

Smooth system integration of Pro-face products is assured with a total support network.

WORLDWIDE SUPPORT



Pro-face regional offices and partners offer technical support and repair services around the world. Contact your local Pro-face office for more information about support services available.

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Worldwide Contacts:
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Conformity with International Safety Standards
 Pro-face products and component parts bearing the CE Mark and the UL or C-UL Listing and Recognized Component Marks are your guarantees of compliance with safety standards accepted in countries and regions worldwide.

CE / UL cUL / R C R

Caution: Before operating any of these products, please be sure to read all related manuals thoroughly.

- For printing purposes, the colors in this catalog may differ from those of the actual unit.
- Actual user screens may differ from the screens shown here.
- LCD screens may exhibit minute grid-points (light and dark) on the Display Panel surface. Also, "Contouring" - where some parts of the screen are brighter than others, producing a wavelike pattern - may occasionally occur. Both are normal for an LCD display and are not defects.
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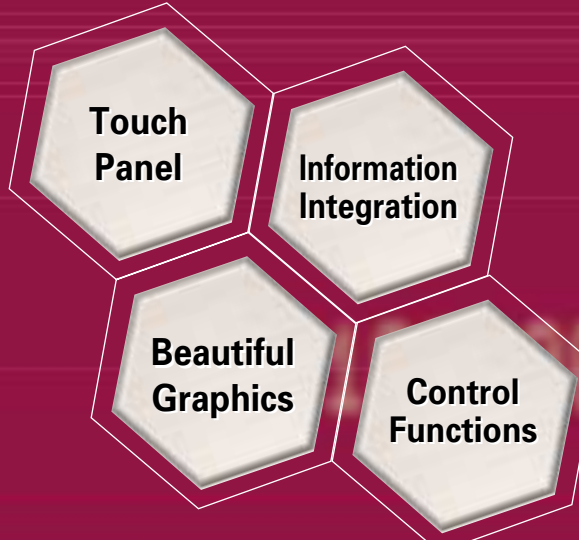
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Pro-face

Human Machine Interface



- GLC2600T
- GLC2500T
- GLC2400T
- GLC2300T
- GLC2300L



ISO9001
 JQA-1367

Graphic Logic Controller

GLC 2000 SERIES

Pro-face

GLC 2000 SERIES

The next-generation 1-box solution combining HMI and control functions for a wide range of systems.



- 12.1 inch
- TFT Color
- 800 x 600 pixels
- 256 Colors
- 4MB FEPROM
- 256KB SRAM
- 128KB Program Memory
- 64KB Variable Data Memory*
- 2CH Flex Network Master I/F
- COM1 (RS-232C/RS-422)
- COM2 (RS-232C)
- Ethernet
- CF Card
- Sound Interface
- Printer Interface, Narrow-pitch D-sub
- Optional Video

*Models with revisions prior to number 1 are 32 KB

GLC2600T

GLC2600-TC41-200V   
 GLC2600-TC41-24V   



- 10.4 inch
- TFT Color
- 640 x 480 pixels
- 256 Colors
- 4MB FEPROM
- 256KB SRAM
- 128KB Program Memory
- 64KB Variable Data Memory*
- 2CH Flex Network Master I/F
- COM1 (RS-232C/RS-422)
- COM2 (RS-232C)
- Ethernet
- CF Card
- Sound Interface
- Printer Interface, Narrow-pitch D-sub
- Optional Video

GLC2500T

GLC2500-TC41-200V   
 GLC2500-TC41-24V   



- 7.4 inch
- TFT Color
- 640 x 480 pixels
- 256 Colors
- 4MB FEPROM
- 256KB SRAM
- 128KB Program Memory
- 64KB Variable Data Memory*
- 2CH Flex Network Master I/F
- COM1 (RS-232C/RS-422)
- COM2 (RS-232C)
- Ethernet
- CF Card
- Sound Interface
- Printer Interface, Narrow-pitch D-sub

*Models with revisions prior to number 1 are 32 KB

GLC2400T

GLC2400-TC41-24V   

Aluminum body for superb cooling and dust resistance.



- 5.7 inch
- TFT Color
- 320 x 240 pixels
- 256 Colors
- 2MB FEPROM
- 256KB SRAM
- 128KB Program Memory
- 64KB Variable Data Memory*
- 2CH Flex Network Master I/F
- COM1 (RS-232C/RS-422)
- COM2 (RS-232C)
- Ethernet
- CF Card

GLC2300T

GLC2300-TC41-24V   



- 5.7 inch
- Monochrome LCD
- 320 x 240 pixels
- Black & White, Gray Scale
- 2MB FEPROM
- 256KB SRAM
- 128KB Program Memory
- 64KB Variable Data Memory*
- 2CH Flex Network Master I/F
- COM1 (RS-232C/RS-422)
- COM2 (RS-232C)
- Ethernet
- CF Card

GLC2300L

GLC2300-LG41-24V   

GLC 2600 Series

Adding the Video-mix Unit allows simultaneous video/PC display on the easy-viewing 12.1-inch screen of the top GLC model.

