SMART I/O | Stand alone type

Features

- Wiring reduction and real time control of distributed I/O
- Supporting Rnet, DeviceNet, Profibus-DP, MODBUS (RS-422/485)
- Various I/O (DC/TR/Relay) modules with the unit of 16/32 points

Digital I/O specifications

Item		Input		Output			Mixed module	
		DC (Sink/Source)		Transistor (Sink)		Relay	DC (Sink/Source)	Transistor (Sink)
No. of point		16	32	16	32	16	16	16
Rated input (Load voltage)		DC 24 V		DC 24 V		DC 24 V/AC 110 V/220 V	DC 24 V	DC 24 V
Input current (Load current)		7 mA		0.1 A/2 A, 0.5 A/3 A		2 A/5 A	7 mA 0.1 A/2 A, 0.5 A/3 A	
Response time	Off→On	3 ms or less		3 ms or less		3 ms or less	3 ms or less	3 ms or less
	On→Off	3 ms or less		3 ms or less		3 ms or less	3 ms or less	3 ms or less
Common		16 points/COM		16 points/COM		16 points/COM	16 points/COM	16 points/COM
Current consumption		200 mA	300 mA	280 mA	380 mA	550 mA	350 mA	
Network	Rnet	GRL-D22A	GRL-D24A	GRL-TR2A	GRL-TR4A	GRL-RY2A	GRL-DT4A	
	Profibus-DP	GPL-D22A●	GPL-D24A●	GPL-TR2A▲	GPL-TR4A▲	GPL-RY2A●	GPL-DT4A▲	
	DeviceNet	GDL-D22A●	GDL-D24A●	GDL-TR2A▲	GDL-TR4A▲	GDL-RY2A●	GDL-DT4A▲	
	MODBUS	GSL-D22A	GSL-D24A	GSL-TR2A	GSL-TR4A	GSL-RY2A	GSL-DT4A	

Note1) Specification stated in the table is specification of type A.
Refer to XGT user' s manual.
● A, C ▲ A, A1, B, C, C1

A Sink, Rated current: 0.1A, terminal fixed type
A1 Sink, Rated current: 0.5A, terminal fixed type
B Source, Rated current: 0.5A, terminal fixed type
C Source, Rated current: 0.5A, terminal separated type
C1 Sink, Rated current: 0.5A terminal separated type

Analog I/O specifications

Item	GPL-AV8C	GPL-AC8C	Item	GPL-DV4C	GPL-DC4C
Input channels	8 channels		Output channels	4 channels	
Analog input	DC 1~5 V, 0~5 V, 0~10 V,	0~20 mA, 4~20 mA,	Digital input	0~4000, 0~8000, -8000~8000	0~8000
	-10~+10 V	- 20~20 mA	Analog output	DC 1~5 V, 0~5 V, 0~10 V,	0~20 mA, 4~20 mA
Digital output	0~4000, 0~8000, -8000~8000	0~4000, -8000~8000		-10~+10 V	
Input impedance	1 MΩ	250 Ω	Load impedance	1 KΩ or more (0~5 V or 1~5 V)	
Max. resolution	±15 V	±30 mA		2 KΩ or more (0~10 V or -10~10 V)	500 Ω or less
	1.25 mV	2.5 μA	Resolution	1.25 mV	2.5 μA
Accuracy	±0.3% (full scale, Ta=0~55 °C)	±0.3% (full scale, Ta=23 °C±5 °C)	Accuracy	±0.3% (full scale, Ta=0~55 °C)	±0.3% (full scale, Ta=23 °C±5 °C)
		±0.4% (full scale, Ta=0~55 °C)			±0.4% (full scale, Ta=0~55 °C)
Conversion speed	10 ms or less/8 channel		Conversion speed	10 ms or less/4 channel	
Response period	10 ms or less/8 channels + Transmission period (ms)		Response period	10 ms or less/8 channels + Transmission period (ms)	
	Analog input/output terminal with FG→Insulation			Analog input/output terminal with FG→Insulation	
Insulation method	Analog input/output terminal with Communication terminal→Insulation		Insulation method	Analog input/output terminal with Communication terminal→Insulation	
	Analog input/output terminal with each channel→No insulation			Analog input/output terminal with each channel→No insulation	
External power supply	DC 24 V (21.6 ~ 26.4)		External power supply	DC 24 V (20.4 ~ 28.8)	
External current consumption	DC 24 V : 220 mA		External current consumption	210 mA	240 mA
Weight (kg)	0.313	0.313	Weight (kg)	0.314	0.322

