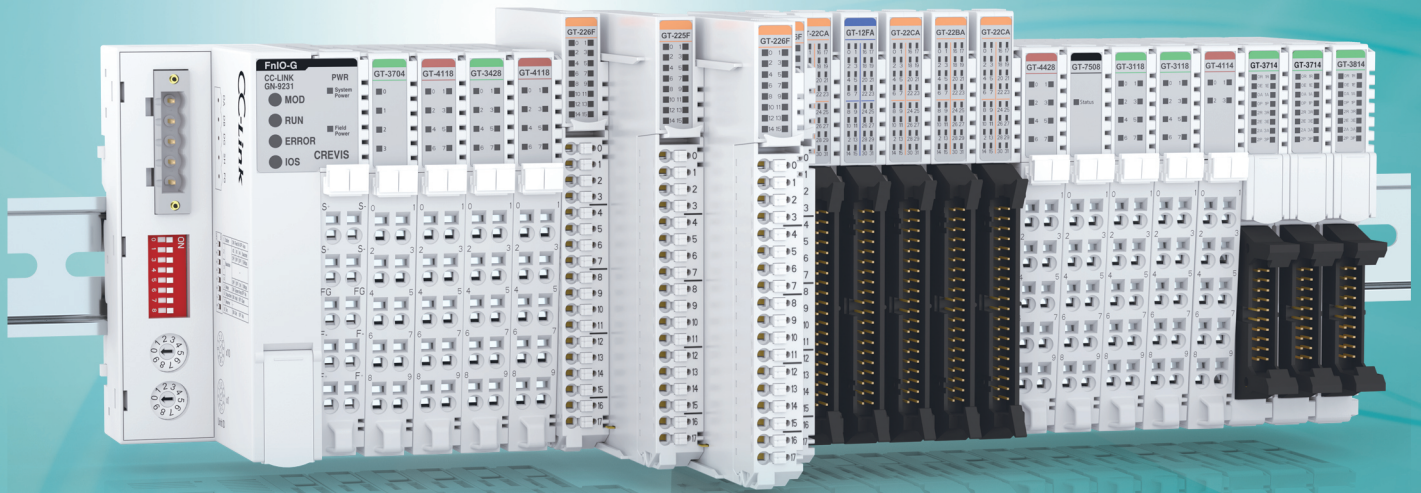




FnIO G - Series

Get Smart Things for Industrial Automation



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Network Adapter

GN/GL-9xxx

MODBUS TCP, EtherNet IP, PROFINET, EtherCAT, CC-Link IE, CC-Link IE Field Basic, PROFIBUS, MODBUS RS485, CC-Link, DeviceNet, CANopen, BACnet, MODBUS RTU

PIO

GN/GL-9xxx

MODBUS
EtherCAT

Digital Input

GT-1xxx

- DC : 8, 16, 32 ch
- Diagnostic :
In (Sink) + Out (Source)
- AC : 4 ch

Digital Output

GT-2xxx

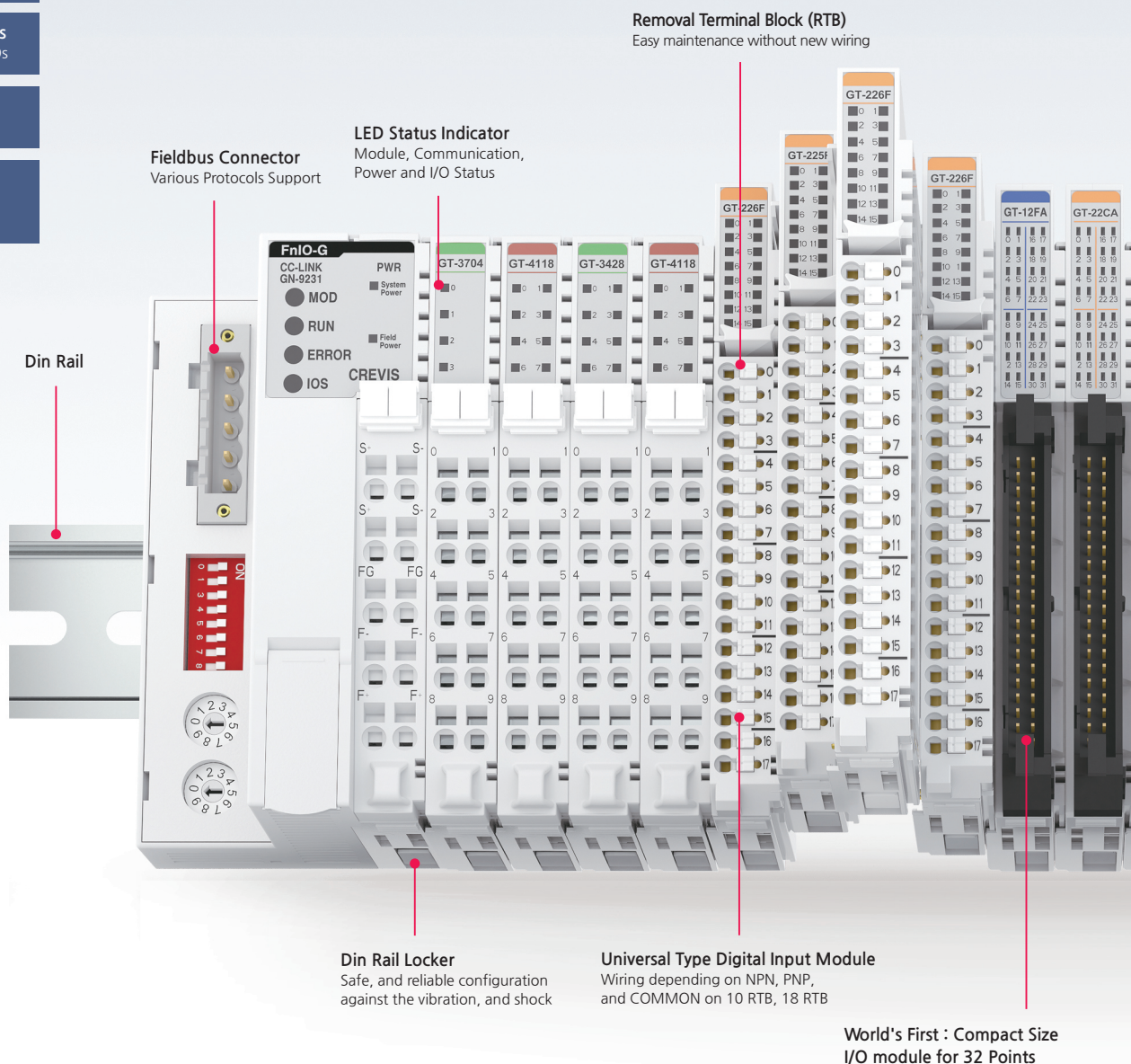
- Sink : 8, 16, 32 ch
- Source : 8, 16, 32 ch
- Diagnostic : sink, source
- Relay

