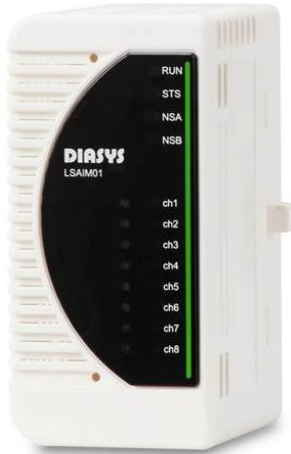


# LSAIM01 AI module

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

## ■ Summary



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

# LSAIM01 AI module

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

## ■ Specifications

ITEM		SPECIFICATION
Input	Number of channels	8 (Channel individual isolation)
	Range	4 to 20 mA/0 to 20 mA (Selectable for communication setting) (Full Scale)
	Internal impedance	Less than 50 Ω
	Resolution	16 bits
Absolute precision	@25°C	±0.1% FS
Temperature drift	@-5 to 60°C	Less than ±100 ppm/°C (relative to full-scale)
CMRR		100 dB or more attenuation
NMRR		About 11 dB attenuation (When the first-order lag filter is set to 10 ms or more, attenuation by 20 dB or more)
Data refresh cycle		10 ms /All channels
Input filter		Software digital filter (Channel individual)
Dielectric strength		AC 500 V input terminal - between PE Between input channels
Communication with IOA	Communication method	LVDS
	Communication speed	100 Mbps
Self-diagnostic functions		Power voltage check (24 V, 3.3 V, 1.2 V) 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		DC 24 V ±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	(Operating / Storage) Less than 95% RH (No condensation)
Vibration		3.5 mm @5 to 8.4 Hz 1 G @8.4 to 150 Hz
Shock		15 G 11 ms
Current consumption		Less than 68 mA
Weight		0.11 kg
Dimensions		62 mm (D) x 94 mm (H) x 46 mm (W) (Except projection)
Standard/Directive		EN 61131-2:2007, RoHS

About compliant module type

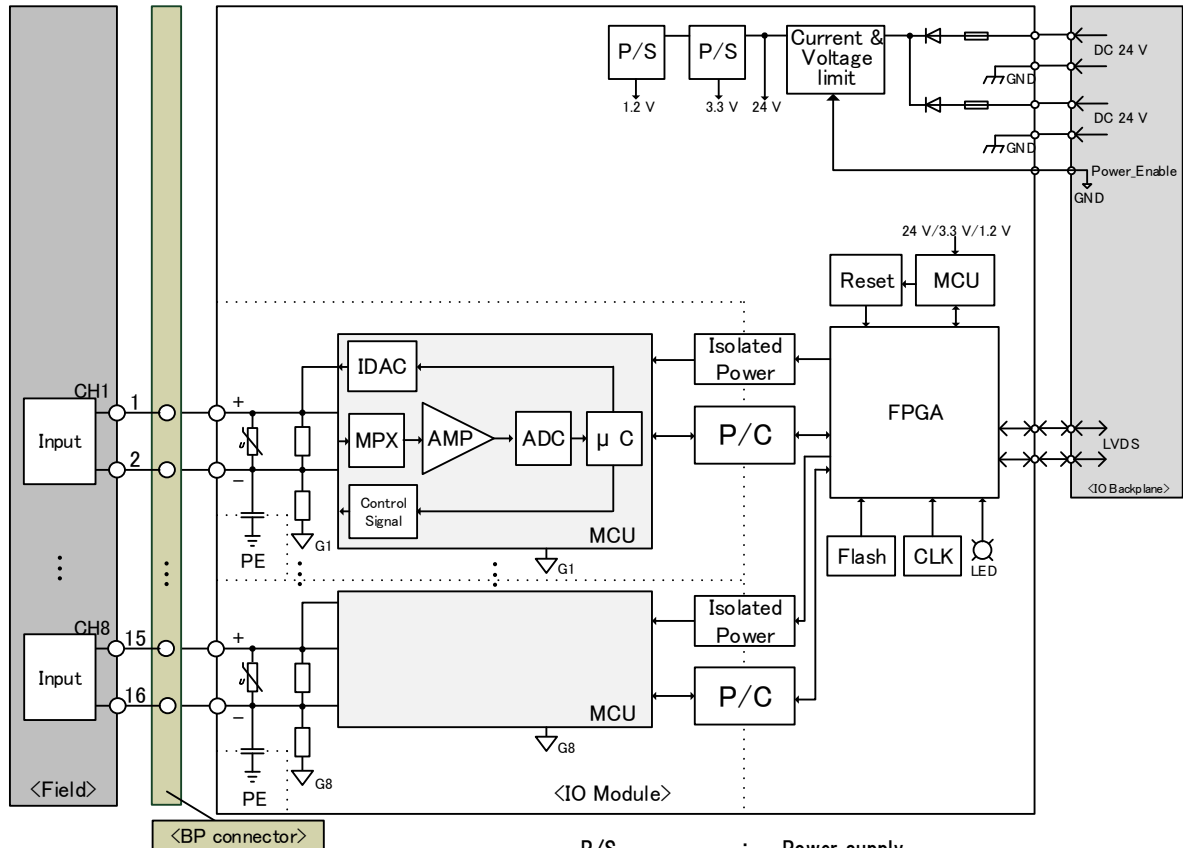
For compliant modules of this product, please refer to “Compliant backplane list (CGS-S9901-E-XX)”.






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

# LSAIM01 AI module

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

## ■ Block diagram



P/S	:	Power supply
IDAC	:	Input 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 to 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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