Communication specifications

Item	Rnet (LS dedicated network)	Profibus-DP	DeviceNet	MODBUS
Protocol	LSIS dedicated protocol (Fnet for Remote)	Profibus-DP (RS-485/EN50170)	DeviceNet (CAN)	MODBUS (RS-422/485)
Transmission speed	1 Mbps	9.6 Kbps ~ 12 Mbps	125/250/500 Kbps	2.4 Kbps ~ 38.4 Kbps
Transmission distance	750 m/segment	100 m ~ 1.2 km	500/250/125 m (Thin cable: 100 m)	500 m
Topology	Bus Token	Bus	Trunk & Drop	Bus
Transmission	Pass & Broadcast	Token Pass & Master/Slave (Poll)	CSMA/NBA (Poll, Cyclic, COS, Bit Strobe)	Master/Slave (Poll)
No. of stations	32/segment (Input: 32, Output: 32)	32/segment, 99/network	64	32
Link capacity	2,048 points/master (64 stations ×32 points)	7 Kbyte/master	2,048 points/master	64 points/station

Note1) Smart I/O supports Poll type currently, but is supposed to support Cyclic, COS and Strobe later on.

SMART I/O | Expandable type

Modbus TCP, EtherNet/IP

DeviceNet

Profibus-DP

Features

- Easy configuration of remote system using XGB expansion I/O
- Up to 8 modules expandable with Network adapter
- Max. 256-point digital I/O
- Max. 16-channel analog I/O
- Network adapter: Profibus-DP, DeviceNet, Rnet, Modbus TCP, EtherNet/IP

DeviceNet specification

Item		Specification		
Communication Mode		Poll, Bit-strobe, COS, Cyclic		
Topology		Bus, Trunk and Drop		
Master/Slave		Slave		
Baud rate/	kbps	125	250	500
Distance	m	500	250	100
Max. Node Number (MAC ID)		64 (0~63)		
Number of Expansion I/O Slots		8		
I/O Data Size		64bytes (Input: 32bytes/Output: 32bytes)		
Max. Analog Channels		32Chs (Input: 16Chs/Output: 16Chs)		
Power	Input	19.2V ~ 28.8V		
	Output	5V(±20%)/1.5A		
Weight		100g		

* When I/O module is installed, check the current consumption (Max. Current: 1.5A)

Modbus TCP, EtherNet/IP Specification

Item		Specification
International standard		IEEE 802.3
Protocol		Modbus TCP, EtherNet/IP
Topology		Line(Daisy-Chain), Star
Max. Protocol size		1500bytes
Flow control		Full duplex, Half duplex
Baud rate		10/100Mbps
Max. Distance between node		100m
Communication port		RJ-45 (2Ports, Switch Built-in)
IP Setting		Software setting
Number of Expansion I/O Slots		8
I/O Data size		64bytes (Input: 32bytes/Output: 32bytes)
Max. Analog channels		32Chs (Input: 16Chs/Output: 16Chs)
Power	Input	19.2V ~ 28.8V
	Output	5V(±20%)/1.5A
Weight		100g

* When I/O module is installed, check the current consumption (Max. Current: 1.5A)

Profibus-DP Specification

Item		Specification				
Media Access		Poll				
Topology		Bus				
Master/Slave		Slave				
Baud rate/ Distance	kbps	9.6	19.2	93.75	187.5	500
	m	1200	1200	1200	1000	400
	kbps	1500	3000	6000	12000	-
	m	200	100	100	100	-
Max. Node Number		100 (0~99)				
Number of Expansion I/O Slots		8				
I/O Data Size		64bytes (Input: 32bytes/Output: 32bytes)				
Max. Analog Channels		32Chs (Input: 16Chs/Output: 16Chs)				
Power	Input	19.2V ~ 28.8V				
	Output	5V(±20%)/1.5A				
Weight		100g				

* When I/O module is installed, check the current consumption (Max. Current: 1.5A)