Various types of protocols
Over 10 protocols available

Wide range of modules
More than 90 different I/Os

Fast Internal Bus
<1ms (128 Bytes)

Operating Temp
-20 to 60°C (UL)
-40 to 70°C



Analog Input

GT-3xxx

- Single Ended (Current): 4, 8, 16 ch
- Single Ended (Voltage): 4, 8, 16 ch
- Differential (Current/Voltage): 4, 8 ch
- Temperature Module (RTD/T.C.): 4, 8 ch
- Temp. Controller (RTD/T.C.): 4 ch
- AC Measurement
- Load cell

Analog Output

GT-4xxx

- Single Ended (Current): 4, 8 ch
- Single Ended (Voltage): 4, 8, 16 ch

Special Module

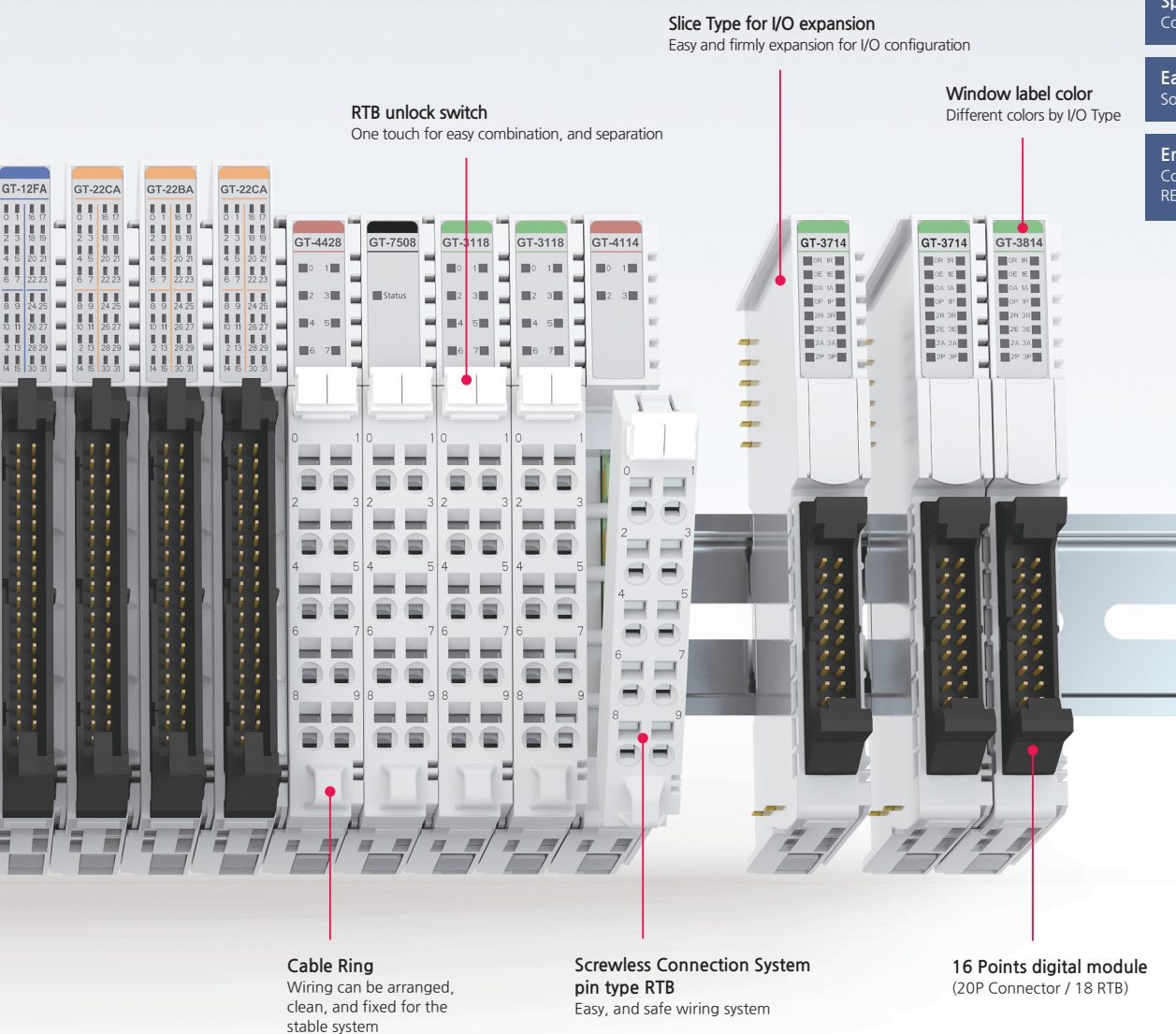
GT-5xxx

- Encoder
- Serial Interface
- Pulse
- Stepper

Power Module

GT-7xxx

- Shield
- Common: 0, 24 Vdc
- Expansion
- Field Power Distribution



Easy Maintenance
User Friendly Design

Space-Saving
Compact Size & Expendable Modules

Easy Configuration
Software 'I/O Guide Pro'

Environmental Compliance
Complying with RoHS3, China RoHS, REACH and WEEE

I/O Guide Pro

To help users' I/O configuration

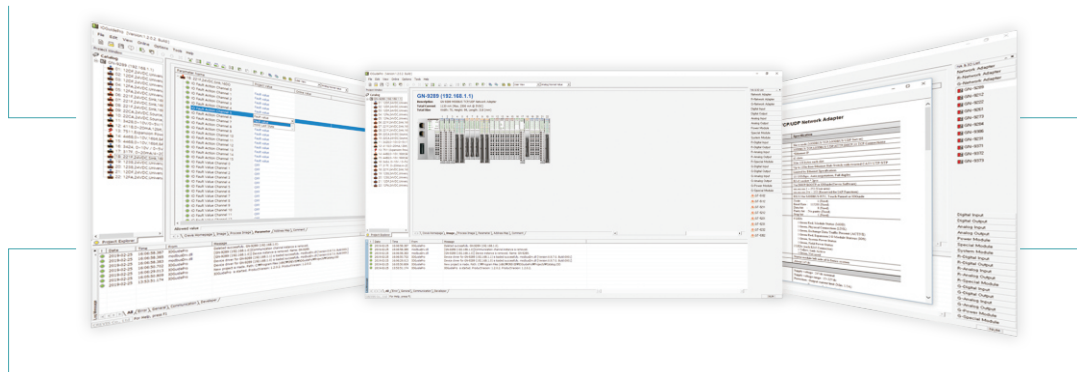
Simple Software Tool for User Convenience

