MITSUBISHI POWER
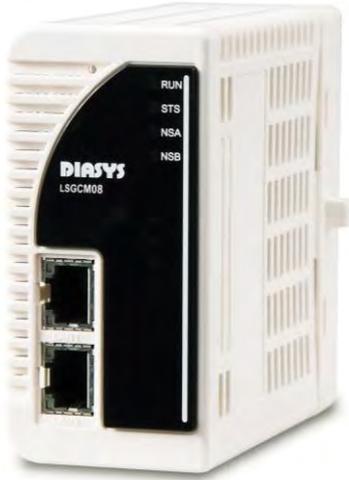
LSGCM08 ModbusTCP Communication module

LS communication　Modbus/TCP（Ethernet）: 1 ch

■Summary

＊Communication port 　　　　　: 1

＊Module ambient temperature 　: -5 to 60℃

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■Specifications

ITEM		SPECIFICATION
Communication port	Number of channels	1 *[1]
	Communication speed	100 Mbps / 10 Mbps *[2]
	Communication size	Input from all equipment: Maximum 5760 byte Output to all devices: Maximum 5760 byte
	Communication method	CSMA / CD method
	Number of connections	Maximum 16 devices
	Communication port number	502
	Communication mode	Client function, Supports server function *[3]
	Action mode	Supports both master mode and slave mode (Can not be used together)
	Function code	Supports the following function codes 　1:Coil　　　　　　　　　　Reading DO 　2:Input status　　　　　　Reading DI 　3:Holding register　　　　Reading AO 　4:Input register　　　　　Reading AI 　5:Coil　　　　　　　　　　Write 1 point to DO 　6:Holding register　　　　Write 1 point to AO 　15:Multiple coils　　　　　Batch writing to DO 　16:Multiple holding register　Batch writing to AO
	Number of registered commands	100 command *[4]
	Duplication correspondence	Possible (Two units installed, Data selection in CPU Application Logic) *[5]
Dielectric voltage		DC 500 V
Communication with IOA	Communicaton method	LVDS
	Communication speed	100 Mbps
Self-diagnostic functions		Power voltage check (24 V, 3.3 V, 1.5 V, 1.2 V) Clock abnormal check (FPGA–MCU for diagnosis, MCU for diagnosis –FPGA) Heartbeat check (FPGA=>MCU for diagnosis, MCU for diagnosis=>FPGA, FPGA=>MCU for communication) CRC check (FPGA) Exception interrupt check (MCU for communication) Check communication setting file (MCU for communication) Connection check with host computer (DPS, MPS, etc.) (MCU for communication) MODBUS communication check (MCU for communication)
Supported protocol		Modbus/TCP
Protection	(Power supply protection)	Overvoltage protection Overcurrent protection
Indicator	Status indicator LED	4: RUN(Run) / STS(Status) / NSA(Network status A) / NSB(Network status B)
	Communication status display LED	2 (LINK: 1, ACTIVE: 1)
Hot swap		Possible
Power supply		DC 24 V ±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 (No condensation)
Vibration		3.5 mm @ 5 Hz to 8.4 Hz 1 G @ 8.4 Hz to 150 Hz
Shock		15 G 11 ms
Rated Current		150 mA
Weight		0.165 kg
Dimensions		97 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) ″.

*[1] Although this communication port has 2 ports, it can be connected to either port.
　While shipping the product, one port of the Ethernet connector is plugged with a plug (cap), but please do not remove it.
　If it is removed and connected to both ports, operation may become unstable.
*[2] The communication speed is automatically recognized.
*[3] Specify one of them in the communication setting file. Both functions can not be used in the same module.
*[4] Depending on the system environment, adjustment such as slowing down the communication cycle is required.
*[5] It can be used as a redundant by installing two of this module, establishing two independent communication lines, and then selecting the data in the upper application logic.

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■Block diagram

Current & Voltage limit

P/S 1.2 V　P/S 3.3 V　24 V

P/S 5.0 V

DC 24 V
GND
DC 24 V
GND
Power_Enable
GND

24 V/3.3 V/1.2 V Monitoring

P/S 3.3 V
1.5 V

Reset　MCU

1.5 V Monitoring

SECRURITY MEM　SD RAM

3.3 V
1.5 V

Pulse Transformer

Ethernet Communication equipment　CH1

RJ45

RJ45

netX100

MCU　3.3 V

FPGA　3.3 V　1.2 V

LVDS

<IO Backplane>

CLK　SPI Flash　Reset　POR

GND　GND

EX RST　CLK　Flash　LED

<GCM_SUB>

<Stacing connector>

<GCM_BASE>

<GCM>

<Field>

P/S	:	Power supply
CLK	:	Clock
FPGA	:	Field programmable gate array
LED	:	Light emitting diode
MCU	:	Micro control unit
GND	:	Ground
Serial GNDx	:	Isolation ground
LVDS	:	Low Voltage Differential Signaling
BP	:	BackPlane
▭	:	fuse
◁	:	diode

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