TFT Color

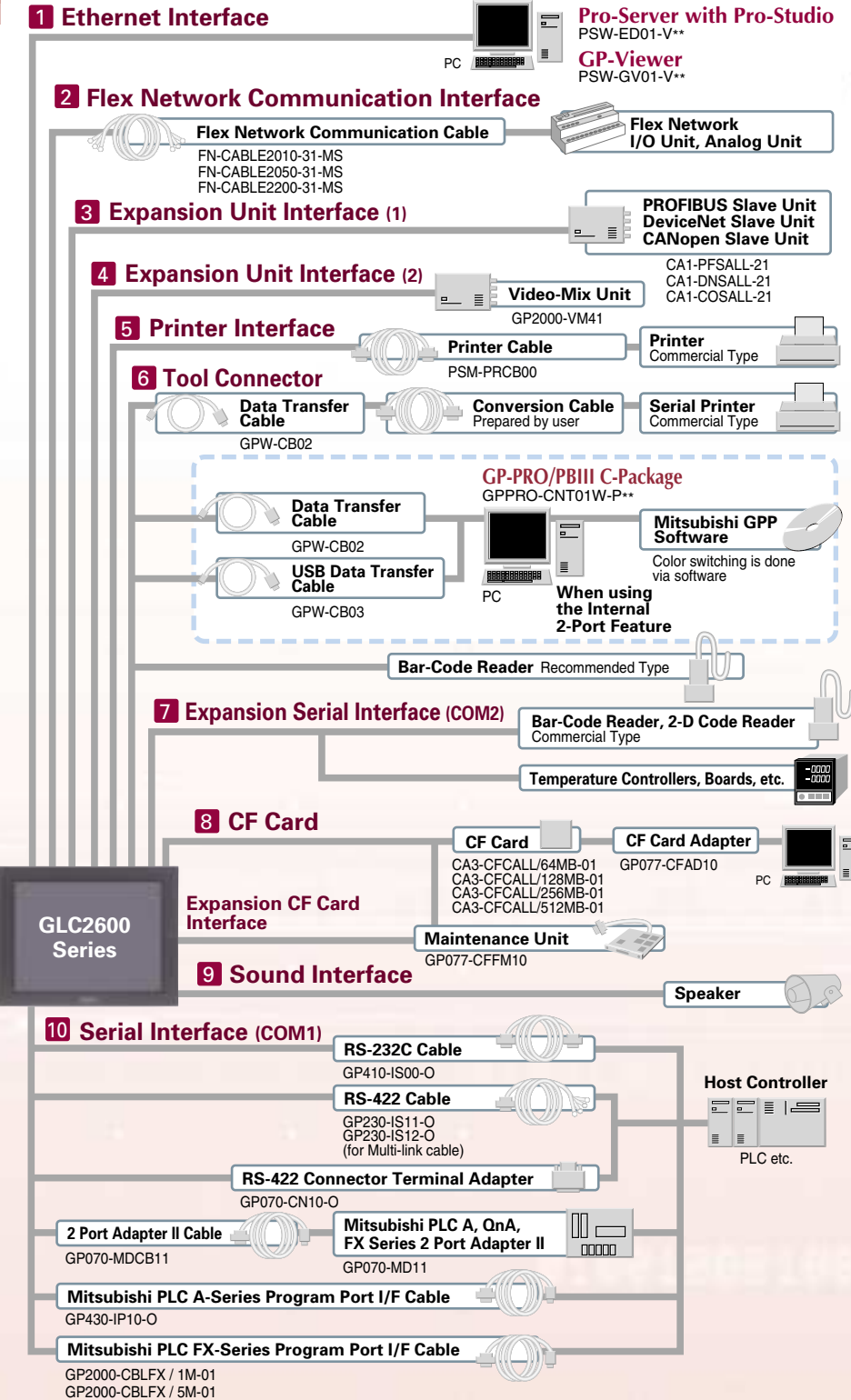
12.1 inch

800 x 600 Pixels

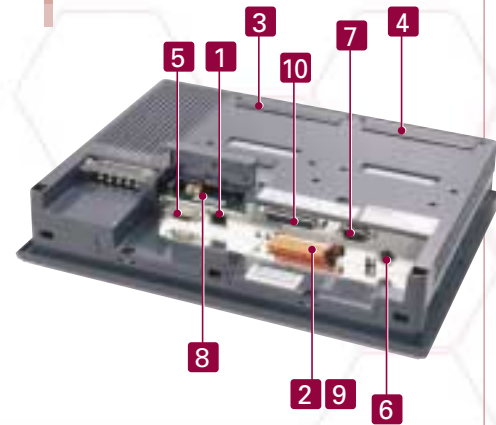


GLC2600T

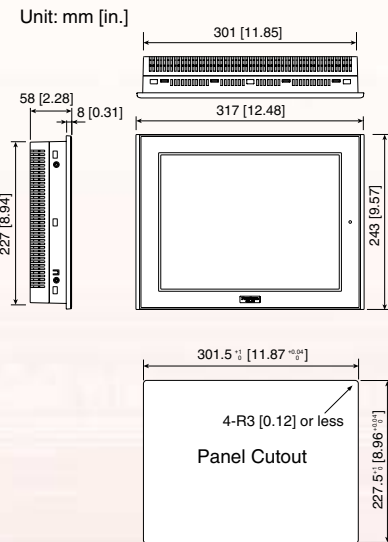
SYSTEM DESIGN



INTERFACES



EXTERNAL DIMENSIONS



FUNCTIONAL SPECIFICATIONS

Model	GLC2600-TC41-200V/GLC2600-TC41-24V
Display Type	TFT Color LCD
Display Colors	256 colors, No blink/64 colors, 3-speed blink (Color switching is done via software)*1
Backlight	CCFL (Service life: 50,000 hrs. at 25°C and 24 hrs. operation) User replaceable.
Display Resolution	800 x 600 pixels
Effective Display Area	W246.0mm [9.69in.] x H184.5mm [7.27in.]
Brightness Control	4 levels of adjustment available via touch panel
Language Fonts	ASCII: (Code page 850) Alphanumeric (including European characters) Chinese: (GB2312-80 codes) simplified Chinese fonts Japanese: ANK-158, Kanji: 6962 (JIS Standards 1 and 2) Korean: (KSC5601-1992 codes) Hangul fonts Taiwanese: (Big 5 codes) traditional Chinese fonts
Text	8 x 8 dots: 100 Char. x 75 rows 8 x 16 dots: 100 Char. x 37 rows 16 x 16 dots: 50 Char. x 37 rows 32 x 32 dots: 25 Char. x 18 rows
Character Sizes*2	8 x 8 dot font, 8 x 16 dot font, 16 x 16 dot font, 32 x 32 dot font
Font Sizes	Width: 1-8 times expandable / Height: 1/2", 1-8 times expandable
Touch Panel Resolution	40 x 30 keys / screen - 1 or 2 point touch
Application	4MB FLASH EPROM (Approx. 1280 screens at 3.2KB/screen)
Data Backup	256KB SRAM - uses a lithium battery*5
Program Area	128KB FLASH EPROM
Variable Area	64KB SRAM*6 - uses a lithium battery*5
Serial Interface (COM1)	Asynchronous Transmission: RS-232C/RS-422 Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 115.2kbps (MPI: 187.5kbps)*7
Expansion Serial Interface (COM2)	Asynchronous Transmission: RS-232C Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400 bps to 38.4kbps
Ethernet Interface	IEEE802.3 10BASE-T
Tool Connector Interface	Asynchronous TTL level nonprocedural command I/F <During screen file development> Used for transferring data to and from the GLC application software and the GLC. Used for data transfer with the 2-Port feature. <During Logic Program Development> Used for transferring data to and from the Logic Program Development software and the GLC. <During RUN Mode> Used for a variety of devices, including bar-code readers.
CF Card Interface	1 slot (CompactFlash™)
Expansion CF Card Interface	CF Card Front Maintenance Unit Connector
Printer Interface	Compatible with NEC PC-PR201/PL, EPSON ESC/P24-J84(C), HP Laser Jet PCL 4 command, EPSON PM/Stylus (6-color ink), EPSON Stylus (4-color) compatible printers*8
External Reset Input I/F	Remote Reset Input: 1 point Input Voltage: DC24V±10%, Input Current: 4mA (TYP), Min. Input Pulse Width: 2ms Operating Voltage: (When ON) Min. DC21.2V, (When OFF) Max. DC3V Isolation Method: Photo-coupler Isolation
Expansion Unit Interface	Video-Mix Unit
Communication Style	1: N
Connection Format	Multi Drop Connection
Communication Range	200m/CH at 6Mbps, 100m/CH at 12Mbps
Communication Format	Cyclic Data Transfer, Half-duplex
Communication Speed	6Mbps, 12Mbps
Communication I/F	Differential method, Pulse Transformer Insulation method
Error Check	Format Test, Bit Test, CRC-12 Test
Max. Number of Nodes	63 (1008 I/O points)
Sound Output	External Speaker Connection (Terminal Block) Monaural 1CH Speaker Output 70mW (Rated Load: 8Ω, Frequency: 1kHz) Sound Line Out Output 2.7Vp-p (Rated Load: 10kΩ) Recommended Wire: AWG#28 to #16

*1 Changing the colors setting to "256 colors" will disable the blink feature on all screens in your project. If you wish to use the blink feature, do not change this setting to "256 colors".

*2 The font size varies depending on the selected language and expansion ratio.

*3 Only available when using "1/2 2 Byte Character" settings via software. (Only Japanese, Chinese, Taiwanese, and Korean characters)

*4 128 KB of SRAM is reserved for the Online Editor.

*5 A Lithium battery's lifetime is:
• 10 years when the battery's ambient temperature is 40°C or less.
• 4.1 years when the battery's ambient temperature is 50°C or less.
• 1.5 years when the battery's ambient temperature is 60°C or less.
When used for backup:
• Approximately 60 days, with a fully charged battery.
• Approximately 6 days, with a half-charged battery.

*6 Models with revisions prior to number 1 are 32 KB.

*7 SIEMENS SIMATIC S7-200/300/400 series (MPI port only). Please contact your Pro-face sales representative for supported models and other details.

*8 Printers with only Windows drivers cannot be used. However, certain types of printers with both Windows® and DOS® drivers can be used. For details, contact your local GLC distributor.

GENERAL SPECIFICATIONS

Model	GLC2600-TC41-200V	GLC2600-TC41-24V
Rated Voltage	AC100V to AC240V	DC24V
Rated Voltage Range	AC85V to AC265V	DC19.2V to DC28.8V
Power Consumption	50VA or less (ACIN100V) 85VA or less (ACIN240V)	50W or less
Allowable Voltage Drop	20ms or less	10ms or less
Voltage Endurance	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or higher at DC500V (between charging and FG terminals)	
Ambient Operating Temperature	0°C to +50°C*1	
Storage Temperature	-20°C to +60°C	
Operating Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature: 39°C or less)	
Storage Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature: 39°C or less)	
Vibration Resistance	IEC61131-2 (JIS B 3501) compliant When vibration is NOT continuous: 10Hz to 57Hz 0.075mm, 57Hz to 150Hz 9.8m/s² When vibration is continuous: 10Hz to 57Hz 0.035mm, 57Hz to 150Hz 4.9m/s² X, Y, Z directions for 10 times (80min.)	
Noise Immunity (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse Duration: 1 μs Arise Time: 1ns	
Electrostatic Discharge Immunity	Contact Discharge Method 6kV (complies with IEC 61000-4-2 Level 3)	
Air Purity (Dust)	0.1mg/m³ or less (non-conductive levels)	
Atmospheric Endurance	800hPa to 1,114hPa (2,000 meters or lower)	
Corrosive Gasses	Free of corrosive gasses	
Grounding	100Ω or less, or your country's applicable standard*2	
Ratings	Equivalent to IP65f (JEM1030)*3, and NEMA#250 Type4 X/12 (limited to the front face after installation in a panel)	
Certifications	EN55011 Class A, EN61000-3-2, EN61000-3-3, EN61000-6-2, EN60950, UL 1604	EN55011 Class A, EN61000-6-2, UL 508, UL 1604
External Dimensions	W317mm [12.48in.] x H243mm [9.57in.] x D58mm [2.28in.] (main unit only)	
Weight	3.5kg (7.72lb) or less (main unit only)	
Cooling Method	Natural air circulation	

*1 Operating temperature reflects the panel external (GLC unit front face) and panel internal temperatures.

*2 Grounding requirements differ from country to country. Be sure to confirm your work environment requirements prior to installation. For more information, please contact your GLC distributor.

*3 The degree of protection provided by these products is equivalent to IP65f, however their performance cannot be guaranteed for every environment. Be sure to confirm your work environment requirements prior to installation.

GLC 2500 Series

10.4-inch TFT color LCD with two power supplies to choose from.
Standard models with a wide range of interfaces.

