

LSEOS01 EOST module

LS communication Turbine EOST Control module

■ Summary



* Terminal block input / output unit

- 52G ON Digital input : 1
- Power supply output for speed sensor supply : 1
- Rotational speed input : 1
1 to 12000Hz 1 to 200Vp-p
- EOST Digital output : 2
- Rectification speed pulse output : 2

* Indicator

- Display LED : 4 RUN / STS / NSA / NSB
- Channel State LED : 16 Ch1 to Ch16

* USB connector : 1 (For maintenance communication mini-B)

* Module operating ambient temperature range : -5 to 60°C

■ Overview Specifications

ITEM	SPECIFICATION
52G ON Digital input	DC24V × 1, minimum ON Current 2mA
Power supply output for speed sensor supply	DC24V ± 10% × 1
Rotational speed input	1 to 12000Hz, 1 to 200Vp-p, Resolution: 0.1Hz × 1
EOST Digital output	Open collector output × 2, Maximum voltage DC30V, Maximum load current 0.1A
Rectification speed pulse output	Maximum voltage DC30V × 2, Maximum load current 4mA
Indicator	Display LED × 4 : Run / Status / Network status A / Network status B General purpose display LED × 16 : Ch1 to Ch16 Arbitrarily set by internal logic
USB connector	For maintenance communication mini-B × 1
Self-diagnostic functions	Power voltage check, Clock abnormal check, Heartbeat check, CRC check
IDOL Implementation	Possible
Module Duplication	Unsupported
Dielectric strength	AC2000V Digital input / output terminal — FG Between AC1000V Analog input / output terminal — FG Between
Environmental conditions	(Operating) Ambient temperature : -5 to 60°C Ambient humidity : Less than 95%RH (No condensation) (Storage) Ambient temperature : -40 to 85°C Ambient humidity : Less than 95%RH (No condensation)
Operating power supply	DC 24V ± 20% Dual power reception (The voltage supplied from the backplane)
Shock / Vibration	15G 11ms / 3.5mm @ 5Hz to 8.4Hz, 1G @ 8.4Hz to 150Hz
Dimensions	152.5mmD x 94mmH x 46mmW (Except projection)

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■Details Specifications

ITEM			SPECIFICATION	
I/O Input/output section	Ch1: 52G ON Digital input	Number of channels		1
		Insulation method		Photocoupler insulation (Individual isolation)
		Dielectric strength		AC2000V
		Current range	ON current	DC 2mA or more Sense supply voltage:DC24V ±10%
			OFF current	DC 1mA or less
	Ch4: Power supply output for speed sensor supply	Number of channels		1
		Insulation method		Transformer insulation
		Output voltage		DC24 ±10%
		Supply current limit		26mA
		Ch5: Rotational speed input	Number of channels	
	Insulation method		Photocoupler insulation	
	Dielectric strength		AC1000V	
	Speed measurement range		1 to 12000 Hz (full scale)	
	Input voltage range		1 to 200 Vp-p Chopping Voltage : -18 to +18V	
	Over speed trip setting range		800 to 11900 Hz	
	Resolution		0.1Hz	
	Accuracy		±0.01% FS @20 to 200 Vp-p	
	Ch6 , Ch7: EOST Digital output		Number of channels	
		Insulation method		Photocoupler insulation (Individual isolation)
		Dielectric strength		AC2000V
		Contact maximum voltage		DC30V
		Contact withstand current		100mA
		Leakage current at OFF		0.1mA or less
		Maximum residual voltage when ON		DC1.2V @100mA
	Ch8 , Ch9: Rectification speed pulse output	Number of channels		2
		Insulation method		Photocoupler insulation (Individual isolation)
		Dielectric strength		AC2000V
		Contact rated voltage		DC30V
		Contact withstand current		4mA
		Leakage current at OFF		0.1mA or less
		Maximum residual voltage when ON		DC1.0V @4mA
	Calculation cycle usable in DPS			10 msec or more
Communication specification between IOA		Communication method , communication speed	LVDS , 100Mbps	
Self-diagnostic functions			Power voltage check (24V, 17V, 3.3V, 1.2V, Other) *Refer to block diagram Clock abnormal check (FPGA-MCU , FPGA-CPU) Heartbeat check (FPGA-MCU , FPGA-CPU) CRC check (FPGA-MCU)	
IDOL Implementation			Possible Supplement:IDOL is the logic description language used in DIASYS-UP , DIASYS-UP/V. The internal logic of this module is described in IDOL.	
Module Duplication			Unsupported	
Protective function (Backplane supply power protection)			Overvoltage protection , Overcurrent protection	
Indicator	Display LED		4 : RUN(Run) / STS(Status) / NSA(Network status A) / NSB(Network status B)	
	General purpose display LED		16 : Ch1 to Ch16 Arbitrarily set by internal logic	
Serial interface	For maintenance		1 : USB Serial (USB mini-B connector)	
Hot swap			Possible	
Operating power supply			DC 24V±20% Dual power reception(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			150mA or less	
Weight			0.19kg	
Dimensions			152.5mmD x 94mmH x 46mmW (Except projection)	
Standard/Directive			IEC61131-2:2007, RoHS	

