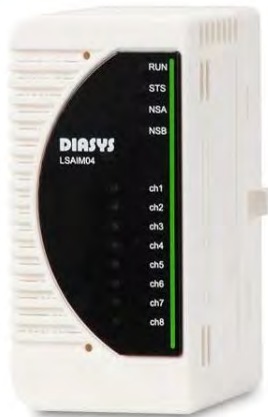


LSAIM04 AI module

LS communication Thermocouple inputs : 7 -20~80mV

■ Summary



- * Number of inputs : 7 /Thermocouple input
(+1 /Cold junction compensation input ,
Channel individual isolation)
- * Input range : -20~80mV
- * Module ambient temperature : -5 to 60°C
- * Insulation method : Photocoupler insulation

LSAIM04 AI module

LS communication Thermocouple inputs : 7 -20~80mV

Specifications

ITEM		SPECIFICATION
Input	Number of channels	7 points +1 point cold junction compensation (channel individual isolation)
	Resolution	16bits
	Burn Up/Down	Switchable by EMS setting
	Range	-20 to 80mV (Full Scale)
	TC	T: -200 to 400°C , -5.603 to 20.872mV J: -200 to 1200°C , -7.890 to 69.553mV E: -200 to 1000°C , -8.825 to 76.373mV R: -50 to 1768°C , -0.226 to 21.101mV K: -200 to 1372°C , -5.891 to 54.886mV
Absolute accuracy @25°C	TC	RTD
		Type-T,J,K,E ± 1°C
	Type-R	± 4°C (<0°C), ± 3°C (0°C~200°C), ± 2°C (>200°C)
Temperature drift @5°C~60°C	RTD	Type-PT100 ± 0.1°C
	TC	Less than ±100ppm/°C (relative to full-scale)
CMRR	TC	RTD
		Type-PT100 Less than ±100ppm/°C (relative to full-scale)
	RTD	Type-E
		Type-T 100dB or more attenuation
NMRR	When voltage	100dB or more attenuation
		100dB or more attenuation
	When Current	20dB or more attenuation
Data refresh cycle	TC	20dB or more attenuation
	RTD	20dB or more attenuation
Input filter	50ms /All channels	
Dielectric strength	Software digital filter (Channel individual)	
Communication with IOA	Communication method	AC500V input terminal - between PE Between input channels
Self-diagnostic functions	Communication speed	LVDS
	100Mbps	
	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)	
Detective	CRC check (FPGA)	
	AI communication error check	
Operation at disconnection	ADC abnormal check	
	I/O signal range check (Overrange , Underrange)	
	1 to 7ch(For Burn Up setting) Detect overrange 1 to 7ch(For Burn Down setting)Detect underrange 8ch Simultaneous detection of underrange and overrange	
Protection (Power supply protection)	Overvoltage protection	
Indicator Display LED	Overcurrent protection	
Insulation method	4 : RUN(Run) / STS(Status) /NSA(Network status A) / NSB(Network status B)	
Hot swap	Photocoupler insulation	
Power supply	Possible	
Environmental conditions	DC24V ±20% (The voltage supplied from the backplane)	
	Module ambient temperature	(Operating) -5 to 60°C (Storage) -40 to 85°C
Vibration	Module ambient humidity	Less than 95%RH (No condensation)
Shock	3.5mm @5 to 8.4Hz	
Current consumption	1G @8.4 to 150Hz	
Weight	15G 11ms	
Dimensions	Less than 68mA	
Standard/Directive	0.10kg	
	62mmD x 94mmH x 46mmW (Except projection)	
	IEC61131-2 : 2007, RoHS	