TFT Color

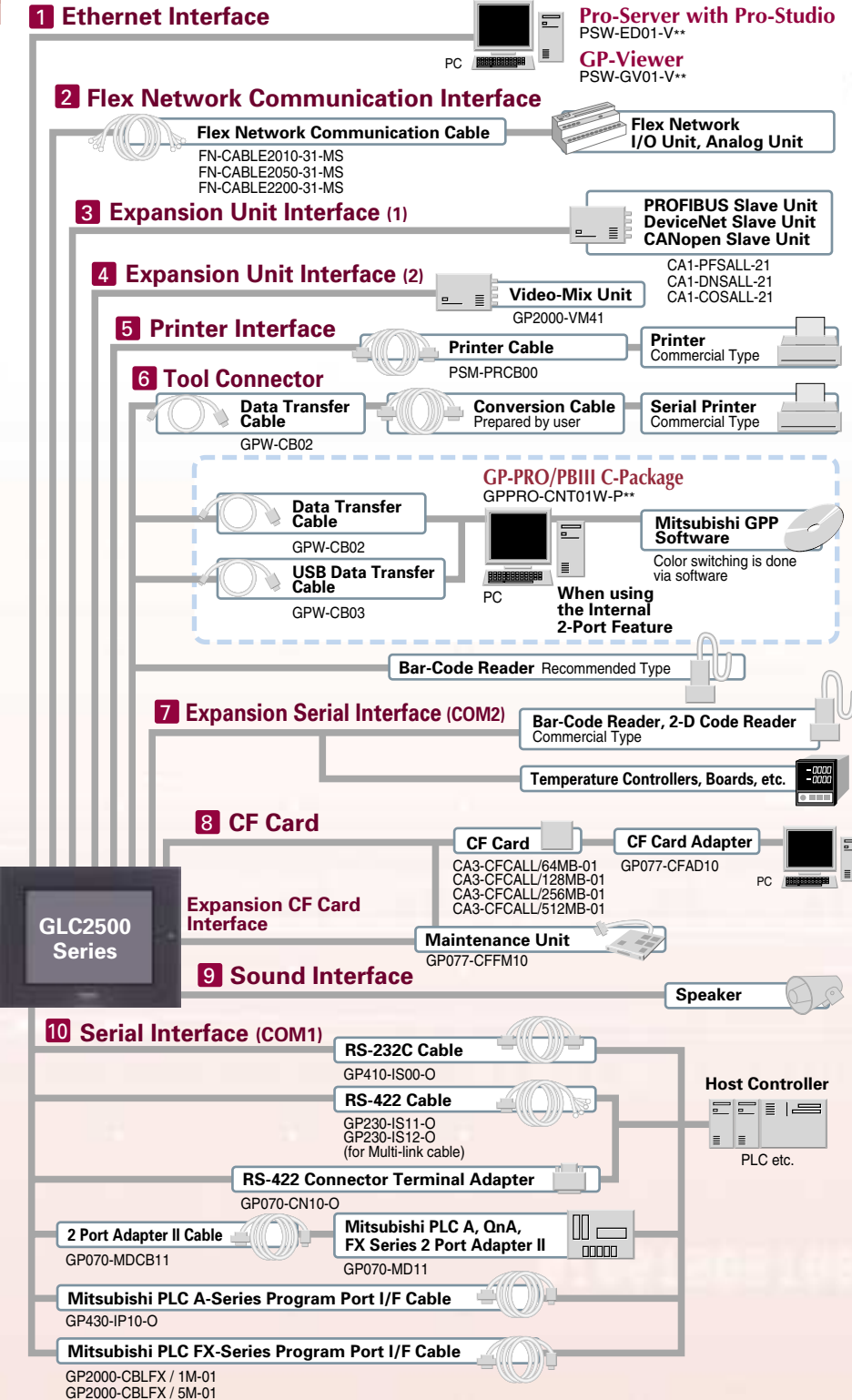
10.4 inch

640 x 480 Pixels

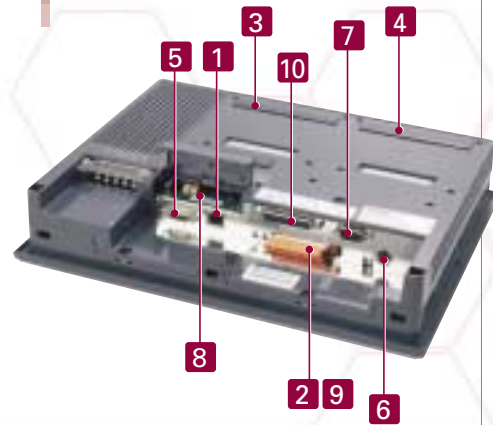


GLC2500T

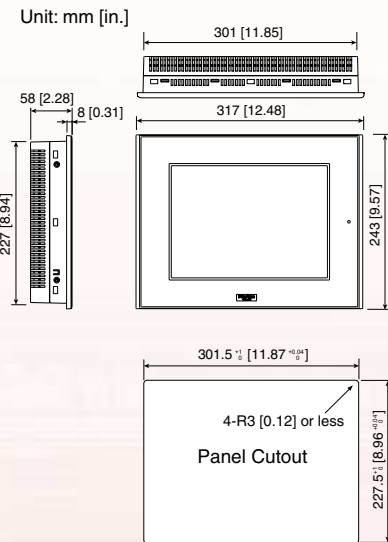
SYSTEM DESIGN



INTERFACES



EXTERNAL DIMENSIONS



FUNCTIONAL SPECIFICATIONS

Model	GLC2500-TC41-200V/GLC2500-TC41-24V
Display Type	TFT Color LCD
Display Colors	256 colors, No blink/64 colors, 3-speed blink (Color switching is done via software)*1
Backlight	CCFL (Service life: 50,000 hrs. at 25°C and 24 hrs. operation) User replaceable.
Display Resolution	640 x 480 pixels
Effective Display Area	W211.2mm [8.31in.] x H158.4mm [6.24in.]
Brightness Control	4 levels of adjustment available via touch panel
Language Fonts	ASCII: (Code page 850) Alphanumeric (including European characters) Chinese: (GB2312-80 codes) simplified Chinese fonts Japanese: ANK 158, Kanji; 6962 (JIS Standards 1 and 2) Korean: (KSC5601-1992 codes) Hangeul fonts Taiwanese: (Big 5 codes) traditional Chinese fonts
Text	8 x 8 dots 80 Char. x 60 rows 8 x 16 dots 80 Char. x 30 rows 16 x 16 dots 40 Char. x 30 rows 32 x 32 dots 20 Char. x 15 rows
Character Sizes*2	8 x 8 dot font, 8 x 16 dot font, 16 x 16 dot font, 32 x 32 dot font
Font Sizes	Width: 1-8 times expandable / Height: 1/2", 1-8 times expandable
Touch Panel Resolution	32 x 24 keys / screen - 1 or 2 point touch
Application	4MB FLASH EPROM (Approx. 1280 screens at 3.2KB/screen)
Data Backup	256KB SRAM - uses a lithium battery*5
Program Area	128KB FLASH EPROM
Variable Area	64KB SRAM - uses a lithium battery*5
Serial Interface (COM1)	Asynchronous Transmission : RS-232C/RS-422 Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 115.2kbps (MPI: 187.5kbps)*6
Expansion Serial Interface (COM2)	Asynchronous Transmission : RS-232C Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400 bps to 38.4kbps
Ethernet Interface	IEEE802.3 10BASE-T
Tool Connector Interface	Asynchronous TTL level nonprocedural command I/F <During screen file development> Used for transferring data to and from the GLC application software and the GLC. Used for data transfer with the 2-Port feature. <During Logic Program Development> Used for transferring data to and from the Logic Program Development software and the GLC. <During RUN Mode> Used for a variety of devices, including bar-code readers.
CF Card Interface	1 slot (CompactFlash™)
Expansion CF Card Interface	CF Card Front Maintenance Unit Connector
Printer Interface	Compatible with NEC PC-PR201/PL, EPSON ESC/P24-J84(C), HP Laser Jet PCL 4 command, EPSON PM/Stylus (6-color ink), EPSON Stylus (4-color) compatible printers*7
External Reset Input I/F	Remote Reset Input: 1 point Input Voltage: DC24V±10%, Input Current: 4mA (TYP), Min. Input Pulse Width: 2ms Operating Voltage: (When ON) Min. DC21.2V, (When OFF) Max. DC3V Isolation Method: Photo-coupler Isolation
Expansion Unit Interface	Video-Mix Unit
Communication Style	1: N
Connection Format	Multi Drop Connection
Communication Range	200m/CH at 6Mbps, 100m/CH at 12Mbps
Communication Format	Cyclic Data Transfer, Half-duplex
Communication Speed	6Mbps, 12Mbps
Communication I/F	Differential method, Pulse Transformer Insulation method
Error Check	Format Test, Bit Test, CRC-12 Test
Max. Number of Nodes	63 (1008 I/O points)
Sound Output	External Speaker Connection (Terminal Block) Monaural 1CH Speaker Output 70mW (Rated Load: 8Ω, Frequency: 1kHz) Sound Line Out Output 2.7Vp-p (Rated Load: 10kΩ) Recommended Wire: AWG#28 to #16

*1 Changing the colors setting to "256 colors" will disable the blink feature on all screens in your project. If you wish to use the blink feature, do not change this setting to "256 colors".

*2 The font size varies depending on the selected language and expansion ratio.

*3 Only available when using "1/2 Byte Character" settings via software. (Only Japanese, Chinese, Taiwanese, and Korean characters)

*4 128 KB of SRAM is reserved for the Online Editor.

*5 A Lithium battery's lifetime is:

- 10 years when the battery's ambient temperature is 40°C or less.
- 4.1 years when the battery's ambient temperature is 50°C or less.
- 1.5 years when the battery's ambient temperature is 60°C or less.

When used for backup:

- Approximately 60 days, with a fully charged battery.
- Approximately 6 days, with a half-charged battery.

