MITSUBISHI POWER

LSOPC01 OPC module

LS communication Overspeed protection function & High speed valve control function

■Summary

＊Terminal block input / output unit

- ・Rotational speed input : 1
  1 to 10000 Hz
- ・52 G ON Digital input : 1
- ・Pressure transmitter input : 1
  Distributor input
- ・Analog input : 2 Passive input
  MW signal input
  Generated current signal input
- ・Digital output : 4
  : OPC output × 2 (interlock)
  FV output × 2 (interlock)

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

＊Module operating ambient temperature range : -5 to 60℃

■Overview Specifications

ITEM	SPECIFICATION
Rotational speed input	DC 24 V × 1, 1 to 10000 Hz, Resolution: 0.1 Hz
52 G ON Digital input	DC 24 V × 1, Minimum ON current 2 mA
Pressure transmitter input	Distributor input × 1, 4 to 20 mA
Analog input	Passive input × 2, 4 to 20 mA MW signal input / Generated current signal input
Digital output	Open collector output × 4, Maximum voltage DC 30 V, Maximum load resistance 0.1 A
Self-diagnostic functions	Power voltage check, Clock abnormal check, Heartbeat check, CRC check ADC communication error check, Analog input signal range check
IDOL Implementation	Possible
Module Duplication	Unsupported
Indicator	Display LED × 4: Run / Status / Network status A / Network status B General purpose display LED × 16: Ch 1 to Ch 16 Arbitrarily set by internal logic
USB connector	For maintenance communication mini-B × 1
Dielectric strength	AC 1500 V Digital input / output terminal - PE Between AC 1000 V Analog input / output terminal - PE Between
Environmental conditions	Ambient temperature (Operating / Storage) -5 to 60°C Ambient humidity (Operating / Storage) 0 to 95% RH (No condensation)
Operating power supply	DC 24 V ±20% Dual power reception (The voltage supplied from the backplane)
Shock / Vibration	15 G 11 ms / 3.5 mm @5 to 8.4 Hz, 1 G @8.4 to 150 Hz
Dimensions	152.5 mm (D) x 94 mm (H) x 46 mm (W) (Except projection)

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■Details Specifications

ITEM				SPECIFICATION
Terminal block input / output unit	Ch 1: Rotational speed input	Number of channels		1
		Insulation method		Photocoupler insulation (Individual isolation)
		Dielectric strength		AC 1500 V Digital input terminal - PE Between
		Speed measurement range		1 to 10000 Hz
		Sense supply voltage		DC 24 V ±10%
		Resolution		0.1 Hz
		Accuracy		±0.01% FSD (1 to 10000 Hz)
	Ch 2: 52 G ON Digital input	Number of channels		1
		Insulation method		Photocoupler insulation (Individual isolation)
		Dielectric strength		AC 1500 V Digital input terminal - PE Between
		Current range	ON current	DC 2 mA or more Sense supply voltage:DC 24 V ±10%
			OFF current	DC 1 mA or less
	Ch 3: Pressure transmitter input (Distributor input)	Number of channels		1
		Insulation method		Transformer insulation (Individual isolation)
		Dielectric strength		AC 1000 V Analog input terminal - PE Between
		Input current range		4 to 20 mA (full scale)
		Output voltage		15 to 30 V (4 to 20 mA)
		Absolute precision	@25 °C	±0.15% FS (±0.024 mA)
		Temperature drift	@-5 to 60 °C	±100 ppm/°C (Against full scale)
	Ch 4, Ch 5: MW signal input Current generation analog input (Passive input)	Number of channels		2
		Insulation method		Digital isolator insulation (Individual isolation)
		Dielectric strength		AC 1000 V Analog input terminal - PE Between
		Input current range		4 to 20 mA (full scale)
		Signal input resistance		300 Ω or less
		Absolute precision	@25 °C	±0.1% FS (±0.016 mA)
		Temperature drift	@-5 to 60 °C	±100 ppm/°C (Against full scale)
	Ch 6, Ch 7, Ch 8, Ch 9: interlock Digital output	Number of channels		4 (Open collector)
		Insulation method		Photocoupler insulation (Individual isolation)
		Dielectric strength		AC 1500 V Digital output terminal - PE Between
		Maximum applied voltage		DC 30 V
		Contact withstand current		100 mA
		Leakage current at OFF		0.1 mA or less
		Maximum residual voltage when ON		DC 1.2 V @100 mA
Calculation cycle usable in DPS				10 msec or more
Communication specification between IOA		Communication method , Communication speed		LVDS, 100 Mbps
Self-diagnostic functions				Power voltage check (24 V, 17 V, 3.3 V, 1.2 V, Other) *Refer to block diagram Clock abnormal check (FPGA-MCU, FPGA-CPU) Heartbeat check (FPGA-MCU, FPGA-CPU) CRC check (FPGA-MCU) ADC communication error check Analog input signal range check (Overrange, Underrange)
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: Ch 1 to Ch 16 Arbitrarily set by internal logic
Serial interface		For maintenance		1: USB Serial (USB mini-B connector)
Hot swap				Possible
Operating power supply				DC 24 V ±20% Dual power reception (The voltage supplied from the backplane)
Environmental conditions		Module ambient temperature		(Operating / Storage) -5 to 60°C
		Module ambient humidity		(Operating / Storage) 0 to 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				160 mA or less
Weight				0.19 kg
Dimensions				152.5 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) ".

