Siemens SITRANS FM MAG 6000, 7ME6920-1AA10-1AA0

Category: Equipment
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Mbsmpro.com, Flowmeter Transmitter, Siemens SITRANS FM MAG 6000, 7ME6920-1AA10-1AA0, 115-230V AC 50/60Hz, IP67 / NEMA 6, Class I Div.2, Batch Control, High-Accuracy Electromagnetic Flow Measurement

Overview of the Siemens SITRANS FM MAG 6000 7ME6920-1AA10-1AA0

The *Siemens SITRANS FM MAG 6000* with order number **7ME6920-1AA10-1AA0** is a microprocessor-based electromagnetic flow transmitter engineered for high-accuracy liquid measurement in industrial applications.
It combines IP67 / NEMA 6 protection, a back-lit alphanumeric display, and wide-range 115-230 V AC 50/60 Hz supply for compact or wall-mount installations in harsh environments.

Technical specifications and ratings

The table below summarizes the key technical data of the *SITRANS FM MAG 6000* transmitter variant 7ME6920-1AA10-1AA0.

Specification	Value	Comment
Product family	SITRANS FM MAG 6000	Electromagnetic flow transmitter.
Order No.	7ME6920-1AA10-1AA0	IP67, compact / wall-mount version.
Supply voltage	115–230 V AC, 50/60 Hz	Switched-mode power supply.
Enclosure	IP67 / NEMA 6, polyamide reinforced with glass fiber	Suitable for wash-down and outdoor use.
Ambient temperature	−20 °C to +60 °C	For display version.
Measurement accuracy	±0.2% of flow rate ±1 mm/s (with sensor)	High-precision metering.
Output functions	Analog, pulse/frequency, relay outputs	For flow rate, direction, alarms, limits.
Diagnostics	Comprehensive self-diagnostics and error logging	Supports maintenance and troubleshooting.

Specification	Value	Comment
Approvals	FM/CSA Class I Div.2 Groups A,B,C,D T5 and others	For hazardous areas (certain configurations).

These characteristics make the **SITRANS FM MAG 6000** transmitter a solid choice wherever reliable and repeatable volumetric flow measurement is required, from water distribution networks to process industry batching lines.

Functional features and exploitation in industrial systems

The MAG 6000 platform offers several core functions that go beyond basic flow indication.

- *Instantaneous flow rate and totalizers*: Two independent totalizers allow separate registration of forward and reverse flow or batching totals.
- *Wide turndown and low-flow cut-off*: Digital signal processing and high-resolution measurement provide stable readings at both very low and very high velocities.
- *Batch control and limit switching*: Integrated batch controller with configurable relay outputs can start, stop, and fine-tune dosing operations without an external PLC in smaller systems.
- *Diagnostic and self-verification*: Built-in self-diagnostics and optional verification functions help operators detect coil faults, empty pipe alarms, configuration errors, and sensor problems early.

In daily exploitation this means a plant can use a single **MAG 6000** transmitter as a measurement, supervisory, and basic control element, saving cabinet space and engineering time while maintaining metering-class accuracy.

Comparison with other MAG transmitters and typical competitors

To clarify the position of the *MAG 6000*, the table compares it with the Siemens **MAG 5000** transmitter and a generic compact electromagnetic flow transmitter of similar class.

Feature	*SITRANS FM MAG 6000*	Siemens MAG 5000	Typical compact magmeter transmitter
Accuracy	±0.2% of flow rate ±1 mm/s	±0.4% of flow rate ±1 mm/s	Often ±0.5–1.0% of flow rate
Power supply options	12–24 V AC/DC or 115–230 V AC 50/60 Hz	12–24 V AC/DC or 115–230 V AC	Usually one fixed range (e.g. 100–240 V AC)
Enclosure rating	IP67 / NEMA 4X/6 and IP20 (19’’ insert)	IP67 / NEMA 6 and IP20	Often IP65 only
Functions	Batch control, advanced diagnostics, plug-in communication modules	Basic flow and totalizers, limited advanced functions	Basic flow indication and 4–20 mA output
Typical application	Custody-transfer, demanding industrial processes, water utilities	Standard industrial water and wastewater	Simple plant utilities and OEM skids

Compared with the **MAG 5000**, the **MAG 6000** offers tighter accuracy, extended communication