*6 SIEMENS SIMATIC S7-200/300/400 series (MPI port only). Please contact your Pro-face sales representative for supported models and other details.

*7 Printers with only Windows drivers cannot be used. However, certain types of printers with both Windows® and DOS® drivers can be used. For details, contact your local GLC distributor.

GENERAL SPECIFICATIONS

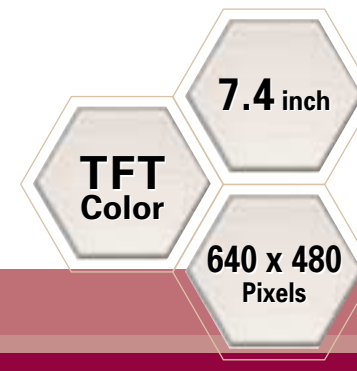
Model	GLC2500-TC41-200V	GLC2500-TC41-24V
Rated Voltage	AC100V to AC240V	DC24V
Rated Voltage Range	AC85V to AC265V	DC19.2V to DC28.8V
Power Consumption	50VA or less (ACIN100V) 85VA or less (ACIN240V)	50W or less
Allowable Voltage Drop	20ms or less	10ms or less
Voltage Endurance	AC1500V 20mA for 1 minute (between charging and FG terminals)	AC1000V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or higher at DC500V (between charging and FG terminals)	
Ambient Operating Temperature	0°C to +50°C	
Storage Temperature	-20°C to +60°C	
Operating Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature: 39°C or less)	
Storage Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature: 39°C or less)	
Vibration Resistance	IEC61131-2 (JIS B 3501) compliant When vibration is NOT continuous: 10Hz to 57Hz 0.075mm, 57Hz to 150Hz 9.8m/s² When vibration is continuous: 10Hz to 57Hz 0.035mm, 57Hz to 150Hz 4.9m/s² X, Y, Z directions for 10 times (80min.)	
Noise Immunity (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse Duration: 1μs Arise Time: 1ns	
Electrostatic Discharge Immunity	Contact Discharge Method 6kV (complies with IEC 61000-4-2 Level 3)	
Air Purity (Dust)	0.1mg/m³ or less (non-conductive levels)	
Atmospheric Endurance	800hPa to 1,114hPa (2,000 meters or lower)	
Corrosive Gasses	Free of corrosive gases	
Grounding	100Ω or less, or your country's applicable standard*1	
Ratings	Equivalent to IP65f (JEM1030)*2, and NEMA#250 Type4 X/12 (limited to the front face after installation in a panel)	
Certifications	EN55011 Class A, EN61000-3-2, EN61000-3-3, EN61000-6-2, EN60950, UL1604 EN55011 Class A, EN61000-6-2, UL 508, UL 1604	
External Dimensions	W317mm [12.48in.] x H243mm [9.57in.] x D58mm [2.28in.] (main unit only)	
Weight	3.5kg (7.72lb) or less (main unit only)	
Cooling Method	Natural air circulation	

*1 Grounding requirements differ from country to country. Be sure to confirm your work environment requirements prior to installation. For more information, please contact your GLC distributor.

*2 The degree of protection provided by these products is equivalent to IP65f, however their performance cannot be guaranteed for every environment. Be sure to confirm your work environment requirements prior to installation.

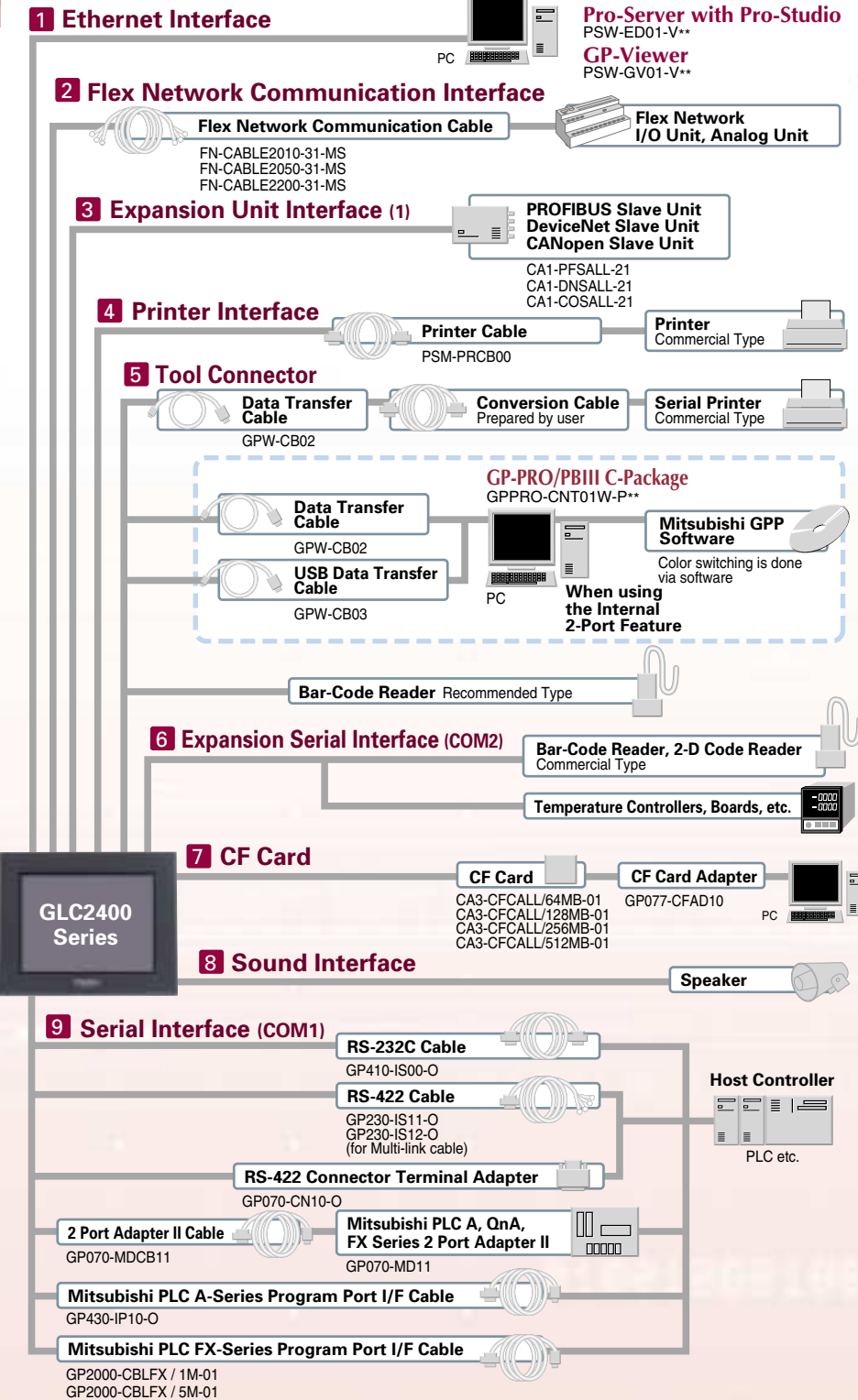
GLC 2400 Series

The 7.4-inch size with 640 x 480 pixels resolution meets a variety of applications, from large-size equipment to panel integration.

