

# ADMAG AXR®

## High Performance Loop Powered Magmeter



The AXR series is based on decades of Yokogawa's experience with magmeters. The AXR series continues the tradition of high quality and reliability that is synonymous with the Yokogawa name and has innovative new functions and technologies such as dual frequency excitation that promise high level performance.

The AXR two-wire magmeter can be installed in a two-wire system without any AC power source, thus drastically reducing the initial instrumentation cost. The AXR is the first two-wire magmeter to use dual frequency excitation, ensuring immunity to flow noise and achieving excellent stability for instrumentation. Like Yokogawa's four-wire magmeters, the AXR has user-friendly functions and offers unsurpassed performance and field proven durability.

### Advanced technology

#### Dual frequency excitation method

Unique to Yokogawa, dual frequency excitation provides the best of AC and pulsed DC excitation. Simultaneous low and high frequency excitation ensures the magmeter reads stable with minimum power consumption.

#### High-speed pulse output

In addition to current output, pulse, alarm, or status output may be selected. Multiple-range, forward and reverse flow measurement, and flow rate upper/lower limit alarm functions are provided, and a high speed 10,000 Hz pulse output is achieved.

#### High accuracy

The AXR achieves an accuracy of 0.5% of reading under normal flowrate conditions.

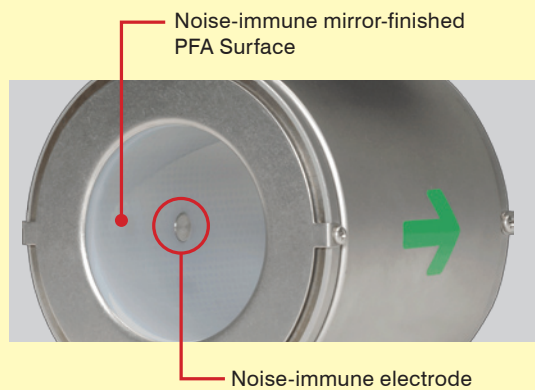
#### Noise resistance

Due to its construction and use of special coated electrodes and mirror finished liners, the AXR's electric noise immunity is comparable to that of a four-wire device.

#### Safety as standard

The AXR is the worlds first SIL2 rated 2 wire

### Structure Immune to Flow Noise



magnetic flowmeter. The AXR is EC61508 Certified (SIL 2) out of the box.

### Advanced diagnostics and functionality

#### Fluid adhesion level diagnosis

The AXR converter regularly monitors changes in the electrode circuit impedance caused by the build-up of insulating coatings. A four level bar graph on the converter's LCD operating panel indicates the coating level. When the impedance reaches the third level a warning is displayed; when the impedance reaches the fourth level an alarm can be triggered and displayed.

## Reduced instrumentation costs

### Reduced wiring costs

The two-wire system reduces the wiring costs drastically. Direct connection with DCS is possible.

AC power sources are not necessary. The AXR can be looped powered with almost all distributors, signal conditioner cards, or input modules.

### Energy savings

Compared with four-wire magmeters, the AXR can drastically decrease power consumption. The AXR has an average power consumption of 0.3 watt.

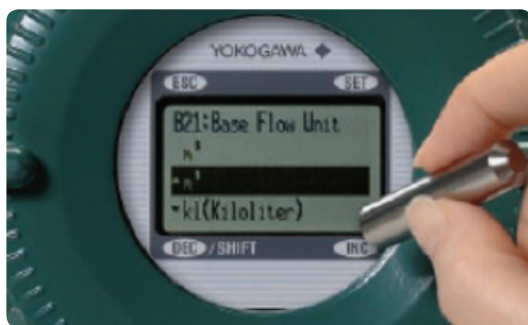
## Reliable construction

Yokogawa has always focused on the quality, durability, and reliability of its primary measuring elements, and the AXR is no exception. The AXR is constructed from a welded stainless steel body with a reinforced neck, injection molded PFA liners with metal retaining plate for superior chemical resistance applications. Along with our electrode construction, we have a combination that can suit any magmeter application.

## User-Friendly functionality

### Clear and versatile indications

The full dot matrix LCD indicator facilitates various displays such as one to three lines and multi-lingual display. In an alarm condition, a full description of the countermeasure is indicated.



### Easy setup parameter

The most frequently used parameters are arranged in a group at the top of the parameter menu. In addition to push buttons, the magnetic switches allow users to set parameters without opening the cover.

### Flexible electrical connection direction

The converter or the terminal box can be rotated arbitrarily to change the directions of electrical connection on site.

## Specification

Structure	Integral flowmeter
Excitation Method	Dual frequency excitation
Nominal Pipe Size (unit: mm (Approx inch))	General-purpose use: 25 (1.0) to 200 (8.0) Explosion proof type: 25 (1.0) to 100 (4.0)
Supply Voltage	Operating voltage range 14.7 to 35 V DC Two-wire system
Output Signals	Current output Digital output (One output can be selected from pulse, alarm or status outputs.)
Electrode Material	Stainless steel-JIS SUS 326L (AISI 316L SS/EN 1.4404 EQUIVALENT), Hastelloy C276 equivalent, Tantalum, Platinum-iridium
Fluid Temp.	-40 to 130°C (-40 to 266°F) [depends on model type]
Ambient Temp.	-40° to 55°C (-40F to 131°F)
Accuracy	0.5% of rate (Note 1) [depends on nominal pipe size and fluid condition]
Fluid Conductivity	10 micro-S/cm or larger (note 2) [depends on nominal pipe size and fluid condition]
Lining	Fluorocarbon PFA (Mirror-finished lining surface)
Lay Length (unit: mm (Approx inch))	Code 1: Wafer; size 80 (3.0) to 200 (8.0), Flange; size 25 (1.0) to 200 (8.0) Code 2: Wafer; size 25 (1.0) to 100 (4.0)
Indicator	Full dot-matrix LCD
Operational Switch	4 magnet switches (including push switches)
Self Diagnosis	Electrode adhesion diagnosis, Coil open, etc.
Alarm Message	With countermeasure is indicated (English, German, French, Italian, Spanish, Japanese)
Options	Direction change of the electrical connection, special gaskets, bar-magnet for operation of magnet switches, etc.
Safety Certification	IEC61508 Certified (SIL 2)

Note 1: The accuracy of a product before shipment is defined as totalized value at the result of calibration test in our water actual flow test facility.

Note 2: For a fluid with large flow noise (pure water, pure alcohol or others), or a fluid with low conductivity and low viscosity, the output fluctuates and is impossible to measure accurately.