Simulation

Enable to review configuration without modules via I/O Guide Pro
Dimension, Power Consumption, Possibility of expansion

Checking validation

Checking the system error and message

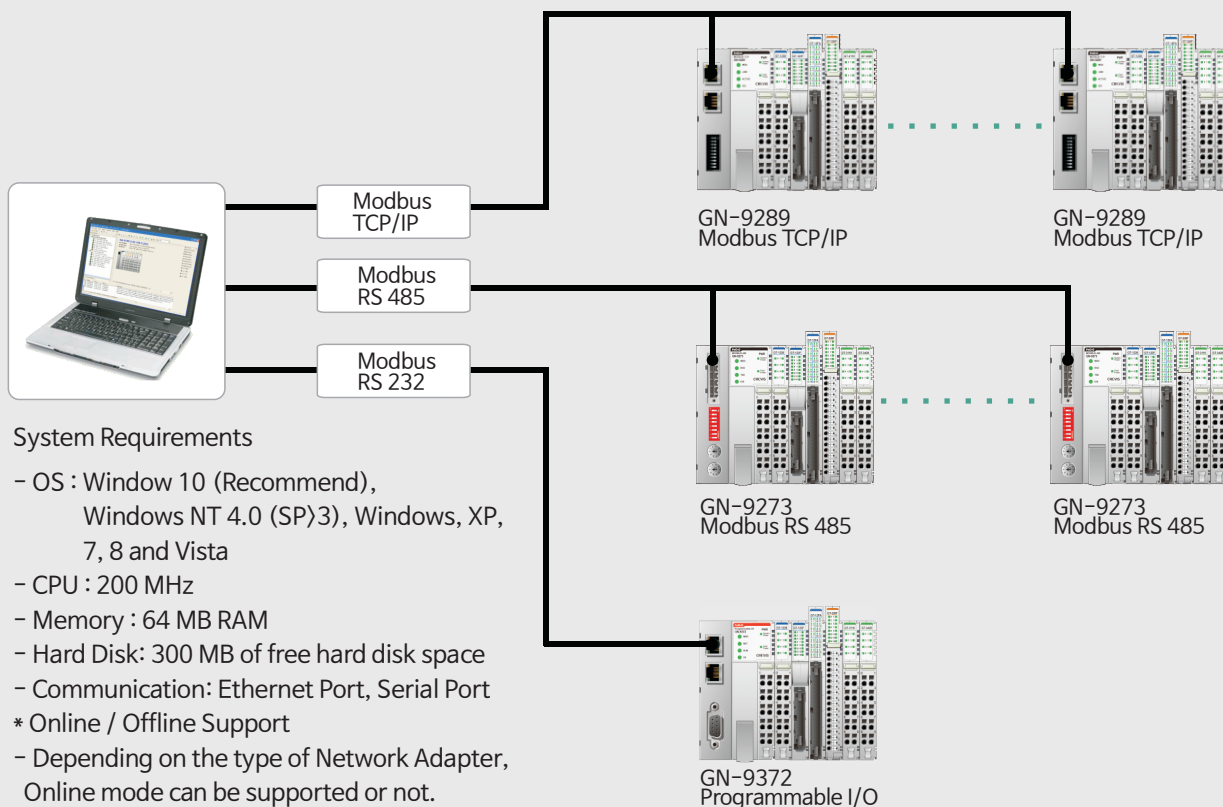


Parameter setting and View Address Map

Enable to change parameters of modules easily
Displaying input/output address map

BOOTP Server and Automatic Scan

IP setting and connecting communication online without a master
*Online - MODBUS protocol available



System Requirements

- OS : Window 10 (Recommend),
Windows NT 4.0 (SP)3, Windows, XP,
7, 8 and Vista
- CPU : 200 MHz
- Memory : 64 MB RAM
- Hard Disk: 300 MB of free hard disk space
- Communication: Ethernet Port, Serial Port
- * Online / Offline Support
- Depending on the type of Network Adapter,
Online mode can be supported or not.