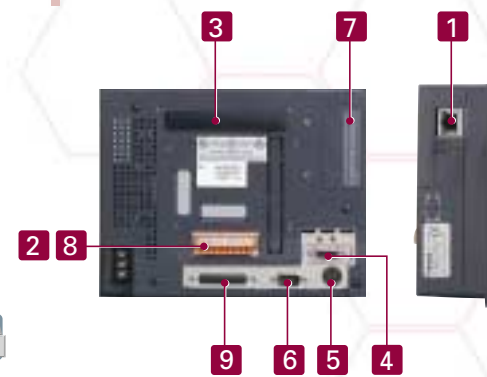


GLC2400T

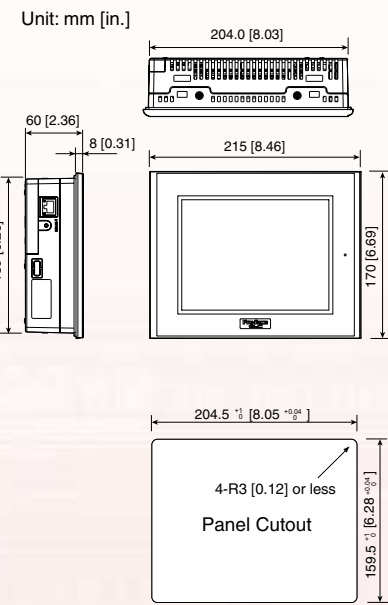
SYSTEM DESIGN



INTERFACES



EXTERNAL DIMENSIONS



FUNCTIONAL SPECIFICATIONS

Model	GLC2400-TC41-24V
Display Type	TFT Color LCD
Display Colors	256 colors, No blink/64 colors, 3-speed blink (Color switching is done via software)*1
Backlight	CCFL (Service life: 50,000 hrs. at 25°C and 24 hrs. operation) User replaceable.
Display Resolution	640 x 480 pixels
Effective Display Area	W149.8mm [5.90in.] x H112.3mm [4.42in.]
Brightness Control	4 levels of adjustment available via touch panel
Language Fonts	ASCII: (Code page 850) Alphanumeric (including European characters) Chinese: (GB2312-80 codes) simplified Chinese fonts Japanese: ANK-158, Kanji: 6952 (JIS Standards 1 and 2) Korean: (KSC5601-1992 codes) Hangul fonts Taiwanese: (Big 5 codes) traditional Chinese fonts
Text	8 x 8 dots 80 Char. x 60 rows 8 x 16 dots 80 Char. x 30 rows 16 x 16 dots 40 Char. x 30 rows 32 x 32 dots 20 Char. x 15 rows
Character Sizes*2	8 x 8 dot font, 8 x 16 dot font, 16 x 16 dot font, 32 x 32 dot font
Font Sizes	Width: 1-8 times expandable / Height: 1/2-3, 1-8 times expandable
Touch Panel Resolution	32 x 24 keys / screen - 1 or 2 point touch
Application	4MB FLASH EPROM (Approx. 1280 screens at 3.2KB/screen)
Data Backup	256KB SRAM - uses a lithium battery*5
Program Area	128KB FLASH EPROM
Variable Area	64KB SRAM*6 - uses a lithium battery*5
Serial Interface (COM1)	Asynchronous Transmission : RS-232C/RS-422 Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 115.2kbps (MPI: 187.5kbps)*7
Expansion Serial Interface (COM2)	Asynchronous Transmission : RS-232C Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400 bps to 38.4kbps
Ethernet Interface	IEEE802.3 10BASE-T
Tool Connector Interface	Asynchronous TTL level nonprocedural command I/F <During screen file development> Used for transferring data to and from the GLC application software and the GLC. Used for data transfer with the 2-Port feature. <During Logic Program Development> Used for transferring data to and from the Logic Program Development software and the GLC. <During RUN Mode> Used for a variety of devices, including bar-code readers.
CF Card Interface	1 slot (CompactFlash™)
Expansion CF Card Interface	-
Printer Interface	Compatible with NEC PC-PR201/PL, EPSON ESC/P24-J84(C), HP Laser Jet PCL 4 command, EPSON PM/Stylus (6-color ink), EPSON Stylus (4-color) compatible printers*8
External Reset Input I/F	Remote Reset Input: 1 point Input Voltage: DC24V±10%, Input Current: 4mA (TYP), Min. Input Pulse Width: 2ms Operating Voltage: (When ON) Min. DC21.2V, (When OFF) Max. DC3V Isolation Method: Photo-coupler Isolation
Communication Style	1: N
Connection Format	Multi Drop Connection
Communication Range	200m/CH at 6Mbps, 100m/CH at 12Mbps
Communication Format	Cyclic Data Transfer, Half-duplex
Communication Speed	6Mbps, 12Mbps
Communication I/F	Differential method, Pulse Transformer insulation method
Error Check	Format Test, Bit Test, CRC-12 Test
Max. Number of Nodes	63 (1008 I/O points)
Sound Output	External Speaker Connection (Terminal Block) Monaural 1CH Speaker Output 70mW (Rated Load: 8Ω, Frequency: 1kHz) Sound Line Out Output 2.7Vp-p (Rated Load: 10kΩ) Recommended Wire: AWG#28 to #16

*1 Changing the colors setting to "256 colors" will disable the blink feature on all screens in your project. If you wish to use the blink feature, do not change this setting to "256 colors".

*2 The font size varies depending on the selected language and expansion ratio.

*3 Only available when using "1/2 Byte Character" settings via software. (Only Japanese, Chinese, Taiwanese, and Korean characters)

*4 128 KB of SRAM is reserved for the Online Editor.

*5 A Lithium battery's lifetime is:
 • 10 years when the battery's ambient temperature is 40°C or less.
 • 4.1 years when the battery's ambient temperature is 50°C or less.
 • 1.5 years when the battery's ambient temperature is 60°C or less.
 When used for backup:
 • Approximately 60 days, with a fully charged battery.
 • Approximately 6 days, with a half-charged battery.

*6 Models with revisions prior to number 1 are 32 KB.

*7 SIEMENS SIMATIC S7-200/300/400 series (MPI port only). Please contact your Pro-face sales representative for supported models and other details.

*8 Printers with only Windows drivers cannot be used. However, certain types of printers with both Windows® and DOS® drivers can be used. For details, contact your local GLC distributor.

GENERAL SPECIFICATIONS

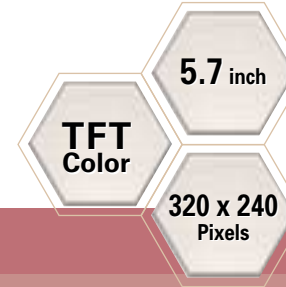
Model	GLC2400-TC41-24V
Rated Voltage	DC24V
Rated Voltage Range	DC19.2V to DC28.8V
Power Consumption	28W or less
Allowable Voltage Drop	10ms or less
Voltage Endurance	AC1000V 20mA for 1 minute (between charging and FG terminals)
Insulation Resistance	10MΩ or higher at DC500V (between charging and FG terminals)
Ambient Operating Temperature	0°C to +50°C
Storage Temperature	-20°C to +60°C
Operating Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature: 39°C or less)
Storage Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature: 39°C or less)
Vibration Resistance	IEC61131-2 (JIS B 3501) compliant When vibration is NOT continuous: 10Hz to 57Hz 0.075mm, 57Hz to 150Hz 9.8m/s² When vibration is continuous: 10Hz to 57Hz 0.035mm, 57Hz to 150Hz 4.9m/s² X, Y, Z directions for 10 times (80min.)
Noise Immunity (via noise simulator)	Noise Voltage: 1500Vp-p, Pulse Duration: 1 μs Arise Time: 1ns
Electrostatic Discharge Immunity	Contact Discharge Method 6kV (complies with IEC 61000-4-2 Level 3)
Air Purity (Dust)	0.1mg/m³ or less (non-conductive levels)
Atmospheric Endurance	800hPa to 1,114hPa (2,000 meters or lower)
Corrosive Gasses	Free of corrosive gases
Grounding	100Ω or less, or your country's applicable standard*1
Ratings	Equivalent to IP65f (JEM1030)*2 and NEMA#250 Type4 X/12 (limited to the front face after installation in a panel)
Certifications	EN55011 Class A, EN61000-6-2, UL 508, UL 1604
External Dimensions	W215mm [8.46in.] x H170mm [6.69in.] x D60mm [2.36in.]
Weight	1.7kg (3.7lb) or less
Cooling Method	Natural air circulation

*1 Grounding requirements differ from country to country. Be sure to confirm your work environment requirements prior to installation. For more information, please contact your GLC distributor.

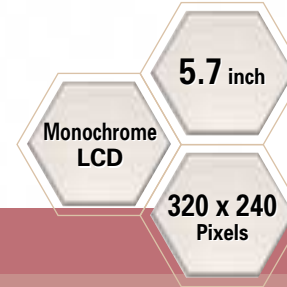
*2 The degree of protection provided by these products is equivalent to IP65f, however their performance cannot be guaranteed for every environment. Be sure to confirm your work environment requirements prior to installation.

GLC 2300 Series

The mid-size 5.7-inch models with network connectivity.

