

Reader, model AMS01

For condition monitoring of medium-voltage switchgear

WIKA data sheet SP 63.25

Applications

- Condition monitoring for medium-voltage switchgear
- Receives data on partial discharge detection by UHF from the antenna (AN-F1), on temperature from the passive SAW wireless temperature sensor (TSA-EV11) and information from the environmental sensor (EXT-ENV-SENS)
- Compatible with ANSI and IEC medium-voltage standards
- New installation or retrofitting of medium-voltage switchgear

Special features

- Full fault coverage in air-insulated and gas-insulated medium-voltage switchgear (temperature, partial discharge, humidity)
- Easy to install and commission
- No need for on-site calibration
- Comprehensive data communication (local, remote, Modbus®, SCADA, IIoT PD service)

Description

SENSeOR is an advanced monitoring solution for monitoring partial discharge and temperature in medium-voltage switchgear. It utilises the latest surface acoustic wave and ultra-high frequency sensor technology as well as an integrated IIoT platform to improve the safety, efficiency and durability of medium-voltage switchgear.

By using condition monitoring systems, approx. 75 % of disruptions can be prevented through early fault detection, thus reducing both maintenance costs and intervals.



Reader, model AMS01

Thanks to the use of UHF antennas, the model AMS01 reader receives signals of partial discharges and SAW temperature sensors to measure the temperatures of live conductors and can monitor ambient conditions. All data is made available to the user via an IIoT platform.

The unit can only be used in metal cavities such as control cabinets.

It is IEC 62271 compliant and can therefore be used in switchgear worldwide without a licence.

Specifications

Operating conditions	
Operating voltage	DC 24 V ($\pm 10\%$) < 200 mA – requires an isolated supply ¹⁾
Place of use	Indoor
Temperature of use / Operating temperature	-20 ... +45 °C [-4 ... +122 °F]
Relative humidity	10 ... 95 % relative humidity
Condensation	Non-condensing
Mounting type	35 mm [1.38 in] DIN rail
Ingress protection of the complete instrument	IP40
Permissible pollution degree per EN 61010-1	2
Case	Anodised aluminium, black
Weight	0.27 kg [0.59 lb]

1) The insulation must be SELV/PELV or equivalent, so that the instrument is considered to be isolated from hazardous voltages in accordance with CL. 6.4 and 6.5 (reinforced insulation) and is below the limit values specified in 6.3.1 and 6.3.2 of UL 61010-1 ED. 3.

Output signal	
Signal type	Relay
Number of configurable channels	1
Switching function	Normally open
Switching voltage	DC 30 V / AC 250 V, max. 2 A for overvoltage category II

Communication	
Interface	■ RS-485 ■ Ethernet
Ethernet®	
Baud rate	10 Mbps
Modbus®-RTU	
Baud rate	9600, 19200, 38400, 57600 und 115200

Partial discharge detection	
Method	Ultra high frequency (UHF)
Output interface	Online trend monitoring of KPIs
Reception sensitivity	-104 dBm

Temperature measurement	
Number of configurable SAW temperature sensors	Max. 30 x, max. 6 x per antenna pair
Accuracy	■ 0 ... 120 °C [32 ... 248 °F] ± 2 °C [3.6 °F] ■ -25 ... 0 °C [-13 ... +32 °F] ± 3 °C [5.4 °F] ■ 120 ... 150 °C [248 ... 302 °F] ± 3 °C [5.4 °F]

Antenna interface	
Number of antenna pairs	5
Connector	10 x male SMB

Environmental sensor	
Number of supported instruments	1
Measurand	■ Ambient temperature (°C [°F]) ■ Relative humidity (% r. h.) ■ Dew point (°C [°F])

Data storage	
Type	MicroSD HC card
Specifications	FAT32, UHS-I, class 10, SD Smart

Display	
LED	3 x multicolour (L1, L2 and L3)

