MITSUBISHI POWER

LSSVT11 Servo valve interface module

LS communication Transmitter Servo valve interface Valve position demand output (±20 mA/60 mA)

■Summary

＊Terminal block input / output unit

- ・52 G ON Digital input : 1
- ・External forced closed input : 1
- ・Valve position demand output : 1
  - 01 type : ±20 mA
  - 02 type : ±60 mA
- ・Valve position feedback input : 1
  - Distributor input

＊Auxiliary output connector

- ・Analog output : 3

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

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

■Overview Specifications

ITEM	SPECIFICATION
52 G ON Digital input	DC 24 V × 1, minimum ON Current 2 mA
External forced closed input	DC 24 V × 1, minimum ON Current 2 mA
Valve position demand output	±20 mA / ±60 mA × 1
Valve position feedback input	Distributor input × 1, 4 to 20 mA
Analog output(Auxiliary output connector)	1 to 5 V DC × 3
Self-diagnostic functions	Power voltage check, Clock abnormal check, Heartbeat check , CRC check, ADC communication error check, I/O signal range check
IDOL Implementation	Possible
Module Duplication	Supported (backplane uses LSIOB02 or LSIOB03) However, the signal of the auxiliary output connector does not support duplication
Indicator	Display LED × 4: Run / Status / Network status A / Network status B General purpose display LED × 16: Ch 1 to Ch 16 It can be arbitrarily set with internal logic
USB connector	1 (For maintenance communication mini-B)
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)

MITSUBISHI POWER

LSSVT11 Servo valve interface module

LS communication Transmitter Servo valve interface Valve position demand output (±20 mA/60 mA)

■Details Specifications

ITEM					SPECIFICATION	
Terminal block Input/output unit	Ch 1: 52G ON Digital input	Number of channels			1	
		Insulation method			Photocoupler insulation	
		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 2: External forced closed input	Number of channels			1	
		Insulation method			Photocoupler insulation	
		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,Ch 4: Valve position demand output *The type of 01/02 is switched by EMS	Number of channels			1	
		Insulation method			Digital isolator insulation	
		Dielectric strength			AC 1000 V Analog output terminal - PE Between	
		Rated output current			01 type	-20 to +20 mA (full scale)
					02 type	-60 to +60 mA (full scale)
		Rated load resistance			01 type	250 Ω
					02 type	40 Ω
		Load resistance range			01 type	40 to 400 Ω
					02 type	10 to 160 Ω
		Absolute precision		@25℃	01 type	±0.1% FS (±0.04 mA) @Calibration load (Factory shipped: 250 Ω)
					02 type	±0.1% FS (±0.12 mA) @Calibration load (Factory shipped: 40 Ω)
		Temperature drift		@-5 to 60℃	01 type 02 type	±100 ppm/°C (Against full scale)
		Output current monitor			Built-in	
			Absolute precision	@25℃	01 type	±0.3% FS (±0.12 mA) @Calibration load
					02 type	±0.3% FS (±0.36 mA) @Calibration load
			Temperature drift	@-5 to 60℃	01 type 02 type	±200 ppm/°C (Against full scale)
	Ch 5: Valve position feedback input (Distributor input)	Number of channels			1	
		Insulation method			Transformer insulation	
		Dielectric strength			AC 1000 V Analog input terminal - PE Between	
		Input current range			4 to 20 mA (full scale)	
		Output voltage			14.5 to 28 V (4 to 20 mA)	
		Absolute precision		@25℃	±0.15% FSD (±0.016 mA)	
		Temperature drift		@-5 to 60℃	±100 ppm/°C (Against full scale)	
Auxiliary output connector	Analog output	Number of channels			3	
		Insulation method			Digital isolator insulation	
		Dielectric strength			AC 500 V Analog output terminal - PE Between	
		Rated output voltage			1 to 5 V (full scale)	
		Minimum load resistance			2 kΩ	
		Absolute precision		@25℃	±0.3% FS (±0.12 mV)	
		Temperature drift		@-5 to 60℃	±200 ppm/°C (Against full scale)	
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 I/O signal range check (Analog input channel: Overrange, Underrange)	

DIASYS Netmation®

DIASYS Netmation 4S®

MOVE THE WORLD FORWARD MITSUBISHI HEAVY INDUSTRIES GROUP

Mitsubishi Power is a power solutions brand of Mitsubishi Heavy Industries.

MITSUBISHI POWER

LSSVT11 Servo valve interface module

LS communication Transmitter Servo valve interface Valve position demand output (±20 mA/60 mA)

ITEM		SPECIFICATION
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		Supported (backplane uses LSIOB02 or LSIOB03) However, the signal of the auxiliary output connector does not support duplication
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		240 mA or less
Weight		0.20 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) ".