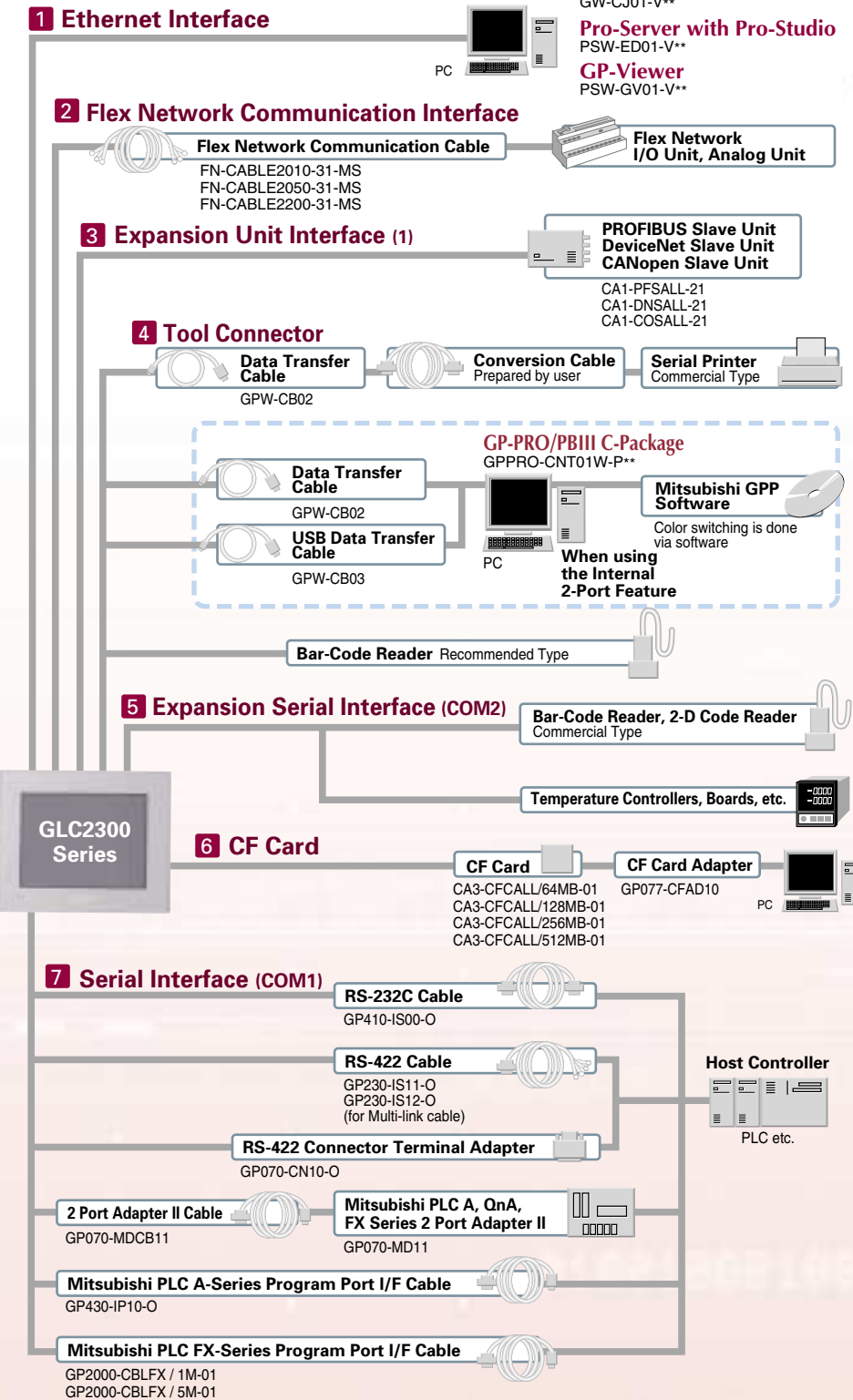


GLC2300T

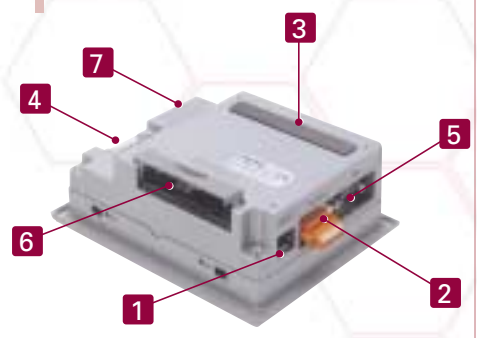


GLC2300L

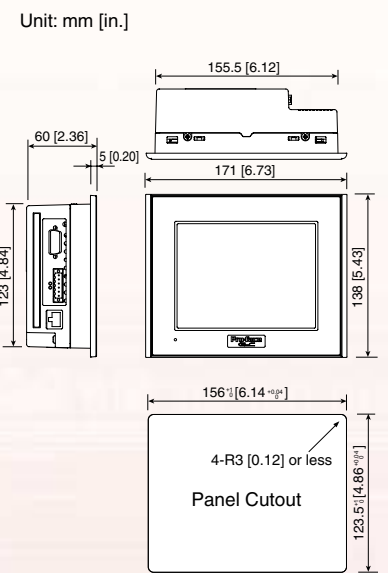
SYSTEM DESIGN



INTERFACES



EXTERNAL DIMENSIONS



FUNCTIONAL SPECIFICATIONS

Model	GLC2300-TC41-24V	GLC2300-LG41-24V
Display Type	TFT Color LCD	Monochrome LCD
Display Colors	256 colors, No blink/64 colors, 3-speed blink (Color switching is done via software)*1	Black and White, 2 levels of gray/Black and White, 8 levels of gray*2 (Color switching is done via software)
Backlight	CCFL (Service life: 50,000 hrs. or more at 25°C and 24 hrs. operation) Not user replaceable	CCFL (Service life: 50,000 hrs. or more at 25°C and 24 hrs. operation) User replaceable
Display Resolution	320 x 240 pixels	
Effective Display Area	W115.2mm [4.54in.] x H86.4mm [3.40in.]	
Brightness Control	4 levels of adjustment available via touch panel	
Contrast Adjustment	8 levels of adjustment available via touch panel	
Language Fonts	ASCII: (Code page 850) Alphanumeric (including European characters) Chinese: (GB2312-80 codes) simplified Chinese fonts Japanese: ANK 158, Kanji: 6962 (JIS Standards 1 and 2) Korean: (KSC5601-1992 codes) Hangeul fonts Taiwanese: (Big 5 codes) traditional Chinese fonts	
Text	8 x 8 dots	40 Char. x 30 rows
	8 x 16 dots	40 Char. x 15 rows
	16 x 16 dots	20 Char. x 15 rows
	32 x 32 dots	10 Char. x 7 rows
Character Sizes*3	8 x 8 dot font, 8 x 16 dot font, 16 x 16 dot font, 32 x 32 dot font	
Font Sizes	Width: 1-8 times expandable / Height: 1/2*4, 1-8 times expandable	
Touch Panel Resolution	16 x 12 keys / screen - 1 or 2 point touch	
Memory	Application	2MB FLASH EPROM (Approx. 640 screens at 3.2KB / screen)
	Data Backup	256KB SRAM - uses a lithium battery*5
	Program Area	128KB FLASH EPROM
Variable Area	64KB SRAM - uses a lithium battery*6	
Serial Interface (COM1)	Asynchronous Transmission: RS-232C/RS-422 Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400bps to 115.2kbps (MPI: 187.5kbps)*7	
	Expansion Serial Interface (COM2) Asynchronous Transmission: RS-232C Data Length: 7 or 8 bits Stop Bit: 1 or 2 bits Parity: None, Odd or Even Data Transmission Speed: 2,400 bps to 38.4kbps	
Ethernet Interface	IEEE802.3 10BASE-T	
Tool Connector Interface	Asynchronous TTL level nonprocedural command I/F <During screen file development> Used for transferring data to and from the GLC application software and the GLC. Used for data transfer with the 2-Port feature. <During Logic Program Development> Used for transferring data to and from the Logic Program Development software and the GLC. <During RUN Mode> Used for a variety of devices, such as bar-code readers and serial printers.	
CF Card Interface	1 slot (CompactFlash™)	
Expansion CF Card Interface	---	
Printer Interface	---	
External Reset Input I/F	---	
Flex Network	Communication Style	1: N
	Connection Format	Multi Drop Connection
	Communication Range	200m/CH at 6Mbps, 100m/CH at 12Mbps
	Communication Format	Cyclic Data Transfer, Half-duplex
	Communication Speed	6Mbps, 12Mbps
	Communication I/F	Differential method, Pulse Transformer Insulation method
Error Check	Format Test, Bit Test, CRC-12 Test	
Max. Number of Nodes	63 (1008 I/O points)	
Sound Output	---	

*1 Changing the colors setting to "256 colors" will disable the blink feature on all screens in your project. If you wish to use the blink feature, do not change this setting to "256 colors".

*2 In order to set the monochrome (eight levels of gray) mode, GP-PRO/PB III for Windows Ver.6.2 or later is required. Depending on the color used, selecting MONOCHROME 8 HUES may cause the GLC unit's screen to flicker and make it difficult to distinguish colors. Confirm that all colors display as expected prior to using this mode.

*3 The font size varies depending on the selected language and expansion ratio.

*4 Only available when using "1/2 Byte Character" settings via software. (Only Japanese, Chinese, Taiwanese, and Korean characters)

*5 128 KB of SRAM is reserved for the Online Editor.

*6 A Lithium battery's lifetime is:
 • 10 years when the battery's ambient temperature is 40°C or less.
 • 4.1 years when the battery's ambient temperature is 50°C or less.
 • 1.5 years when the battery's ambient temperature is 60°C or less.
 When used for backup:
 • Approximately 60 days, with a fully charged battery.
 • Approximately 6 days, with a half-charged battery.

*7 SIEMENS SIMATIC S7-200/300/400 series (MPI port only). Please contact your Pro-face sales representative for supported models and other details.

*8 GLC2300T/L supports serial printers.

GENERAL SPECIFICATIONS

Model	GLC2300-TC41-24V	GLC2300-LG41-24V	
Electrical	Rated Voltage	DC24V	
	Rated Voltage Range	DC19.2V to DC28.8V	
	Power Consumption	22W or less	
	Allowable Voltage Drop	10ms or less	
	Voltage Endurance	AC1000V 20mA for 1 minute (between charging and FG terminals)	
	Insulation Resistance	20MΩ or higher at DC500V (between charging and FG terminals)	
	Ambient Operating Temperature	0°C to +50°C*1	
	Storage Temperature	-20°C to +60°C	
	Operating Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature:39°C or less)	
	Storage Humidity	10%RH to 90%RH (Non-condensing, wet bulb temperature:39°C or less)	
Environmental	Vibration Resistance	IEC61131-2 (JIS B 3501) compliant When vibration is NOT continuous: 10Hz to 57Hz 0.075mm, 57Hz to 150Hz 9.8m/s² When vibration is continuous: 10Hz to 57Hz 0.035mm, 57Hz to 150Hz 4.9m/s², 10 times (80min.) for each (X, Y, Z) direction	
	Noise Immunity (via noise simulator)	Noise Voltage: 1000Vp-p, Pulse Duration:1 μs Arise Time: 1ns	
	Electrostatic Discharge Immunity	Contact Discharge Method 6kV (complies with IEC 61000-4-2 Level 3)	
	Air Purity (Dust)	0.1mg/m³ or less (non-conductive levels)	
Structural	Atmospheric Endurance	800hPa to 1,114hPa (2,000 meters or lower)	
	Corrosive Gases	Free of corrosive gases	
	Grounding	100Ω or less, or your country's applicable standard*2	
	Ratings	Equivalent to IP65f (JEM1030)*3, and NEMA TYPE#250 4 X/ 12 (limited to the front face after installation in a panel)	
	Certifications	EN55022 Class A, EN50082-2, UL1604, UL60950	
External Dimensions	W171mm [6.73in.] x H138mm [5.43in.] x D60mm [2.36in.]		
Weight	1.2kg (2.65lb) or less (main unit only)		
Cooling Method	Natural air circulation		

*1 Operating temperature refers to the panel external (GLC unit front face) and panel internal temperatures.

