-100R Rechargeable Battery Pack
Operating Voltage	2.6VDC to 4.2VDC
Maximum Capacity	6800mAh
Average Current Consumption	550µA >1.5years @ 8H reporting

Operating Specifications

Operating Temperature	-20°C to +50°C
Storage Temperature	-20°C to +60°C (with battery) -20°C to +70°C (without battery)
Permissible Humidity	20-85% (operating and storage)
Ingress Protection Rating	IP30
Pollution Degree	2
Altitude	2000m

Camera Specifications

Video Capture Resolution	1080p
Frame Rate	30fps@1080P 60fps@720p 100fps@480P
Maximum Focal Length	50mm
Product Dimensions	39mm x 39mm x 86mm
Connectivity	USB
Cable Length	2m

Vision

Gauge Types	Round, single needle, linear scale
Gauge Diameter	≥1.5inch
Camera Distance	≤5m
Camera Angle	≤30° angle
Luminance	≥60 lux
Light Color Temperature	Universal application

Performance

Number of Gauges	Up to 9 gauges
Error Margin	<5%
Detection Duration	≤30s
Image Verification	Supported

Physical Characteristics

Housing Material	Flame Retardant Polycarbonate/ABS
Physical Dimensions	Height: 150mm / 5.9inch Width: 105mm / 4.1inch Depth: 75mm / 2.9inch
Weight	410g (without battery) 622g (with battery)
Mounting	Magnetic mount

Communications

Wireless Module	2.4GHz Bluetooth® 5 transceiver
Communication Range	200m line of sight
Reporting Interval	Minimum 5 minutes

Security

Encryption	AES 128-bit crypto accelerator ECC and RSA public key accelerator (PKA) SHA2 accelerator (full suite to SHA-512) True Random Number Generator (TRNG)
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User Interface

Pushbuttons	3 pushbuttons (device pairing, unpairing, device reset, enabling and disabling device features)
Status LED	11 status LED's (red, green, amber)
Web Interface	Web Interface for provisioning Self-hosted via Wi-Fi access point Live visual feedback during setup Dry-run validation of readings



PRODUCT CERTIFICATIONS

FCC ID	2AXVKAGR100
Industry Canada	26661-AGR100
Safety Standards	CSA C22.2 No. 61010-1-12 UPD1:2015; UPD2:2016; UPD3:2023 UPD4:2024 A1:2018 UL 61010-1:Ed.3, 2012(R2024)

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