MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Selected official pages for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7288-3AM03-0AA0

EM AM03 Mixed Analog Module. Relevant section pages: 818, 819. Adjacent model text on shared pages is outside this product reference.

OFFICIAL SOURCE

S7-200 SMART System Manual; V2.5, 01/2020, A5E03822230-AI

Siemens original documentation and product reference

V2.5 technical tables only, not wiring guidance. Impedance and temperature scope differ from V2.8; verify version. AM03 column only; adjacent AQ04/AM06 do not apply.

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Amikon Limited prepared this independent reference package. Selected manufacturer pages follow with their original content and pagination visible.

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER

indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

NOTICE

indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING

Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Pin	X10 (gold)	X11 (gold)
6	No connection	AQ 1M
7	No connection	AQ 1

Table A- 106 Connector pin locations for EM AQ04 Analog 4 x Outputs (6ES7288-3AQ04-0AA0)

Pin	X10 (gold)	X11 (gold)	X12 (gold)	X13 (gold)
1	L+ / 24 V DC	No connection	No connection	No connection
2	M / 24 V DC	No connection	No connection	No connection
3	Functional Earth	No connection	No connection	No connection
4	No connection	No connection	AQ 0M	AQ 2M
5	No connection	No connection	AQ 0	AQ 2
6	No connection	No connection	AQ 1M	AQ 3M
7	No connection	No connection	AQ 1	AQ 3

A.4.3 EM AM03 and EM AM06 analog input/output module specifications

Table A- 107 General specifications

Technical data	EM 2 x Analog Inputs / 1 x Analog Outputs (AM03)	EM 4 x Analog Inputs / 2 x Analog Outputs (AM06)
Article number	6ES7288-3AM03-0AA0	6ES7288-3AM06-0AA0
Dimensions W x H x D (mm)	45 x 100 x 81	45 x 100 x 81
Weight	172 grams	173.4 grams
Power dissipation	1.1 W (no load)	2.0 W (no load)
Current consumption (SM Bus)	60 mA	80 mA
Current consumption (24 V DC)	30 mA (no load)	60 mA (no load)
	50 mA (20 mA load per channel)	100 mA (20 mA load per channel)

Table A- 108 Analog inputs

Model	EM 2 x Analog Inputs / 1 x Analog Outputs (AM03)	EM 4 x Analog Inputs / 2 x Analog Outputs (AM06)
Number of inputs	2	4
Type	Voltage or current (differential): Selectable in groups of 2	Voltage or current (differential): Selectable in groups of 2
Range	±10 V, ±5 V, ±2.5 V, or 0 to 20 mA	±10 V, ±5 V, ±2.5 V, or 0 to 20 mA
Full scale range (data word)	-27,648 to 27,648	-27,648 to 27,648
Overshoot/undershoot range (data word)	Voltage: 27,649 to 32,511 / -27,649 to -32,512 Current: 27,649 to 32,511 / -4,864 to 0	Voltage: 27,649 to 32,511 / -27,649 to -32,512 Current: 27,649 to 32,511 / -4,864 to 0

Model	EM 2 x Analog Inputs / 1 x Analog Outputs (AM03)	EM 4 x Analog Inputs / 2 x Analog Outputs (AM06)
Overflow/underflow (data word)	Voltage: 32,512 to 32,767 / -32,513 to -32,768 Current: 32,512 to 32,767 / -4,865 to -32,768	Voltage: 32,512 to 32,767 / -32,513 to -32,768 Current: 32,512 to 32,767 / -4,865 to -32,768
Resolution	Voltage mode: 12 bits + sign Current mode: 12 bits	Voltage mode: 12 bits + sign Current mode: 12 bits
Maximum withstand voltage/current	±35 V / ±40 mA	±35 V / ±40 mA
Smoothing	None, weak, medium, or strong	None, weak, medium, or strong
Noise rejection	400, 60, 50, or 10 Hz	400, 60, 50, or 10 Hz
Input impedance	≥9 M Ω	≥9 M Ω
Isolation (field side to logic)	None	None
Accuracy (25 °C / 0 to 55 °C)	Voltage mode: ±0.1% /±0.2% of full scale Current mode: ±0.2% /±0.3% of full scale	Voltage mode: ±0.1% /±0.2% of full scale Current mode: ±0.2% /±0.3% of full scale
Analog to digital conversion time	625 µs (400 Hz rejection)	625 µs (400 Hz rejection)
Common mode rejection	40 dB, DC to 60 Hz	40 dB, DC to 60 Hz
Operational signal range	Signal plus common mode voltage must be less than +12 V and greater than -12 V	Signal plus common mode voltage must be less than +12 V and greater than -12 V
Cable length (max.), in meters	100 m twisted and shielded	100 m twisted and shielded

Table A- 109 Analog outputs

Technical data	EM 2 x Analog Inputs / 1 x Analog Outputs (AM03)	EM 4 x Analog Inputs / 2 x Analog Outputs (AM06)
Number of outputs	1	2
Type	Voltage or current	Voltage or current
Range	±10 V or 0 to 20 mA	±10 V or 0 to 20 mA
Resolution	Voltage mode: 11 bits + sign Current mode: 11 bits	Voltage mode: 11 bits + sign Current mode: 11 bits
Full scale range (data word)	Voltage: -27,648 to 27,648 Current: 0 to 27,648	Voltage: -27,648 to 27,648 Current: 0 to 27,648
Accuracy (25 °C / 0 to 55 °C)	±0.5% / ±1.0% of full scale	±0.5% / ±1.0% of full scale
Settling time (95% of new value)	Voltage: 300 µs (R), 750 µs (1 µF) Current: 600 µs (1 mH), 2 ms (10 mH)	Voltage: 300 µs (R), 750 µs (1 µF) Current: 600 µs (1 mH), 2 ms (10 mH)
Load impedance	Voltage: ≥ 1000 Ω Current: ≤ 500 Ω	Voltage: ≥ 1000 Ω Current: ≤ 500 Ω
Output behavior in STOP	Last value or substitute value (default value 0)	Last value or substitute value (default value 0)
Isolation (field side to logic)	None	None
Cable length (max.), in meters	100 m twisted and shielded	100 m twisted and shielded