

LSAIM01 AI module

LS communication Analog inputs : 8 4~20mA/0~20mA

■ Summary



- * Number of inputs : 8 (Channel individual isolation)
- * Input range : 4 to 20mA/0 to 20mA(Selectable)
- * Absolute precision : $\pm 0.1\%$ F.S. @25°C
- * Temperature drift : Less than $\pm 100\text{ppm}/^\circ\text{C}$
- * Module ambient temperature range : -5 to 60°C
- * Insulation method : Photocoupler insulation

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■ Specifications

ITEM		SPECIFICATION
Input	Number of channels	8 (Channel individual isolation)
	Range	4 to 20mA/0 to 20mA (Selectable for communication setting) (Full Scale)
	Internal impedance	Less than 50 Ω
	Resolution	16bits
Absolute precision	@25°C	±0.1%F.S.
Temperature drift	@-5~60°C	Less than ±100ppm/°C(relative to full-scale)
CMRR		100dB or more attenuation
NMRR		About 11dB attenuation (When the first-order lag filter is set to 10ms or more, attenuation by 20dB or more)
Data refresh cycle		10ms /All channels
Input filter		Software digital filter (Channel individual)
Dielectric strength		AC500V input terminal – between PE Between input channels
Communication with IOA	Communication method	LVDS
	Communication speed	100Mbps
Self-diagnostic functions		Power voltage check (24V, 3.3V, 1.2V) Clock check (FPGA-MCU for diagnosis, MCU for diagnosis –FPGA) Heartbeat check (FPGA-MCU for diagnosis, MCU for diagnosis –FPGA) CRC check (FPGA) AI communication error check (ch abnormal)
Detective		ADC abnormal check I/O signal range check (Overrange , Underrange)
When disconnected		Detect underrange
Protection	(Power supply protection)	Overvoltage protection Overcurrent protection
Indicator	Display LED	4 : RUN(Run) / STS(Status) /NSA(Network status A) / NSB(Network status B)
Insulation method		Photocoupler insulation
Hot swap		Possible
Power supply		DC24V ±20% (The voltage supplied from the backplane)
Environmental conditions	Module ambient temperature	(Operating) -5 to 60°C (Storage) -40 to 85°C
	Module ambient humidity	Less than 95%RH (No condensation)
Vibration		3.5mm @5 to 8.4Hz 1G @8.4 to 150Hz
Shock		15G 11ms
Current consumption		Less than 68mA
Weight		0.11kg
Dimensions		62mmD x 94mmH x 46mmW (Except projection)
Standard/Directive		IEC61131-2 : 2007, RoHS

*About compliant module type

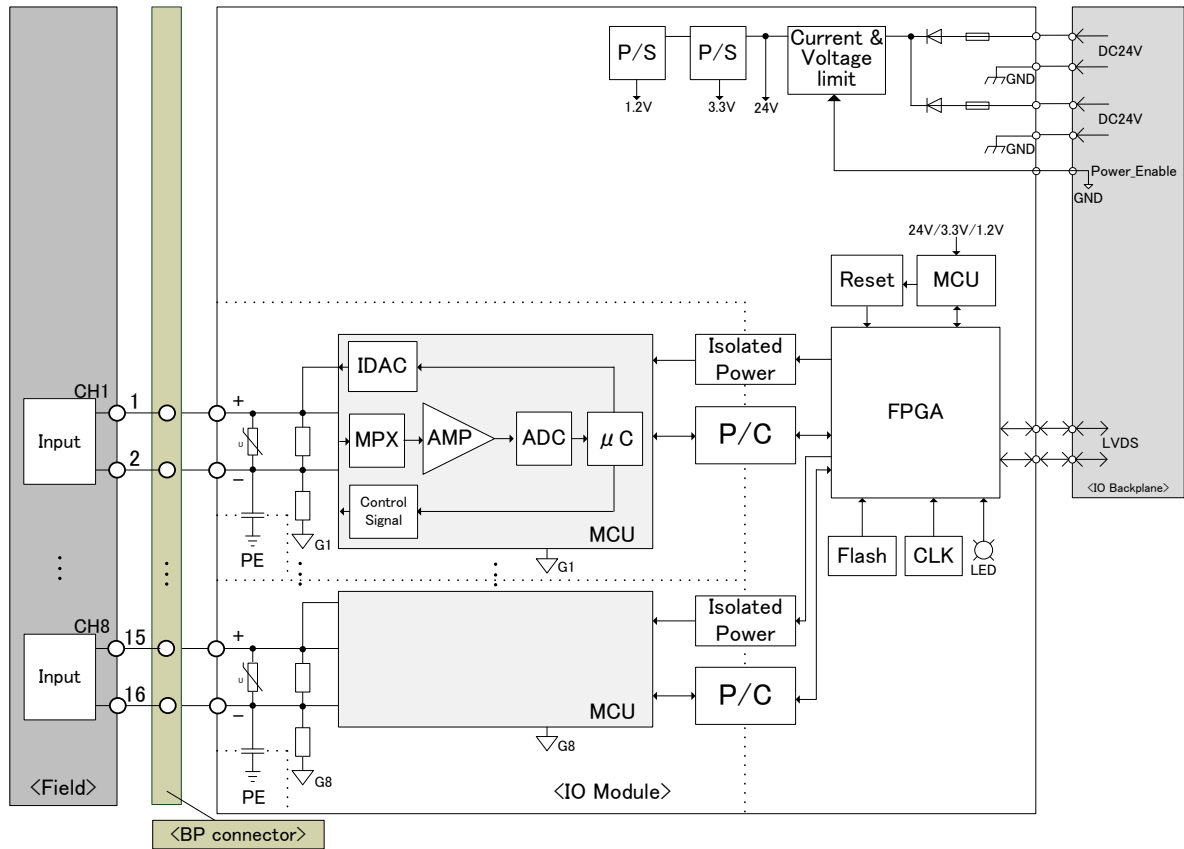
For compliant modules of this product, please refer to “ Compliant backplane list (CGS-S9901-E-XX) ”.

For compliant modules of this product, please refer to “ Compliant accessory connector list (CGS-S9902-E-XX) ”.

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■ Block diagram



P/S	:	Power supply
IDAC	:	Iout Digital analog converter
MPX	:	Multiplexer
AMP	:	Amplifier
ADC	:	Analog digital converter
μ C	:	Micro controller
CLK	:	Clock
FPGA	:	Field programmable gate array
LED	:	Light emitting diode
MCU	:	Micro control unit
GND,G1~G8	:	Ground
IOA	:	I/O adapter
LVDS	:	Low Voltage Differential Signaling
BP	:	Backplane
PE	:	Protective Earth
P/C	:	Photocoupler
	:	Varistor
	:	Resistor
	:	Fuse
	:	Diode
	:	Capacitor

When using, please read the instruction manual attached to the product carefully and use it properly.

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