

# LS1PPS01 NPS dedicated 1PPS signal input module

1PPS pulse input 2

## ■ Summary



\* Number of inputs : 2 (1PPS pulse input)

\* Module ambient temperature : -5 to 60°C

\* Isolation : Digital isolation

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## ■ Specifications

ITEM		SPECIFICATION	
Input	Number of channels	2 (1PPS pulse input)	
	Range	ON current	More than 2 mA *Selectable power for sense current: +24 V fixed
		OFFcurrent	Less than 1.0 mA
		When disconnected	When disconnection detection function is set: Less than 0.5 mA
Data refresh cycle		0.3 ms /All channels	
Input filter		Software digital filter (Channel individual)	
Dielectric strength		AC 1500 V Between input terminal and PE	
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, FPGA-MCU for diagnosis, MCU for diagnosis -FPGA) CRC check (FPGA) Sense voltage/current check(MCU) MCU power check(MCU)	
1PPS pulse input function		1PPS pulse input module: 2 Input pulse rate: 0 to 500 Hz (On time shall be more than 0.5 msec)	
Detective		Disconnection detection	
Protection	IO circuit Protection	Overvoltage protection	
	Power supply Protection	Overcurrent protection	
Indicator	Display LED	4: RUN(Run) / STS(Status) / NSA(Network status A) / NSB(Network status B)	
	1PPS state display LED	6: ch 1 (SIG(Signal) / PLS(Pulse) / SEL(Selection)) Ch 2 (SIG(Signal) / PLS(Pulse) / SEL(Selection))	
Insulation method		Digital isolator	
Hot swap		Possible	
Power supply		DC 24 V $\pm$ 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) 10 to 95% RH or less (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 164 mA	
Weight		0.10 kg	
Dimensions		62 mm (D) x 94 mm (H) x 46 mm (W) (Except projection)	
Standard/Directive		IEC61131-2:2007, RoHS	

\*About compliant module type

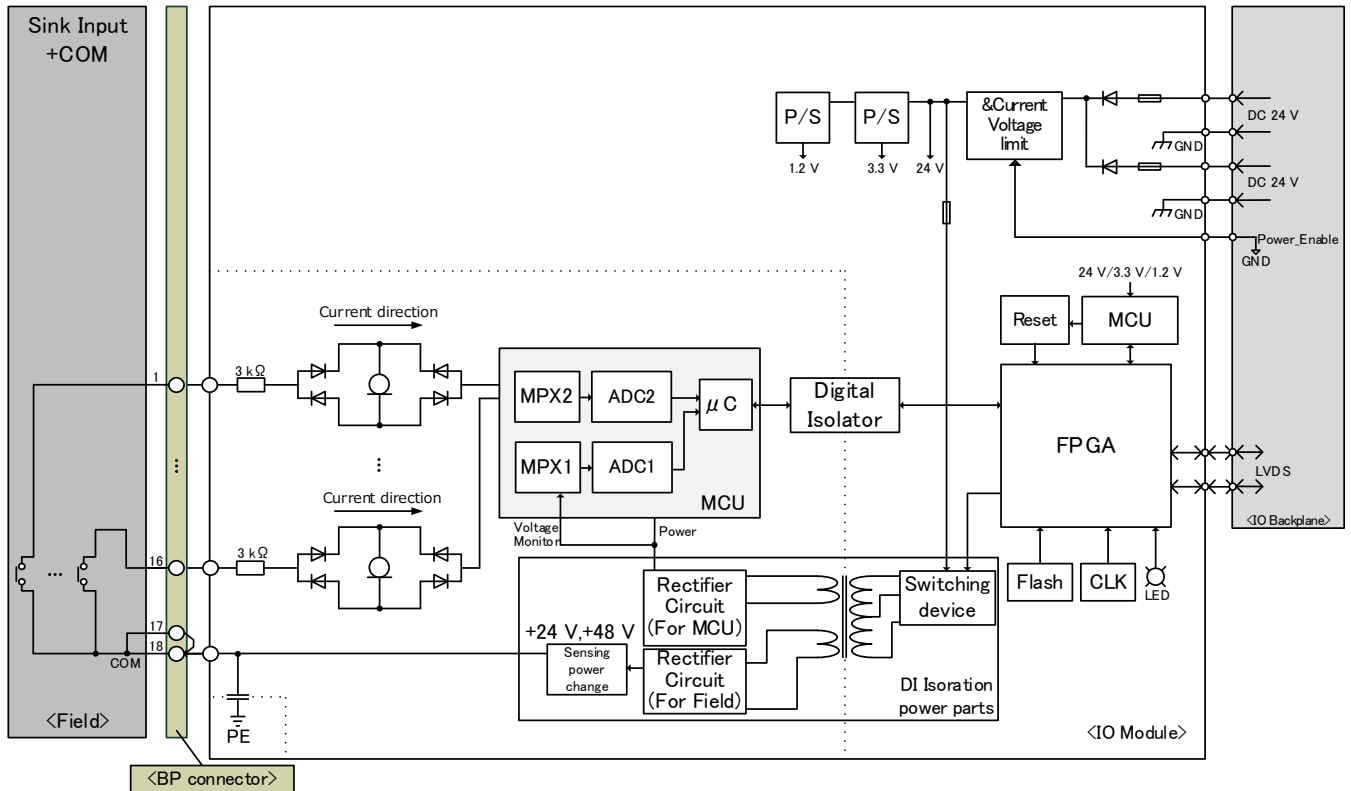
For compliant modules of this product, please refer to "Compliant backplane list (CGS-S9901-E-XX)".








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
MPX	:	Multiplexer
ADC	:	Analog digital converter
$\mu$ C	:	Micro controller
CLK	:	Clock
FPGA	:	Field programmable gate array
LED	:	Light emitting diode
MCU	:	Micro control unit
GND	:	Ground
COM	:	Common
IOA	:	I/O adapter
LVDS	:	Low Voltage Differential Signaling
EMS	:	Engineering Management System
BP	:	Backplane
PE	:	Protective Earth
	:	Resistor
	:	Fuse
	:	Diode
	:	Capacitor
	:	Switch
	:	Transformer
	:	Constant current circuit

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

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