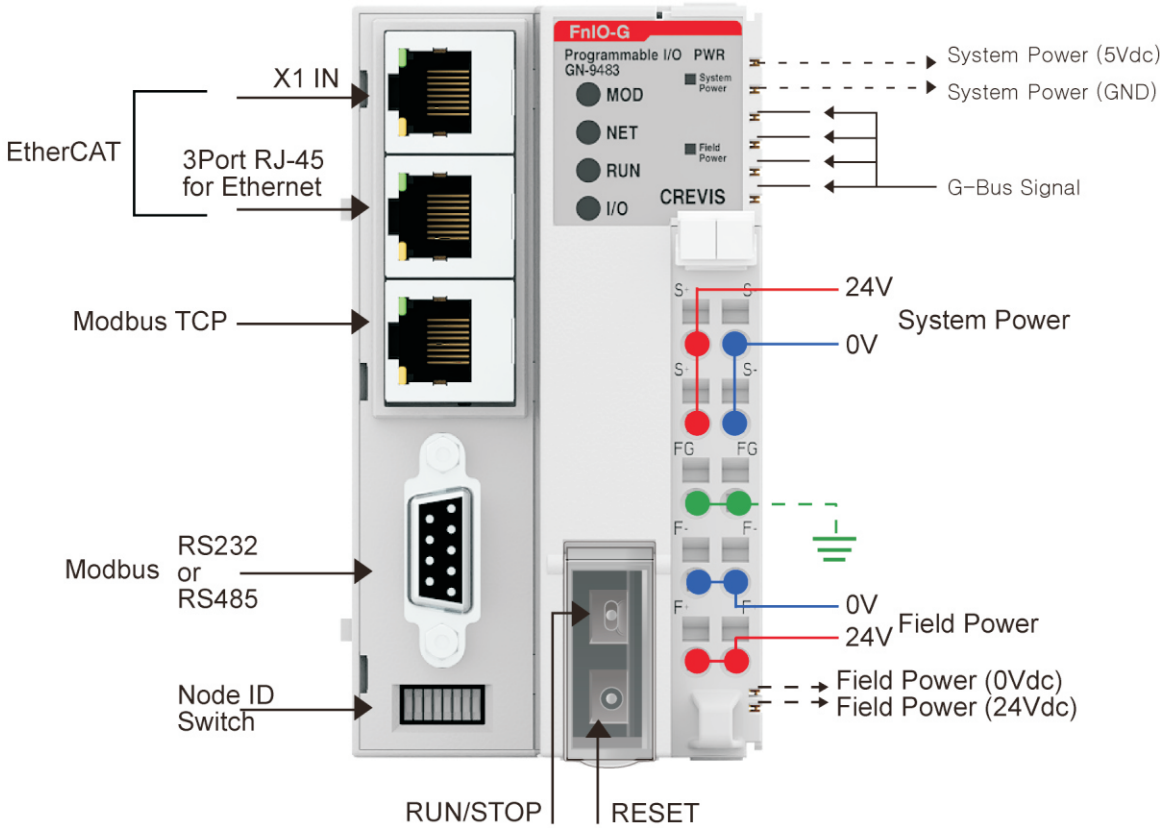
NEW

Programmable I/O (EtherCAT/MODBUS)



Programmable I/O (CODESYS Version 3.5.11.3)		GN-9481	GN-9482	GN-9483
Memory	Program Memory	512 Kbytes	16 Mbytes	
	Data Memory	96 Kbytes	16 Mbytes	
	Non Volatile Memory	4 Kbytes	32 Kbytes	
Program Languages / Run Time System / RTC		IEC 61131-3 (LD, IL, ST, FBD, SFC, CFC) / Multiple PLC Tasks / Retain Time : 15 days		
OPC Server (DA), Online Change, Breakpoint, Source Up/Download, File Transmit		Not supporting	supporting	
Webvisualization		Not Supporting		supporting
Process Time		1usec (90 Instructions)	7usec (90 Instructions)	
Max. Task / Max. Cycle Task / Max. Status Task		10		
Controller Type *(Master, Slave)		Modbus TCP/UDP, Modbus RTU *(Master/Slave) EtherCAT *(Slave)		
Protocol		EtherCAT Protocol / Ethernet Protocol (Modbus/TCP, Modbus/UDP), SNMP HTTP (Webvisualization, Web-Server), DHCP/BOOTP / Serial Protocol (Modbus RTU)		
Max. Node / Max. I/O Expansion / I/O Data Size		Limited by EtherCAT / Etherent specification / 63 Slots / Max 128 Byte each slot		
Baud Rate		Ethernet (10/100 Mbps) / EtherCAT (100 Mbps) / Modbus RTU (2400~115200 bps)		
Connector Type		3 x RJ-45		
System & Field Power / Power Dissipation / Current for IO Module		Supply voltage : 24Vdc (15~32Vdc) / 110mA typical @ 24Vdc / 1.5A @5Vdc		
Dimensions		54mm x 99mm x 70mm		

Wiring Diagram

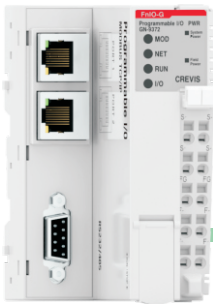


Programmable I/O (MODBUS)



프로그래머블 I/O (CODESYS Version 3.5.11.3)		GL-9971	GN-9371	GN-9372	GN-9373
Memory	Program Memory	256 Kbytes	512 Kbytes	16 Mbytes	
	Data Memory	40 Kbytes	96 Kbytes	16 Mbytes	
	Non Volatile Memory	4 Kbytes			32 Kbytes
Program Languages / Run Time System / RTC		IEC 61131-3 (LD, IL, ST, FBD, SFC, CFC) / Multiple PLC Tasks / Retain Time : 15 days			
OPC Server (DA) , Online Change, Breakpoint, Source Up/Download, File Transmit		Not supporting			supporting
Webvisualization		Not Supporting			supporting
Process Time		1usec (90 Instructions)			7usec (90 Instructions)
Max. Task / Max. Cycle Task / Max. Status Task		10			
Controller Type *(Master, Slave)		Modbus TCP *(Master/Slave)	Modbus TCP/UDP Modbus RTU *(Master/Slave)		
Protocol		Ethernet Protocol (Modbus/TCP, Modbus/UDP), SNTP HTTP (Web-Server), DHCP/BOOTP	Ethernet Protocol (Modbus/TCP, Modbus/UDP), SNTP HTTP (Webvisualization, Web-Server), DHCP/BOOTP / Serial Protocol (Modbus RTU)		
Max. Node / Max. I/O Expansion / I/O Data Size		Limited by EtherCAT/Etherent specification / 63 Slots (GN-937X), 10 Slots (GL-9971) / Max 128Byte each slot			
Baud Rate		Ethernet (10/100 Mbps)	Ethernet (10/100 Mbps) / Modbus RTU (2400~115200 bps)		
Connector Type		2 x RJ-45			
System Power		Supply voltage : 24Vdc nominal (15~28.8Vdc)			
Field Power		Supply voltage : 24Vdc typical (Max. 32Vdc)			
Power Dissipation / Current for I/O Module		60mA typical @24Vdc / 1A@5Vdc	110mA typical @ 24Vdc / 1.5A@5Vdc		
Dimensions		22mm x 109mm x 70mm	54mm x 99mm x 70mm		

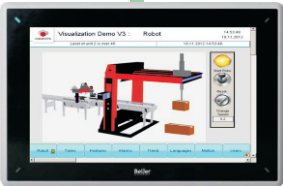
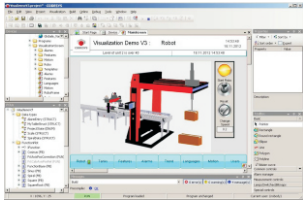
CODESYS PLC



Supporting CODESYS V3
Monitoring, and controlling on the web browser via the web visualization feature of CODESYS

Supporting the programming languages like LD, FBD, IL, ST, SFC, CFC based on IEC 61131-3

MODBUS TCP/IP



Supporting MODBUS TCP master or slave type
Supporting MODBUS RTU master or slave type
Connecting other industrial devices via an OPC server