*About compliant module type

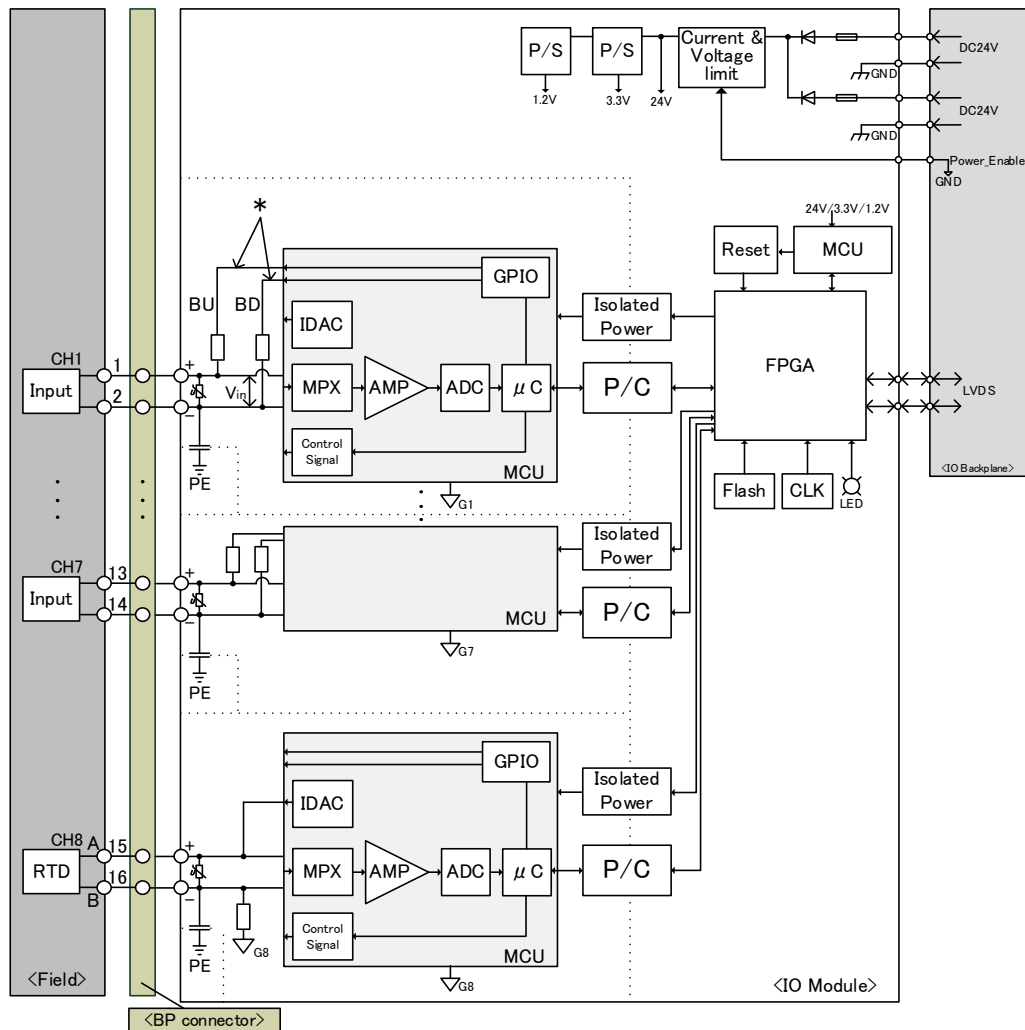
For compliant modules of this product, please refer to "Compliant backplane list (CGS-S9901-E-XX)".

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

LSAIM04 AI module

LS communication Thermocouple inputs : 7 -20~80mV

■Block diagram



*

The setting of burn up / burn down is determined by which side of + side / - side is made High.

•Normal time: The electromotive force of the compensation conductor is input to the MCU at Vin (+/- line voltage)

•At the time of disconnection (burn-up setting): the potential of the + side wiring rises ⇒ The value of Vin (the difference between the + side and the - side) becomes too large. (The ADC input sticks to the upper limit) ⇒ Overrange

•At the time of disconnection (burndown setting): the potential of the - side wiring rises ⇒ The value of Vin (the difference between the + side and the - side) becomes too small. (The ADC input sticks to the lower limit) ⇒ Underrange

P/S	: Power supply
IDAC	: Input Digital analog converter
MPX	: Multiplexer
AMP	: Amplifier
ADC	: Analog digital converter
μC	: Micro controller
CLK	: Clock
FPGA	: Field programmable gate array
LED	: Light emitting diode
MCU	: Micro control unit
GND,G1	: 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.

This catalog may not be distributed or reproduced in whole or in part without permission.

Please be aware that due to product improvements and modifications, the product description in this catalog may differ in certain respects from the actual product.

The service names and product names of other companies described in this catalog are the trademarks of each company.