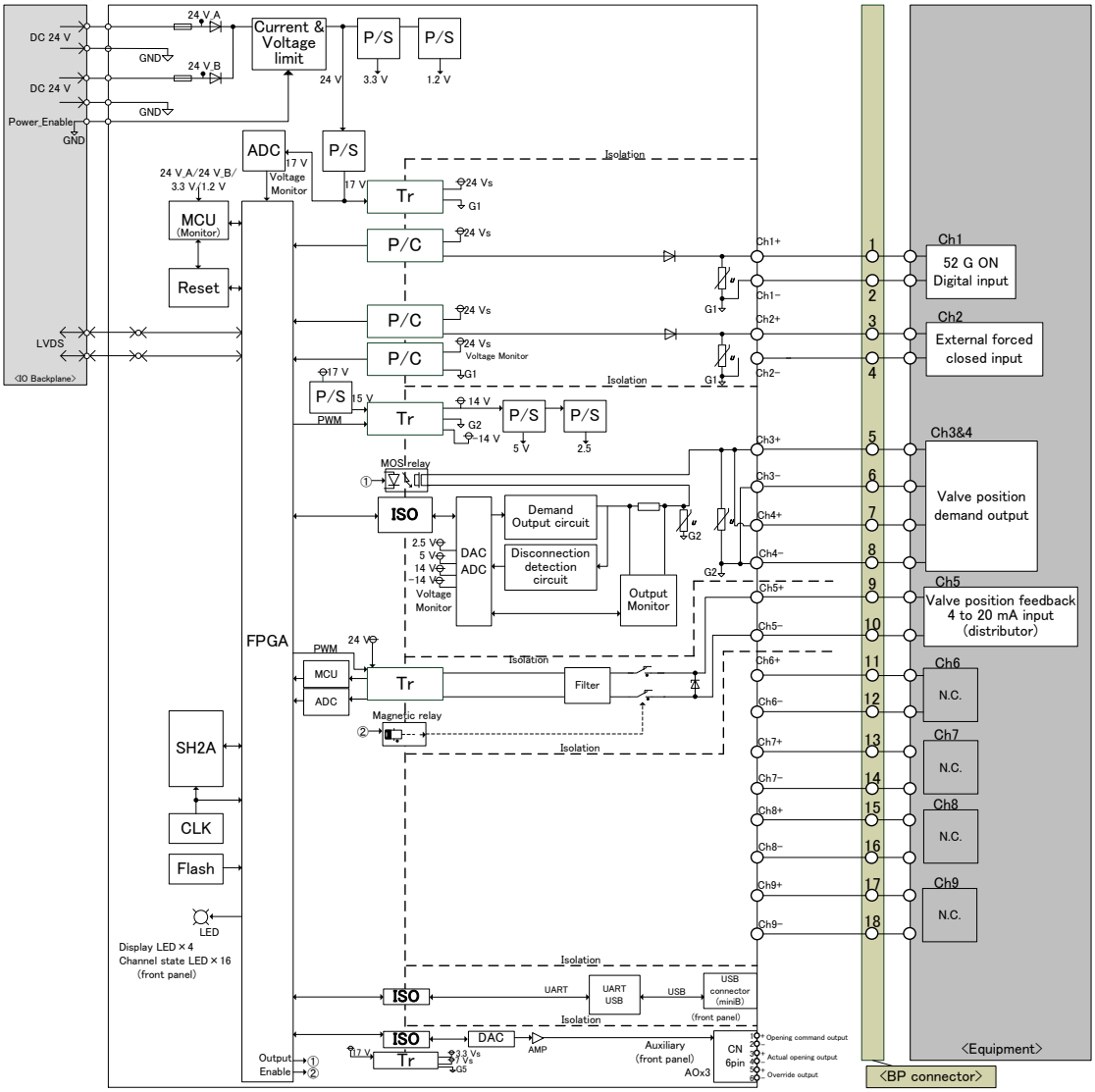
For compliant modules of this product, please refer to " Compliant accessory connector list (CGS-S9902-E-XX) ".

MITSUBISHI POWER

LSSVT11 Servo valve interface module

LS communication Transmitter Servo valve interface Valve position demand output (±20 mA/60 mA)

■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	:	Ground
LVDS	:	Low Voltage Differential Signaling	BP	:	Backplane
PWM	:	Pulse width modulation	DAC	:	Digital analog converter
AMP	:	Amplifier		:	Zener diode
P/C	:	Photo Coupler	Tr	:	Transformer
N.C	:	No Connection	CN	:	Connector
AO	:	Analog Output	Flash	:	Flash ROM
	:	Varistor		:	Resistor
	:	Fuse		:	Diode

DIASYS Netmation®
DIASYS Netmation4S®

MOVE THE WORLD FORW>RD MITSUBISHI HEAVY INDUSTRIES GROUP

Mitsubishi Power is a power solutions brand of Mitsubishi Heavy Industries.

CGS-S6601-E-10 (2023. 07. 31)