Network Adapter

Network Adapter	GN-9212	GN-9222	GN-9261	GN-9273	GN-9231	GN-9284
Protocol	DeviceNet	PROFIBUS	CANopen	MODBUS RS485	CC-Link	CC-Link IE Field Basic
Max. Node	64 Nodes	125 Nodes	99 Nodes		42 Nodes	64 Nodes
Max. I/O Expansion	63 Slots					32 Slots
I/O Data Size	Max 128 bytes each slot	Input : 244 bytes Output : 244 bytes	Input : 252 bytes Output : 252 bytes	Max 128 bytes each slot	System area : 16 Point RX/RY : 112 points (4 Station occupied) RWr/RWw : 16 points (4 Station occupied)	RX/RY : 32 bytes each (4 Station occupied) RWr/RWw : 256 bytes each (4 Station occupied)
Baud Rate	125Kbps (Max. 500m) 250Kbps (Max. 250m) 500Kbps (Max. 100m)	9.6K (1.2Km) ~ 12Mbps (100m)	10, 20, 50, 100, 125, 250, 500, 800, 1000 Kbps (default 1000Kbps)	1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200bps	156/625/2500/5000 /10000 Kbps	10/100 Mbps, Full duplex
Connector Type	5 Pin Open-Style	9 Pin D-Sub	5 Pin Open-Style			
Power Dissipation	70mA @ 24Vdc	100mA @ 24Vdc	70mA @ 24Vdc			
Protection	Min. 1.5A					
Current for I/O Module	1.5A @ 5Vdc					
System/ Field Power	24Vdc nominal (15~32Vdc) / 24Vdc typical (Max. 32Vdc) * Field Power Range is different depending on IO Module series. Refer to IO Module's Specification					
Dimensions	54mm x 99mm x 70mm					

Network Adapter	GN-9285	GN-9386	GN-9287	GN-9587	GN-9289	GN-9251
Protocol	CC-Link IE	EtherCAT (ID Type)	PROFINET, Modbus RTU	PROFINET, Modbus RTU, DCP-Hello	MODBUS TCP, Ethernet IP	BACNET
Max. Node	120 Nodes	65,535 Nodes	Limited by Ethernet Spec.			
Max. I/O Expansion	63 Slots		32 Slots		63 Slots	32 Slots
I/O Data Size	Max 128 bytes each slot		Max 1440 bytes	Max 1024 bytes	Max 128 bytes each slot	Object Size : 256 object
Baud Rate	1 Gbps, Full duplex	100 Mbps	100 Mbps, Full duplex			
Connector Type	2 x RJ-45					
Power Dissipation	140mA @ 24Vdc	70mA @ 24Vdc		80mA @ 24Vdc	70mA @ 24Vdc	
Protection	Min. 1.5A					
Current for I/O Module	1.5A @ 5Vdc					
System/ Field Power	24Vdc nominal (15~32Vdc) / 24Vdc typical (Max. 32Vdc) * Field Power Range is different depending on IO Module series. Refer to IOModule's Specification					
Dimensions	54mm x 99mm x 70mm					

네트워크 어댑터	GL-9089	GL-9087	GL-9084	GL-9073
Protocol	MODBUS TCP, Ethernet IP	PROFINET	CC-Link IE Field Basic	MODBUS RTU
Max. Node	Limited by Ethernet Spec.		64 Nodes	99 Nodes
Max. I/O Expansion	16 Slots	10 Slots	16 Slots	
I/O Data Size	Max 256 bytes	Max 128 bytes	Max 256 bytes	
Baud Rate	10/100Mbps, Full duplex	100Mbps, Full duplex	10/100Mbps, Full duplex	2400, 4800, 9600, 19200, 38400, 57600, 115200bps
Connector Type	2 x RJ-45			
Power Dissipation	75mA typical @ 24Vdc	55mA typical @ 24Vdc	60mA typical @ 24Vdc	75mA typical @ 24Vdc
Protection	Reverse polarity protection			
Current for I/O Module	1A @ 5Vdc			
System/ Field Power	24Vdc nominal (15~32Vdc) / 24Vdc typical (Max. 32Vdc) *Field Power Range is different depending on IO Module series. Refer to IO Module's Specification			
Dimensions	22mm x 109mm x 70mm			

- * Caution – System Power and Field Power must be sepearted
- * Note – Product specifications, terms and offerings are subject to change without notice.

Remote I/O

Digital Input						
DC	Channel	Type	Voltage	Signal Delay (OFF to ON/ ON to OFF)	Power Dissipation	Connector
GT-1238	8	Universal	24 Vdc	0.3ms/ 0.3ms	35 mA	10 RTB
GT-123F	16			0.3ms/ 0.3ms	50 mA	20P Connector
GT-12DF	16			0.3ms/ 0.3ms	50 mA	18 RTB
GT-12FA	32			0.2ms/ 0.2ms	55 mA	40P Connector
GT-1428	In (8) / Out (8)	In (Sink) / Out(Source) - Diagnostic		In: 0.3ms / 0.3ms Out: 0.1ms/ 0.35ms	55 mA	18 RTB

Digital Input						
AC	Channel	Type	Voltage	Signal Delay (OFF to ON/ ON to OFF)	Power Dissipation	Connector
GT-1804	4	AC Input Terminal	120 Vac	30mS/ 130mS	30 mA	10 RTB
GT-1904	4		240 Vac	30mS/ 140mS	30 mA	10 RTB

Digital Output						
Sink	Channel	Type	Voltage	Signal Delay (OFF to ON/ ON to OFF)	Power Dissipation	Connector
GT-2318	8	Sink	24 Vdc	0.3ms/ 0.3ms	45 mA	10 RTB
GT-221F	16			0.5mS/ 0.5ms	50 mA	20P Connector
GT-225F	16			0.3mS/ 0.5ms	50 mA	18 RTB
GT-22BA	32			0.3mS/ 0.5ms	65 mA	40P Connector
GT-2618	8			0.3ms/ 0.3ms	50 mA	10 RTB
GT-2418	8	Sink - Diagnostic	24 Vdc	0.3ms/ 0.3ms	50 mA	18 RTB
Source	Channel	Type	Voltage	Signal Delay (OFF to ON/ ON to OFF)	Power Dissipation	Connector
GT-2328	8	Source	24 Vdc	0.3ms/ 0.3ms	40 mA	10 RTB
GT-222F	16				50 mA	20P Connector
GT-226F	16				50 mA	18 RTB
GT-2628	8				45 mA	10 RTB
GT-22CA	32			0.3ms/ 0.5ms	65 mA	40P Connector
GT-2428	8	Source - Diagnostic	24 Vdc	0.5ms/ 0.5ms	35 mA	18 RTB
Relay	Channel	Type	Voltage	Signal Delay (OFF to ON/ ON to OFF)	Power Dissipation	Connector
GT-2734	4	MOS Relay (Solid State)	240 Vac/240 Vdc	0.6ms/ 3ms	80 mA	10 RTB
GT-2738	8			0.5ms/ 2.5ms	130 mA	18 RTB
GT-2744	4	Relay Output (Form A, SPST)	0~32 Vdc/48 Vdc/ 110 Vdc/240 Vac	5 ms/ 8 ~ 15ms	35 mA	10 RTB
GT-2764	4	MOS Relay (Solid State)	24 Vac / 24 Vdc	1 ms/ 3 ~ 3.5ms	80 mA	10 RTB
GT-2768	8			0.5 ms/ 3ms	130 mA	18 RTB
GT-2784	4		110 Vac/110 Vdc	1 ~ 1.5ms/ 3 ms	80 mA	10 RTB
GT-2788	8			1ms/ 3.5 ms	130 mA	18 RTB