Approvals

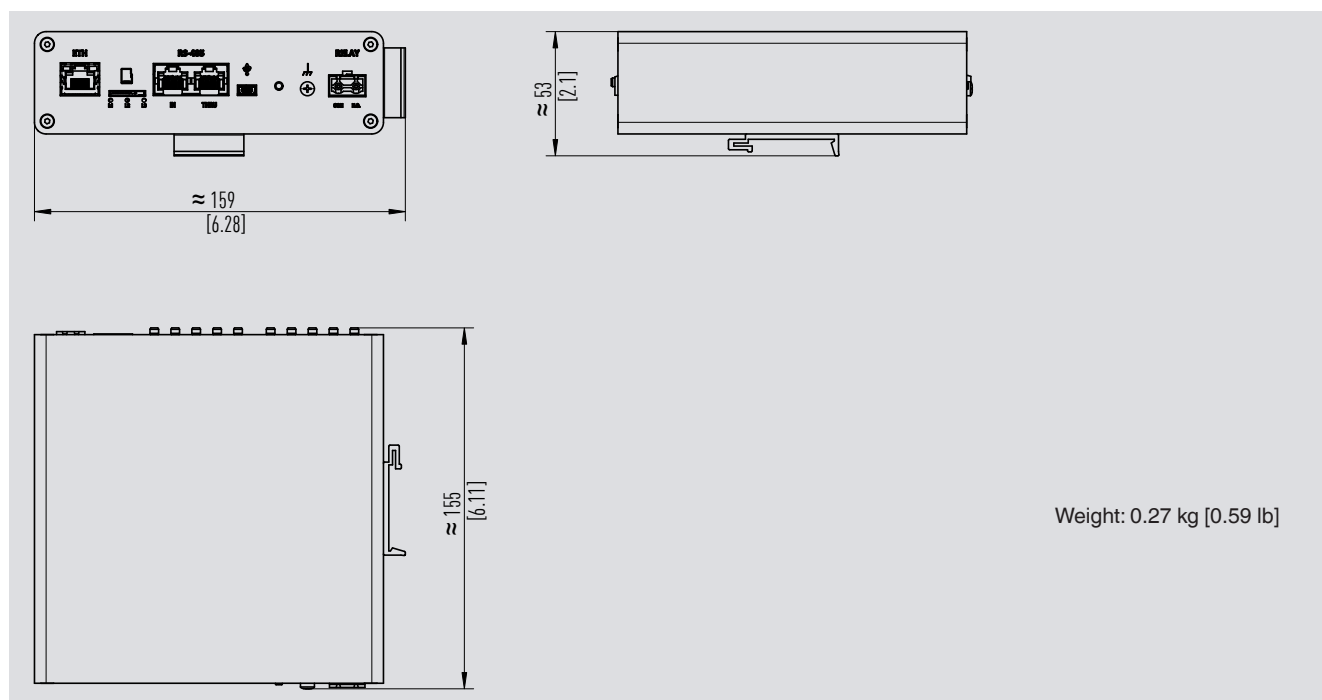
Logo	Description	Region
CE	EU declaration of conformity	European Union
	RED – Radio Equipment Directive EN 300328, harmonised frequency band 2,400 ... 2,500 MHz is used; Bluetooth® 5.2 Low Energy (BLE), max. transmission power 3.3 mW. The instrument may be used without restrictions in the EU and in the EFTA countries.	
	RoHS directive	
-	NCC - CCAM Radio approval	Taiwan
-	WPC Radio certification	India

Optional approvals

Logo	Description	Region
UL LISTED	UL Safety (e.g. electrical safety, overpressure, ...)	USA and Canada

→ For approvals and certificates, see website

Dimensions in mm [in]



Accessories and spare parts

Model	Description	Order number
	Antenna, model AN-F1	On request
	Surface acoustic wave sensor for temperature measurement, Model TSA-EV11	On request
	Sensor for ambient temperature, relative humidity and dew point, Model EXT-ENV-SENS	14638422
	120 Ω termination for Modbus® RTU	14578219

Ordering information

To order the described product, the order number is sufficient.

© 09/2024 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.
The specifications given in this document represent the state of the art at the time of publishing.
We reserve the right to make modifications to the specifications and materials.



WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. +49 9372 132-0
info@wika.de
www.wika.de