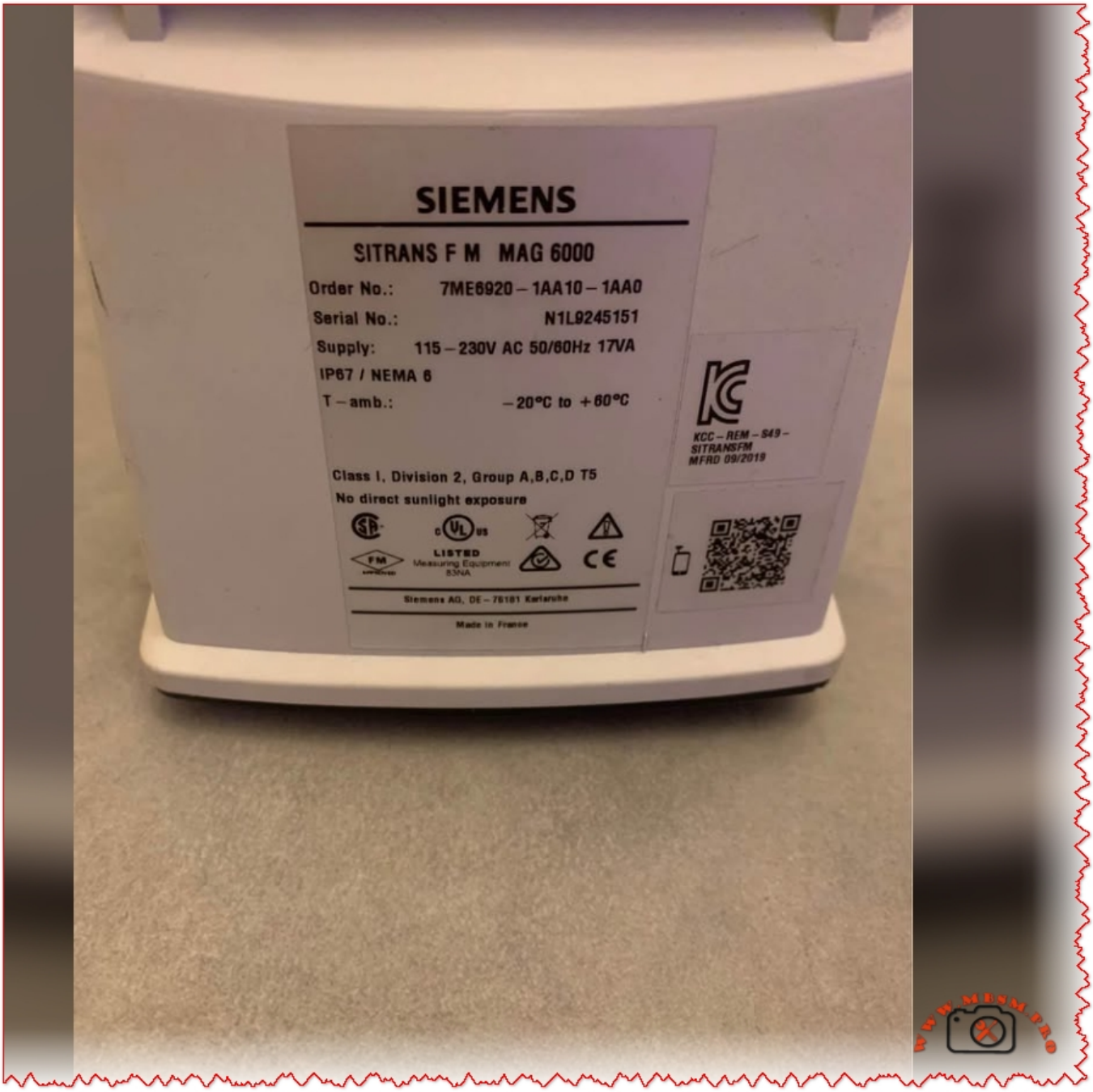
options, and integrated batch functionality, making it more suitable for high-value products and billing applications.
Against a typical compact magmeter, the MAG 6000 stands out with its rugged IP67 housing, richer diagnostics, and modular communications, which are important in large plants seeking long-term reliability and easy integration.

Value comparison with alternative technologies

When deciding between the *SITRANS FM MAG 6000* and other flow measurement technologies, engineers usually compare performance, installation constraints, and lifecycle cost.

Criterion	***MAG 6000 + electromagnetic sensor***	**Turbine flowmeter**	**Differential-pressure (orifice) system**
Moving parts	None, fully static measurement	Rotating turbine prone to wear	No moving parts but involves impulse lines
Accuracy and stability	High accuracy (±0.2%) with very low drift	Good initially, but degrades with wear	Moderate; affected by installation and density changes
Sensitivity to fluid properties	Largely independent of pressure, temperature, and viscosity if fluid is conductive	Sensitive to viscosity, density, and contamination	Requires stable density and Reynolds number
Maintenance	Minimal; occasional cleaning and verification	Regular bearing replacement and cleaning	Periodic transmitter recalibration and impulse line purging
Typical media	Water, wastewater, slurries, chemicals with sufficient conductivity	Clean liquids	Gases, steam, some liquids

Because the electromagnetic principle does not introduce obstruction or moving parts, the **MAG 6000** solution usually offers lower total cost of ownership in water and wastewater plants compared with turbine or orifice systems, especially where solids or scaling are present.


SIEMENS
SITRANS F M MAG 6000
Order No.: 7ME6920 – 1AA10 – 1AA0
Serial No.: N1L9245151
Supply: 115 – 230V AC 50/60Hz 17VA
IP67 / NEMA 6
T – amb.: –20°C to +60°C
KCC – REM – S49 – SITRANSFM MFRD 09/2019
Class I, Division 2, Group A,B,C,D T5
No direct sunlight exposure
LISTED
Measuring Equipment
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