Analog Input						
LoadCell	Channel	Type	Range	Resolution	Power Dissipation	Connector
GT-3002	2	Strain Gauge	-150~150 mV	24 Bits	25 mA	18 RTB
Single Ended	Channel	Type	Range	Resolution	Power Dissipation	Connector
GT-3114	4	Current	0~20, 4~20 mA	12 Bits	25 mA	10 RTB
GT-3154	4			16 Bits	25 mA	10 RTB
GT-3118	8			12 Bits	30 mA	10 RTB
GT-3158	8			16 Bits	30 mA	10 RTB
GT-311F	16			12 Bits	30 mA	20P Connector
GT-315F	16			16 Bits	30 mA	20P Connector
GT-317F	16			12 Bits	200 mA	18 RTB
GT-319F	16			16 Bits	200 mA	18 RTB
Single Ended	Channel	Type	Range	Resolution	Power Dissipation	Connector
GT-3424	4	Voltage	0~10, 0~5, 1~5Vdc	12 Bits	25 mA	10 RTB
GT-3464	4			16 Bits	25 mA	10 RTB
GT-3428	8			12 Bits	30 mA	10 RTB
GT-3468	8			16 Bits	30 mA	10 RTB
GT-342F	16			12 Bits	30 mA	20P Connector
GT-346F	16			16 Bits	30 mA	20P Connector
GT-347F	16			12 Bits	210 mA	18 RTB
GT-349F	16			16 Bits	210 mA	18 RTB
Differential	Channel	Type	Range	Resolution	Power Dissipation	Connector
GT-3914	4	Current	0~20, 4~20, -20~20 mA	12 Bits	30 mA	10 RTB
GT-3934	4			16 Bits	30 mA	10 RTB
GT-3918	8			12 Bits	200 mA	18 RTB
GT-3938	8			16 Bits	200 mA	18 RTB
GT-3924	4	Voltage	0~5, 0~10, -5~5, -10~10 Vdc	12 Bits	30 mA	10 RTB
GT-3944	4			16 Bits	30 mA	10 RTB
GT-3928	8			12 Bits	200 mA	18 RTB
GT-3948	8			16 Bits	200 mA	18 RTB
Temperature	Channel	Type	Sensor Type	Accuracy	Power Dissipation	Connector
GT-3704	4	RTD	PT50, PT100, PT200, PT500, PT1000, JPT50, JPT100, JPT200, JPT500, JPT1000, NI100, NI120, NI200, NI500, NI1000, NI1000LG	± 0.1% @25℃	130 mA	10 RTB
GT-3708	4			± 0.3% @-40~70℃	130 mA	20P Connector
GT-3804	4	T.C. (Thermocouple)	Type K/J/T/B/R/S/E/N/L/U/C/D, 10uV/1uV/2uV	± 0.1% @25℃	120 mA	10 RTB
GT-3808	8			± 0.3% @-40~70℃	120 mA	20P Connector

Temp. Control	Channel	Type	Sensor Type	Accuracy	Power Dissipation	Connector
GT-3714	4	Temperature Controller (RTD)	PT 50, PT 100, JPT 100, NI 100, NI 120, CU 10	± 0.1% @25°C	50 mA	20P Connector
GT-3734	4				50 mA	20P Connector
GT-3814	4	Temperature Controller (Thermocouple)	Type K/J/T/B/R/S/E/N/L/U/C/D	± 0.1% @25°C ± 0.3% @-20~50°C	50 mA	20P Connector
GT-3834	4				50 mA	20P Connector
AC Measurement	Channel	Type	Range	Resolution	Power Dissipation	Connector
GT-3901	1	AC Measurement	VLN = 288VAC, VLL = 500VAC	24 Bits	125 mA	10 RTB

Analog Output						
Single Ended	Channel	Type	Range	Resolution	Power Dissipation	Connector
GT-4114	4	Current	0~20 mA	12 Bits	30 mA	10 RTB
GT-4154	4			16 Bits	30 mA	10 RTB
GT-4118	8			12 Bits	30 mA	10 RTB
GT-4158	8			16 Bits	30 mA	10 RTB
GT-4214	4		4~20 mA	12 Bits	30 mA	10 RTB
GT-4254	4			16 Bits	30 mA	10 RTB
GT-4218	8			12 Bits	30 mA	10 RTB
GT-4258	8			16 Bits	30 mA	10 RTB
Single Ended	Channel	Type	Range	Resolution	Power Dissipation	Connector
GT-4424	4	Voltage	0~10 Vdc	12 Bits	30 mA	10 RTB
GT-4464	4			16 Bits	30 mA	10 RTB
GT-4428	8			12 Bits	30 mA	10 RTB
GT-4468	8			16 Bits	30 mA	10 RTB
GT-442F	16			12 Bits	30 mA	20P Connector
GT-446F	16			16 Bits	30 mA	20P Connector
GT-447F	16			12 Bits	30 mA	18 RTB
GT-449F	16			16 Bits	30 mA	18 RTB
GT-4524	4		-10~10 Vdc	12 Bits	30 mA	10 RTB
GT-4564	4			16 Bits	30 mA	10 RTB

