

## 24/7 ASSET MONITORING SOLUTION ENERGY

**AMS01 READER DATASHEET****SENSeOR (head office)**

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ISO 9001:2015

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## APPLICATION

The *AMS01 reader* is dedicated to switchgear monitoring with wireless passive SAW temperature sensors, wired environmental sensor and UHF partial discharge detection. It is designed for use inside metallic cavities only like the switchgear cabinet and tuned to be compliant with IEC 62271 enabling a license-free use in switchgear worldwide.

This datasheet covers the following products:

- **AMS01-T:** Temperature monitoring only.
- **AMS01-P:** Partial discharge monitoring only.
- **AMS01-TP:** Temperature & partial discharge monitoring.

## CONNECTIONS

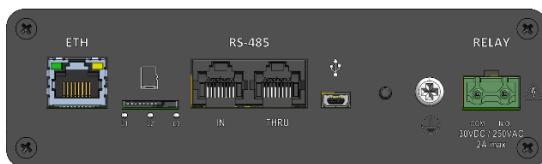


Figure 1: Front panel



Figure 2: Rear panel

- **ETH:** Standard RJ45 socket for Modbus-TCP communication and reader configuration.
- **RS-485:** RJ45 ports for Modbus-RTU communication.
- **USB port:** Not used.
- **RELAY:** 2-pin connector for alarm relay activation output.
- **1...5 A/B:** SMB connectors for antennas.
- **ENV. SENSOR:** 4-pin connector for environmental sensor only.
- **POWER:** 2-pin connector for power supply.

## SERIALIZATION LABEL



## FIXATION MODES

The reader is designed for installation on a grounded 35 mm DIN rail. It could be mounted in two different positions to facilitate integration.

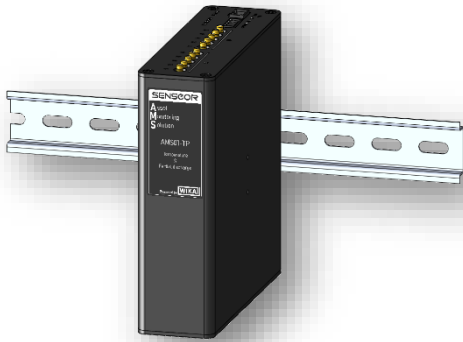


Figure 3: Configuration 1



Figure 4: Configuration 2

## PHYSICAL DIMENSIONS

Unit in mm.

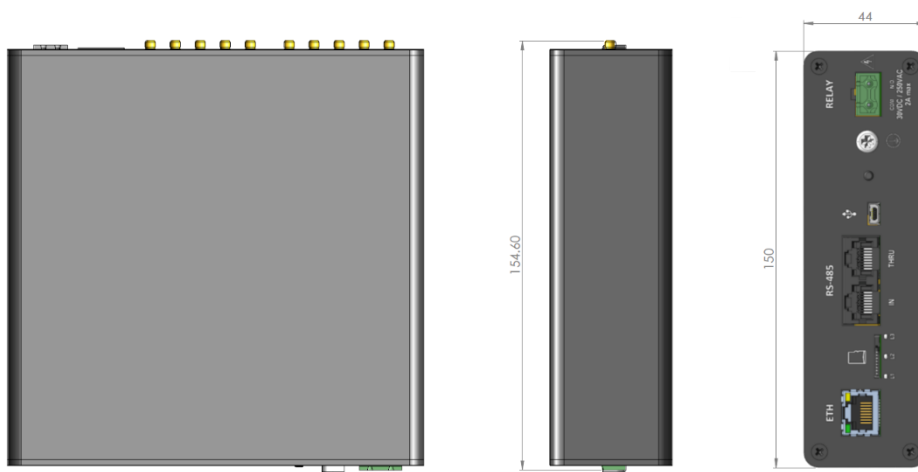


Figure 5: Reader dimensions views

## SPECIFICATIONS

PRODUCT REFERENCES	WIKA PART NUMBER
AMS01-T	14578091
AMS01-P	14578102
AMS01-TP	14578105

ANTENNAS INTERFACE	
Number of antenna pairs	5
Connectors	10x male SMB

RS485 INTERFACE	
Protocol	Modbus-RTU
Supported baud rates	9 600, 19 200, 38 400, 57 600 & 115 200 bauds

ETHERNET INTERFACE	
Protocols	Modbus-TCP, <i>SENSeOR</i> proprietary for configuration
Speed	10/100 Mbps

TEMPERATURE MEASUREMENT	
Number of configurable SAW temperature sensors	Up to 30 – 6 maximum by antenna pair
Accuracy	± 2°C from 0°C to +120°C ± 3°C from -25 to 0°C and from 120°C to 150°C

PARTIAL DISCHARGE DETECTION	
Method	Ultra-High Frequency (UHF)
Output interface	Online trend monitoring KPIs
Reception sensitivity	-104 dBm

ENVIRONMENTAL SENSOR	
Number of supported devices	1
Measurement types	Ambient temperature (°C) Relative humidity (%rH) Dew point (°C)

RELAY OUTPUT	
Number of configurable channels	1
Type	Normally Open contact
Operating power	30VDC / 250VAC, 2A max. – OVC2

DATA STORAGE	
Type	MicroSD HC card
Specifications	FAT32, UHS-I, Class 10, SD Smart

DISPLAY	
LEDs	3x multicolor LEDs (L1, L2 & L3)

<b>ELECTRICALS &amp; PHYSICALS</b>	
Operating power	24VDC ( $\pm 10\%$ ) < 200 mA – required an isolated supply
Dimensions	150 x 150 x 44 mm – without DIN fixation
Weight	270 g
Operating conditions	From 10 to 95%rH non-condensing From -20 to +50°C
Ingress protection code	IP40 (indoor use only)
Pollution degree index	2
Enclosure	Black anodized aluminum
Fixation mode	35 mm DIN rail

## CERTIFICATIONS

RoHS 2011/65/EU and 2015/863/EU

IEC 62271-1: Switchgear, CISPR11

IEC 61000-4-2, IEC 61000-4-4, IEC 61000-4-17

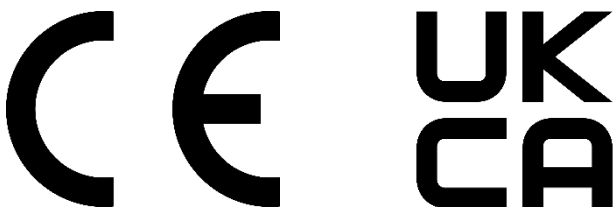
IEC 61000-4-18, IEC 61000-4-29

IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6, IEC 60068-2-30

IEC 60068-2-6, IEC 60068-2-78

IEC 60255-21-1, IEC 60255-21-3

IEC 61010-1 (from hardware version 'AF')



## ACCESSORIES

<b>PRODUCT REFERENCES</b>	<b>WIKA PART NUMBER</b>
Environmental sensor	14638422
120 Ohms resistance termination for Modbus-RTU	14578219