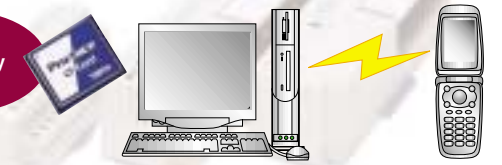
*2 Grounding requirements differ from country to country. Be sure to confirm your work environment requirements prior to installation. For more information, please contact your GLC distributor.

*3 The degree of protection provided by these products is equivalent to IP65f, however their performance cannot be guaranteed for every environment. Be sure to confirm your work environment requirements prior to installation.

INFORMATION Data Collection and Distribution

Information flows smoothly to and from the host PC via CF card or Ethernet, forming a highly reliable system for process control or data collection and providing reliable, assured support for management strategy building.

Easy data transfer by CF card.



Secured and real-time data exchange with commonly used PC applications over CF card, Ethernet or the Internet.

Ethernet



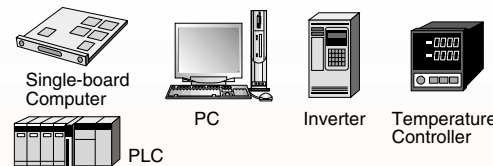
SIO Expansion Unit I/F

COMMUNICATION Useful Interfaces to Meet Your Needs

Versatile interfaces support flexible expansion for a control system that meets your needs.

SIO 1ch (COM1)

To connect various controllers



SIO 2ch (COM2)

Serial devices, such as bar code readers or two-dimensional code readers.



Expansion Unit Interface

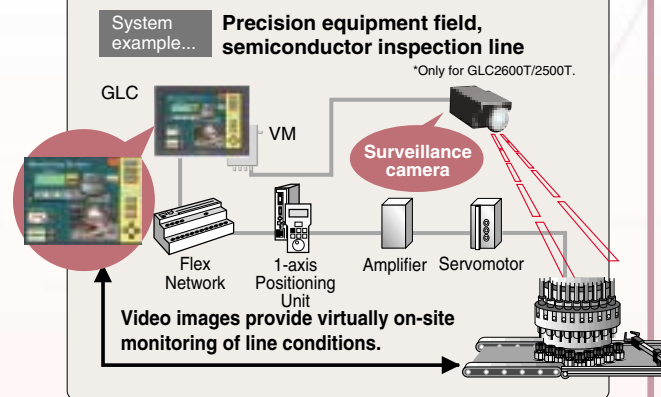
Fieldbus slave connection*

PROFIBUS CANopen DeviceNet

* Only available from Pro-Face Europe B.V.. For further information, please contact Pro-face Europe B.V..

The Video-mix Unit enables more realistic monitoring and control

Adding the Video-mix Unit enables high-precision line surveillance and control over a single screen. Remote operation and monitoring ensures trouble free line control. Plus, the expandability of the GLC2600T/2500T with the 3-way control opens up a wealth of new production possibilities.



Flex Network

CONTROL Distributed I/O Terminals for up to 1008 Points

The remote I/O system contributes to more reliable, high-speed control, cutting wiring costs and labor.

Remote I/O (Flex Network) System

*For details of Flex Network, contact your local sales representative.

64-point I/O Unit

32-point Sink/Source Input, 32-point Sink-type Transistor Output

FN-XY32SKS41 (Spring Clamp Connector)



16-point I/O Units

16-point Sink/Source Input

8-point Sink/Source Input, 8-point Sink Transistor Output

16-point Sink Output

16-point Source Output



High-spec Units

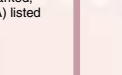
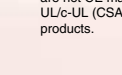
4-channel Analog Input Unit

4-channel Analog Output Unit

High-speed Counter Unit

Single-axis Positioning Unit

*1 4-channel Analog Input / Output Units are not CE marked, UL/c-UL (CSA) listed products.



EASY SCREEN CREATION & LOGIC PROGRAM DEVELOPMENT

Screen Editor and Logic Program Development Software

GP-PRO/PBIII © Package 03

GPPRO-CNT01W-P03

The GP-PRO/PBIII C-Package combines screen creation and logic programming capabilities into one handy package. Using the simple "settings navigator," even beginners can create easy-to-use operating environments.



EASY SCREEN CREATION

Time Scheduling

This function makes it easier to set up devices and handle routine tasks.

Bit On/Off and word setting can be scheduled by day of the week or for a specific time. The weekly and time setting can also be changed on the display device.



Security Level Function

Restrict user access depending by operator level.

Use the 15-level password protection function to restrict access to specific screens, such as management and maintenance screens. This protection function helps to improve screen security, which also means greater safety for machines that are unattended or installed off-site.



Improved Keypad Display Function

We expanded the setting parameter display function for more efficient on-screen input.

- Touch input for input mode activation.
- A sequence designation function for inputting multiple items (with the group function).
- Designation of the change notification bit for individual setting parameter displays.
- A more flexible arrangement for the popup keyboard.



Text Screen's Multi-language Function

The text screen now supports multiple languages. A and X tags can be used to display different languages.



Improved Editing

Expanded Alarm Summary Display Function Using Q Tags

LOGIC PROGRAM

Supports Ladder Monitor

Current values and set values can be changed from the display screen.

Additionally, because the current values/set values can be altered not only from the ladder monitor but also the display screen, the contact point's ON/OFF and timer/counter's tuning can be performed even if a computer is not available.



Add New Instructions

15 kinds of ladder instructions, such as arithmetic functions, have been added. This makes developing programs much easier.

*Supported by GLC2000 series only (except for GLC2400/2600's old revisions.)

Command Extensions	Type
SUM	Sum (Returns total value of input array)
AVE	Average (Returns average value of input array)
RCL	Left Rotation with Carry
RCR	Right Rotation with Carry
SAL	Arithmetic Shift Left
SAR	Arithmetic Shift Right
BCNT	Bit Count
ASIN	Arc Sine
ACOS	Arc Cosine
ATAN	Arc Tangent
COT	Cotangent
EXP	Exponent e(x)->y
LN	Natural Logarithm Loge(x)->y
DEG	Degree Conversion (Radians ->Degrees)
SQRT	Square Root
RAD	Radian Conversion (Degrees ->Radians)

More Convenient to Operate

Inserted commands and variables are graphically displayed, making ladder programming mistakes easy to avoid.

OMRON

Table listing OMRON PLC models and their communication capabilities. Columns include Series Name, CPU, Link, Direct, 1:n, Multi-Link, Device-Net, Ethernet, and others.

ORIMVEXTA

Table for ORIMVEXTA series with columns for Series Name, CPU, and Link.

Rockwell (Allen-Bradley)

Large table listing Rockwell PLC models (SLC-500, PLC-5, Control Logix 5000, MicroLogix 1000, MicroLogix 1200, MicroLogix 1500, CompactLogix) and their various communication protocols.

Schneider Electric

Table listing Schneider Electric PLC models (Premium, Twido, Quantum, Momentum) and their communication capabilities.

Sharp

Table listing Sharp PLC models (New Satellite JW) and their communication capabilities.

Shinko Electric

Table listing Shinko Electric PLC models (SELMART) and their communication capabilities.

SIEMENS

Table listing Siemens PLC models (SIMATIC S5, SIMATIC S7-200, SIMATIC S7-300, SIMATIC S7-400) and their communication capabilities.

Schneider Electric

Table listing Schneider Electric PLC models (Nano, Micro) and their communication capabilities.

Toshiba

Table listing Toshiba PLC models (PROSEC T, PROVIDOR B, V Series) and their communication capabilities.

Toshiba Machine

Table listing Toshiba Machine PLC models (PROVISOR TC200) and their communication capabilities.

Toyoda Machine Works

Table listing Toyoda Machine Works PLC models (TOYOPUC-PC2, TOYOPUC-PC3) and their communication capabilities.

Yaskawa Electric

Table listing Yaskawa Electric PLC models (Memocon-SC, Control Pack, Memocon Micro, PROGIC-8, MP900, MP2000) and their communication capabilities.

Yokogawa

Table listing Yokogawa PLC models (FACTORY ACE, STARDOM) and their communication capabilities.

Table listing Yaskawa Inverter models (FUJI ELECTRIC) and their communication capabilities.

Ubon

Table listing Ubon PLC models (UPZ) and their communication capabilities.

Inverters

Table listing various inverter models from Fuji Electric and Hitachi Industrial Equipment Systems.

Table listing Hitachi Industrial Equipment Systems inverter models (SJ300, L300P) and their communication capabilities.

Mitsubishi Electric

Table listing Mitsubishi Electric inverter models (FREQOR, FREQOL, FREQOL-B3) and their communication capabilities.