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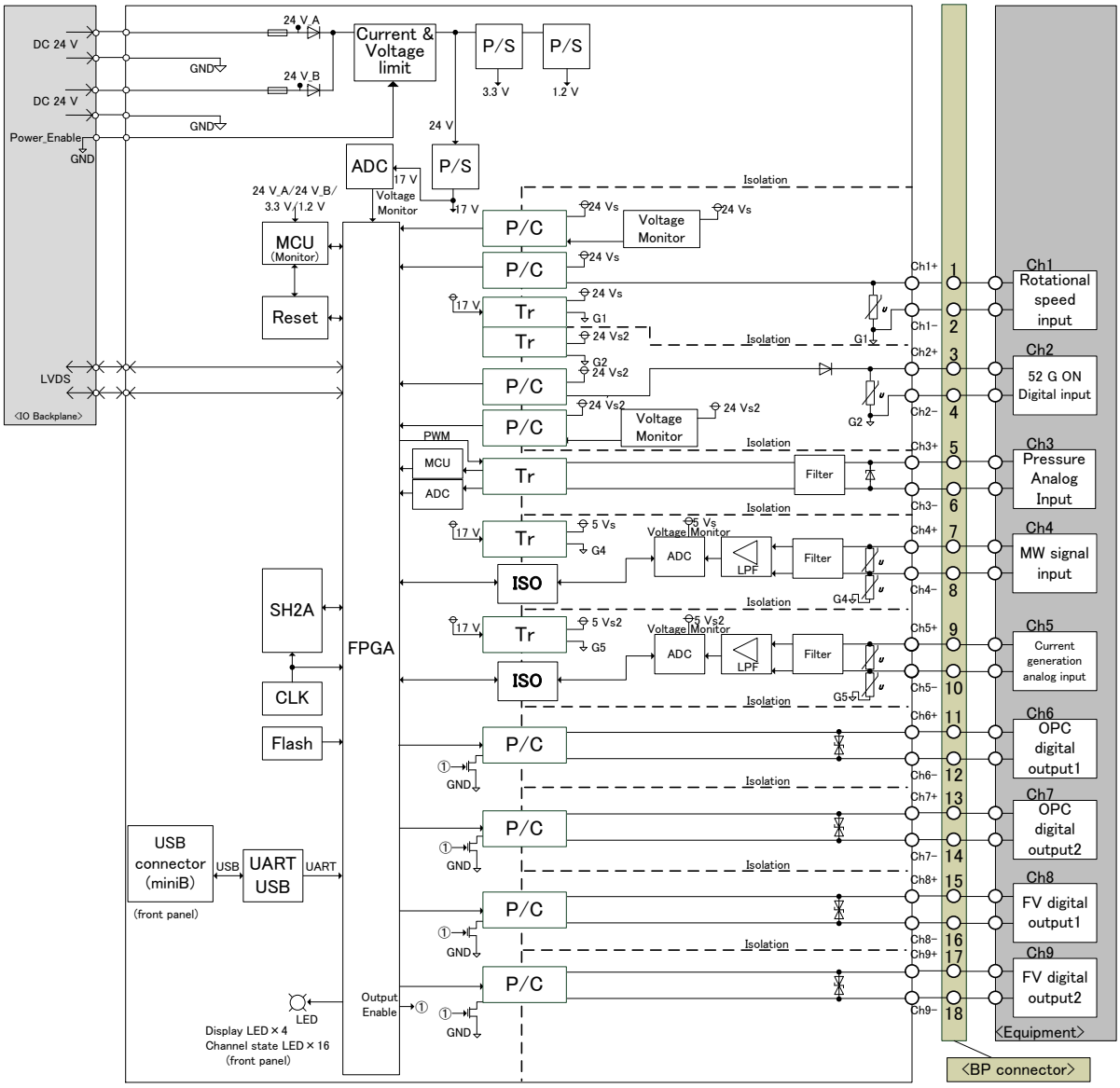
■Block diagram



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,G4,G5	:	Ground
LVDS	:	Low Voltage Differential Signaling	BP	:	Backplane
P/C	:	Photo Coupler	Tr	:	Transformer
PWM	:	Pulse width modulation	Flash	:	Flash ROM
	:	Varistor		:	Resistor
	:	Fuse		:	Diode
	:	Zener diode		:	Bidirectional diode

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