Special Module						
Encoder	Channel	Type	Voltage	Frequency (Encoder)	Power Dissipation	Connector
GT-5102	2	High Speed Counter	5 Vdc	0 ~ 600 KHz	70 mA	10 RTB
GT-5112	2		24 Vdc	0 ~ 600 KHz	65 mA	10 RTB
GT-5114	4		24 Vdc	0 ~ 100 KHz	70 mA	10 RTB
Serial Interface	Channel	Type	Voltage	Signal Delay	Power Dissipation	Connector
GT-5211	1	RS-232, RTS/CTS	-18 ~ 18 V	TxD, RxD, Full Duplex	85 mA	10 RTB
GT-5212	2	RS-232			85 mA	10 RTB
GT-5221	1	RS-422			85 mA	10 RTB
GT-5231	1	RS-485	-	TxD, RxD, Half Duplex	85 mA	10 RTB
GT-5232	2	RS-485			85 mA	10 RTB
GT-5352	2	Synchronous		-	60 mA	10 RTB
Pulse	Channel	Type	Voltage	Frequency	Power Dissipation	Connector
GT-5442	2	PWM, Push-pull	24 Vdc	1~5kHz	75 mA	10 RTB
GT-5444	4	PWM, Push-pull		1~5kHz	75 mA	10 RTB
GT-5642	2	Pulse Output, Push-pull		1~300kHz	75 mA	10 RTB
GT-5652	2	Differential Output	5 Vdc	1~500kHz	75 mA	18 RTB
Stepper	Channel	Type	Voltage	Mode	Power Dissipation	Connector
GT-5521	1	2-Phase Bipolar Motor (Max. 16 microstepping)	24 Vdc	Instant Command, Position Table, Position (absolute/relative), Set Point Change, etc.	100 mA	10 RTB

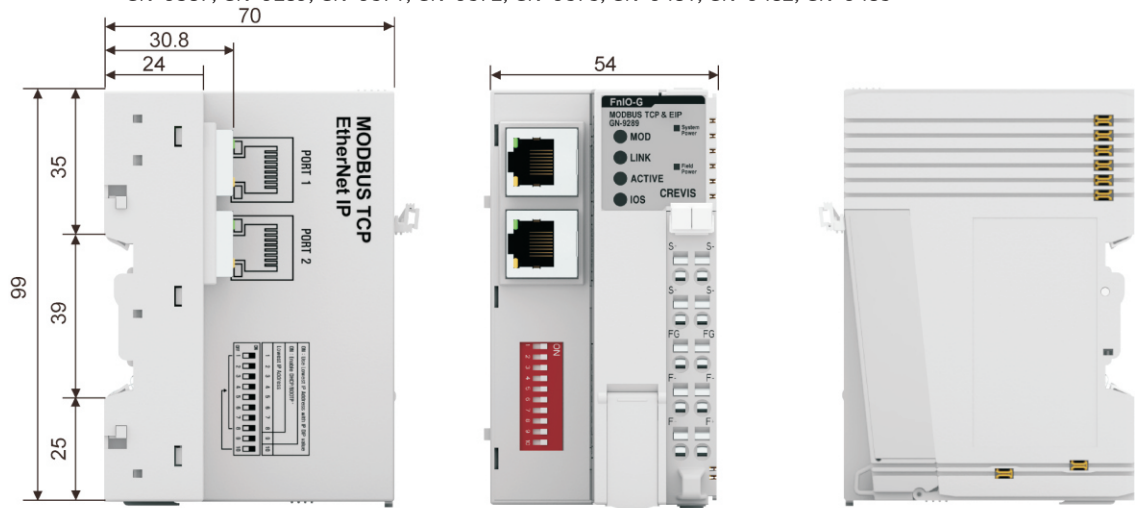
Power Module				
Power	Type	Voltage	Power Dissipation	Connector
GT-7408	Shield	24 Vdc	30 mA	10 RTB
GT-7508	Common for 0 Vdc		30 mA	10 RTB
GT-7511	Expansion		20 mA	10 RTB
GT-7518	Common for 24 Vdc		30 mA	10 RTB
GT-7588	Common for 0Vdc, 24 Vdc		30 mA	10 RTB
GT-7641	Field Power Distribution		30 mA	10 RTB
Filter	Type	Voltage	Power Dissipation	Connector
GT-7151	None ID Type	TBD	TBD	10 RTB
GT-7851	ID Type	TBD	TBD	10 RTB

* UL Listed products (except GT-3714, GT-3734, GT-3814, GT-3834)

Dimension

Network Adapter

Model : GN-9212, GN-9222, GN-9251, GN-9261, GN-9273, GN-9231, GN-9284, GN-9285, GN-9386, GN-9287, GN-9587, GN-9289, GN-9371, GN-9372, GN-9373, GN-9481, GN-9482, GN-9483