*About compliant module type

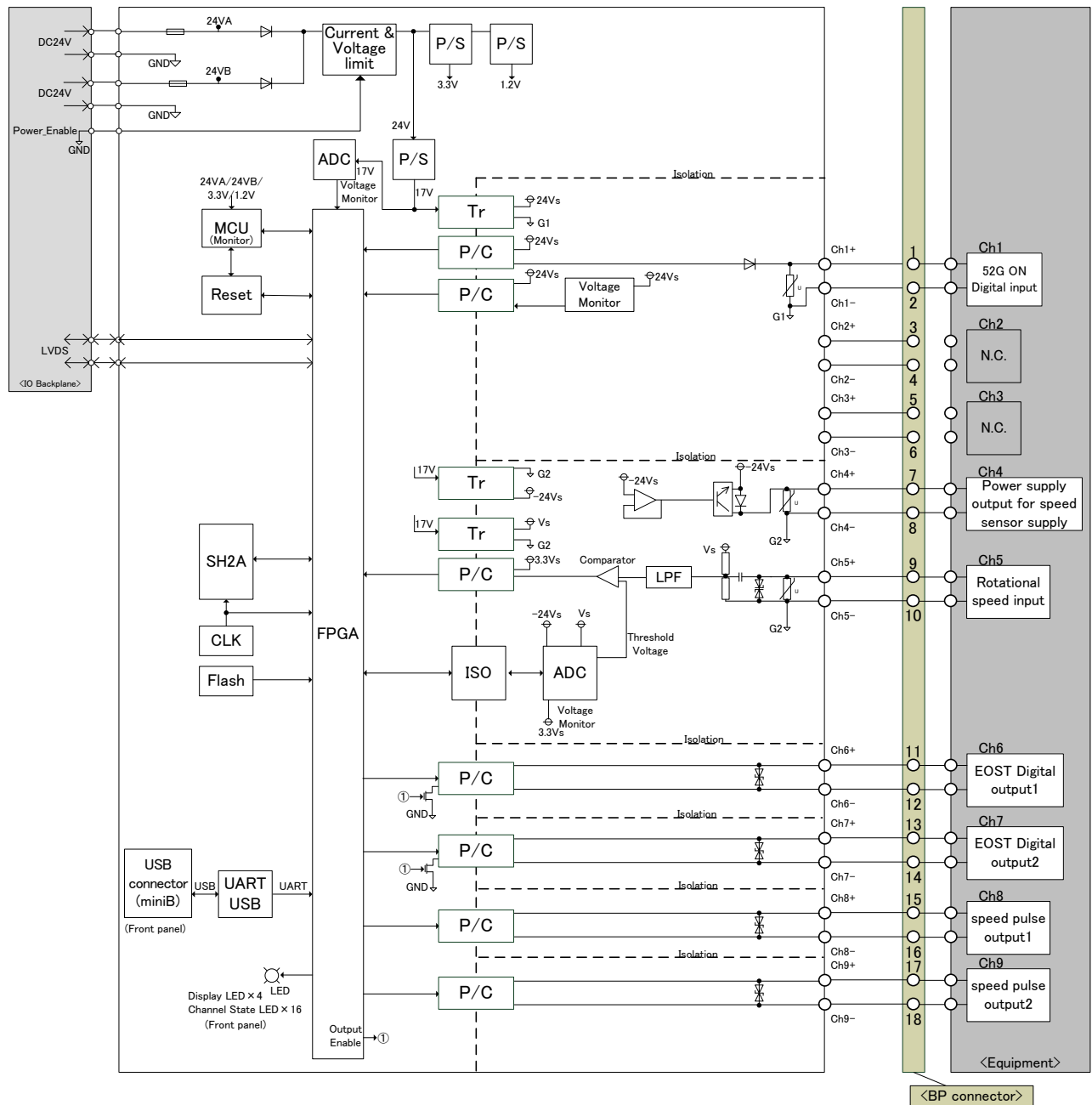
For compliant modules of this product, please refer to “ Compliant backplane list (CGS-S9901-E-XX) ”.

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	MCU	: Micro control unit
SH2A	: Renesas SH-2A micro processor	FPGA	: Field programmable gate array
CLK	: Clock generation circuit	LED	: Light emitting diode
ISO	: Digital isolator	ADC	: Analog digital converter
LPF	: Low pass filter	GND,G1,G2	: Ground
LVDS	: Low Voltage Differential Signaling	BP	: Backplane
P/C	: Photo Coupler	Tr	: Transformer
N.C.	: No Connection	Flash	: Flash ROM
	: Varistor	UART	: Universal Asynchronous Receiver Transmitter
	: Fuse		: Resistor
	: Bidirectional diode		: Diode

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

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