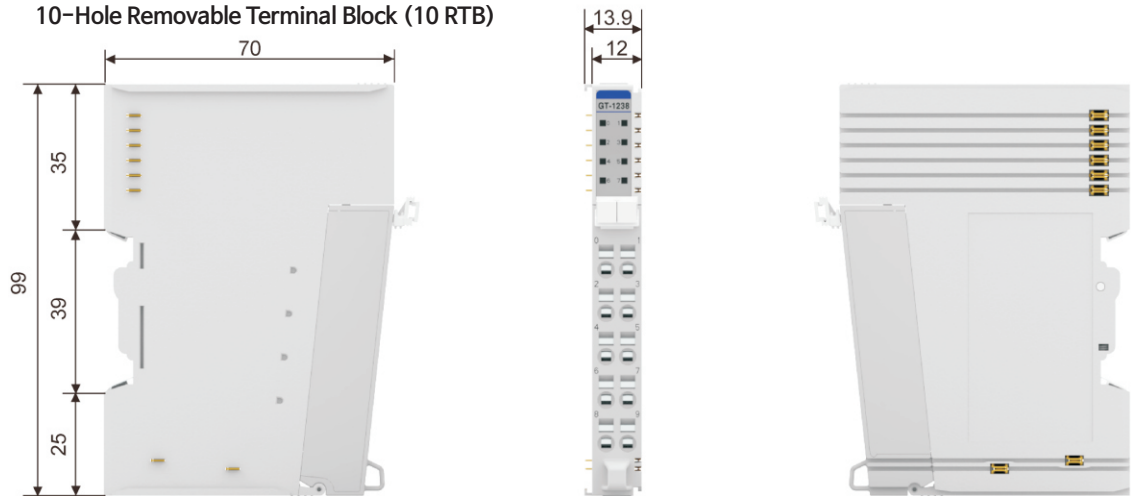


Model : GL-9971, GL-9089, GL-9087, GL-9084, GL-9073

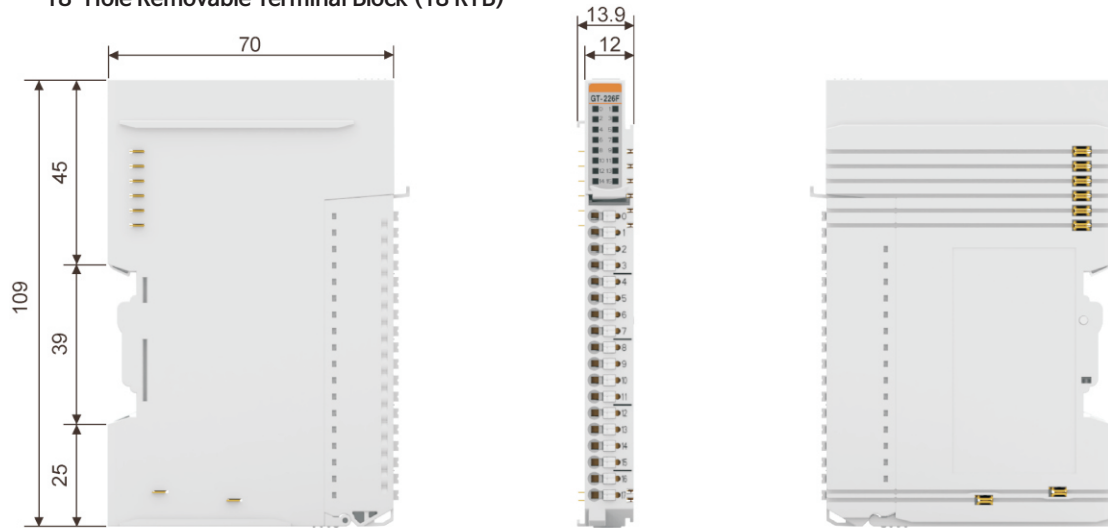


I/O

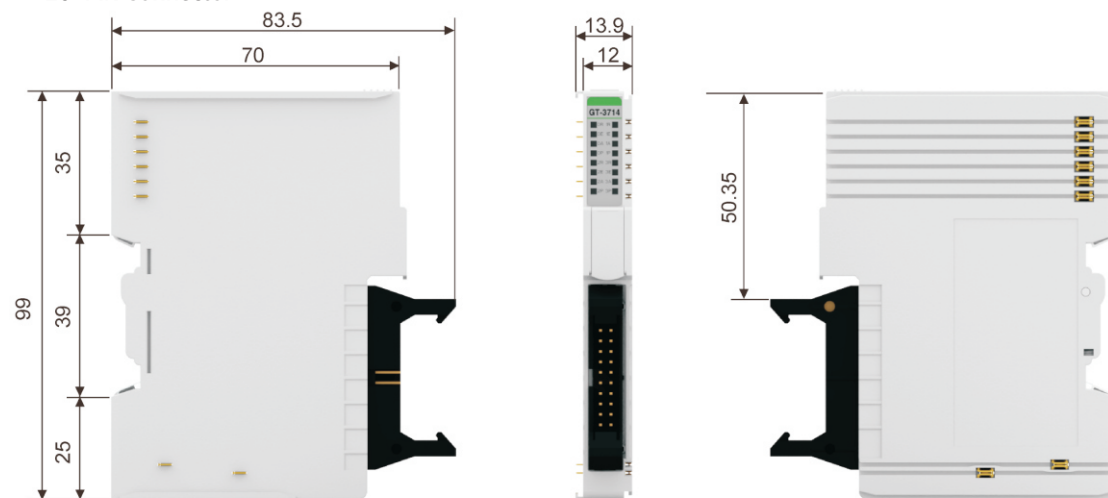
10-Hole Removable Terminal Block (10 RTB)



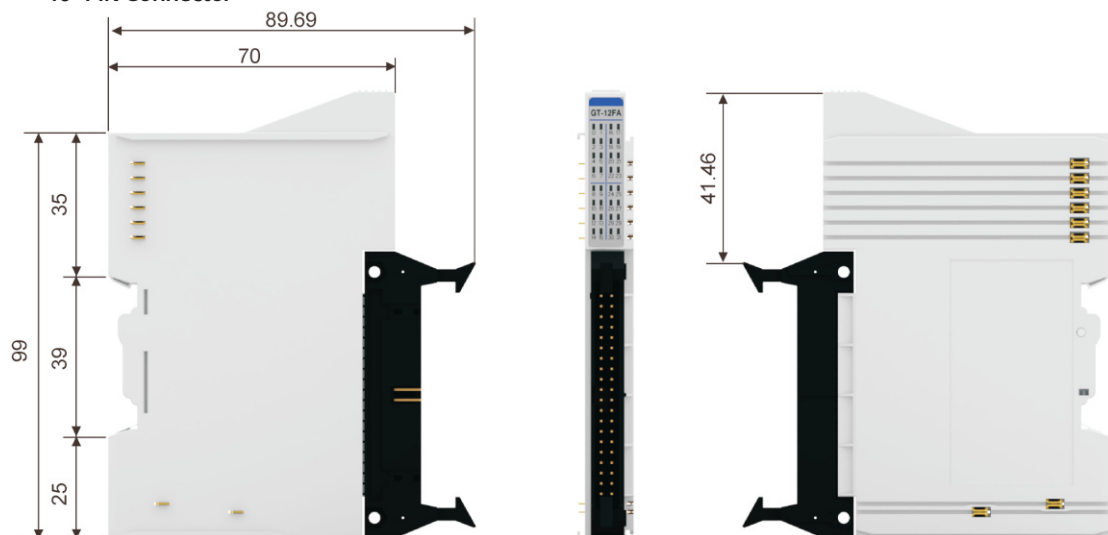
18-Hole Removable Terminal Block (18 RTB)



20-PIN Connector



40-PIN Connector



Documentation offered by your distributor

Omni Ray AG

Im Schörli 5 | CH-8600 Dübendorf

Telefon +41 44 802 28 80

Fax +41 44 802 28 28

info@omniray.ch

www.omniray.ch

Omni Ray
Power of Automation

CREVIS. Co.,Ltd.

www.crevis.co.kr

경기도 용인시 기흥구 기곡로 29-4 (17099)

대표번호 : 031-899-4599

제어기 영업 : 031-899-4502, 4515

카메라 영업 : 031-899-4503, 4507

팩스번호 : 031-899-4509

E-mail : crevis@crevis.co.kr

29-4, Gigokro, Giheunggu, Yonginsi, 17099, Korea

Tel : +82-31-899-4599

Controller sales : +82-31-899-4502, 4515

Camera sales : +82-31-899-4503, 4507

Fax : +82-31-899-4509

E-mail : crevis@crevis.co.kr