Toshiba Schneider Inverter

Table listing Toshiba Schneider Inverter models (VF-S9, VF-nC1, VF-S11, VF-A7) and their communication capabilities.

Yaskawa Electric

Table listing Yaskawa Electric inverter models (Varispeed G7, Varispeed F7, VS mini V7, VS mini J7) and their communication capabilities.

Temperature Controllers

Table listing various temperature controller models from Chino, LT, JU, and Fuji Electric.

Fenwal Controls of Japan

Table listing Fenwal Controls of Japan AL Series temperature controllers.

Rui Electric

Table listing Rui Electric temperature controller models (Micro Controller-X, PXR) and their communication capabilities.

OMRON

Table listing OMRON temperature controller models (E5_N Digital, Modular Dual Loop) and their communication capabilities.

RKC Instrument

Table listing RKC Instrument temperature controller models (CB Series, SR-Mini, SRV, SRX, REX-F, SR Mini HG, MA900, HA900) and their communication capabilities.

RKC Instrument

Table listing RKC Instrument temperature controller models (HA400, SA200, LE100) and their communication capabilities.

Shimaden

Table listing Shimaden temperature controller models (SR253, SR80, SR90, MR13, FP93, SD16, EM70) and their communication capabilities.

Shinko Technos

Table listing Shinko Technos temperature controller models (C, FC, FIR, GC, FCL, PC-900, PCD-33A, JCR-33A, JCD-33A, JIR-301-M, DCL-33A) and their communication capabilities.

Toho Denshi

Table listing Toho Denshi temperature controller models (TTM-004, TTM-X04, TTM-00B, TTM-10L, TTM-100B, TTM-110, TTM-110B, TTM-120, TTM-300, TTM-300B, TTM-1020) and their communication capabilities.

Yamatate

Table listing Yamatate temperature controller models (SDC, DMC) and their communication capabilities.

Yokogawa M&C

Table listing Yokogawa M&C temperature controller models (UT100, UT2000, UT3000, GREEN SERIES) and their communication capabilities.

Servos

Table listing Matsushita Electric Servo Motor models (MINAS-A, MINAS-S) and their communication capabilities.

Analyzer

Table listing JT Engineering Analyzer models (JE-70) and their communication capabilities.

Bar-Code Readers

Table listing various 2-D Code Reader models from Tohken and Denso.

Bar Code Readers (Connected to Tool Connector)

Table listing various Bar Code Reader models from Aimex, OPTO Electronics, Tohken, NEC, Infrontia, and Denso.

Footnote explaining model codes and providing installation instructions for bar code readers.

Bar-Code Readers (Connected to Expansion Serial Connector)

Table listing various Bar Code Reader models from Aimex, OPTO Electronics, Symbol Technology, Keyence, and Denso.

Speakers

Table listing various Speaker models from Arrow Electronics and Noboru Electric.

Additional notes and footnotes regarding communication protocols and product specifications.

GLC Distributed I/O System

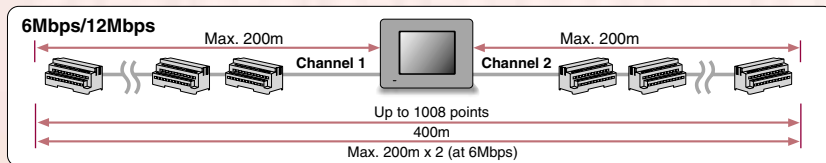
FLEX NETWORK I/O SPECIFICATIONS

	DIO Terminals										
	8-point I/O	16-point I/O				32-point I/O		64-point I/O			
	8-point Relay Output/ 1 Common	16-point Sink/Source Input	8-point Sink/Source Input, 8-point Sink Transistor Output	16-point Sink Output	16-point Source Output	32-point Sink/Source Input	16-point Sink/Source Input, 16-point Sink Transistor Output	16-point Sink/Source Input, 16-point Transistor Source Output	32-point Sink/Source Input, 32-point Transistor Sink Output		
Model	FN-Y08RL41	FN-X16TS41	FN-XY08TS41	FN-Y16SK41	FN-Y16SC41	FN-X32TS41	FN-XY16SK41	FN-XY16SC41	FN-XY32SKS41		
Electrical	Rated Voltage DC24V										
	Allowable Voltage Range DC20.4V to DC28.8V										
	Allowable Voltage Drop 10ms or less (for DC24V power supply)										
	Internal Power Consumption	1.0W or less	1.5W or less				2.5W or less		3.5W or less		
	Voltage Endurance	AC1500V at 10mA for 1 minute (between power/Input and Output, and FG terminals.)					AC500V at 10mA for 1 minute (between power/Input and Output, and FG terminals.)				
Environmental	Insulation Resistance 10MΩ or higher at DC500V (between power/Input and Output, and FG terminals.)										
	In-rush Current 30A or less										
	Operating Temperature 0°C to +55°C										
	Storage Temperature -25°C to +70°C										
	Operating Humidity 5% RH to 95% RH (non-condensing, wet bulb temperature: less than 39°C)										
	Storage Humidity 5% RH to 95% RH (non-condensing, wet bulb temperature: less than 39°C)										
	Air Purity (Dust) 0.1mg/m ³ or less (non-conductive levels)										
	Pollution Degree Pollution degree 2										
	Corrosive Gas Free of corrosive gases										
	Vibration Endurance 5Hz to 55Hz, 60m/s ² for 2 hours each in X, Y, and Z directions										
Shock Endurance 300m/s ² (for 10ms in X, Y, and Z directions-3 times each)											
Noise Immunity (via noise simulator) Noise voltage: 1000Vp-p, Pulse Duration: 1μs, Arise time: 1ns											
Electrostatic Discharge Immunity Contact Discharge Method 6kV (IEC 61000-4-2, Level 3)											
Structural	Attachment Method via 35mm DIN rail or by attachment screws										
	Cooling Method Natural air circulation										
	Weight	150g or less				350g or less					
External Dimensions	W108mm [4.25in] x H45mm [1.77in] x D49mm [1.93in]				W110mm [4.33in] x H95mm [3.74in] x D57mm [2.24in]		W135mm [5.31in] x H95mm [3.74in] x D46mm [1.81in]				
	Rating IP20										
Input/Output	Rated Input Voltage DC24V										
	Max. Input Voltage DC28.8V										
	Input Points	8 points (common for sink/source types)	16 points (open drain sink output)	8 points (common for sink/source types)	16 points (open drain sink output)	16 points (open drain source output)	32 points (common for sink/source types-dual use)	16 points (common for sink/source types-dual use)	32 points (common for sink/source types-dual use)	32 points (common for sink/source types-dual use)	
	Input Type	Type 1**				Type 1**					
	Input ON Voltage	DC15V or more				DC15V or more					
	Input OFF Voltage	DC5V or less				DC5V or less					
	Input Impedance	4.1kΩ				4.2kΩ					
	Input Delay OFF-ON	1.5ms or less				1.5ms or less					
	Input Delay ON-OFF	1.5ms or less				1.5ms or less					
	Rated Output Voltage	DC24V	DC24V				DC24V				
	Output Terminal Allowable Voltage Range	DC20.4V to DC28.8V	DC20.4V to DC28.8V				DC20.4V to DC28.8V				
	Power Consumption	1.2W or less (when all outputs are ON/DC24V)									
	Output Points	8 points/1 common	8 points (open drain sink output)	16 points (open drain sink output)	16 points (open drain source output)		16 points (open drain sink output)	16 points (open drain source output)	32 points (open drain sink output)	32 points (open drain sink output)	
	Max. Load Current	1.0A/point (8 points/1 common, max. common current 4.0A)	0.2A/point (8 points/1 common, max. common current 1.6A)	0.2A/point (16 points/1 common, max. common current 2.0A)		0.2A/point (16 points/1 common, max. common current 1.6A)		0.2A/point (16 points/1 common, max. common current 1.6A)		0.2A/point (32 points/1 common, max. common current 1.6A)	
	Short-circuit Protection	None									
Built-in Fuse	3.5A, DC125V built-in Chip Fuse (cannot be replaced)										
Voltage Drop (ON Voltage)	DC1.5V or less										
Clamp Voltage	DC39V±1V										
Current Leakage	0.1mA or less										
Output Delay Time OFF-ON	10ms or less				1ms or less						
Output Delay Time ON-OFF	5ms or less				1ms or less						
Contact Rating	1A at AC240V (resistive load, dielectric load) 1A at DC24V (resistive load, dielectric load)										
Max. Closing Load	1mA/DC5V										
Initial Contact Resistance	50mΩ or less										
Electrical Lifetime	100,000 operations or more										
Mechanical Lifetime	20,000,000 operations or more										
Number of Occupied Nodes	1				2		1			4	

* When connecting units to the Flex Network, use Flex Network communication cables for stable, high-speed communications.

International Safety Standards

Model numbers ending in "41" comply with the following standards:



	Single-axis Positioning Unit	High-speed Counter Unit	Analog Units		
		High-spec Units	4-channel Analog Input Unit	4-channel Analog Output Unit	
Model	FN-PC10SK41/Teaching Loader: FN-PC10LD41	FN-HC10SK41	FN-AD04AH11	FN-DA04AH11	
Electrical	Rated Voltage	DC24V			
	Allowable Voltage Range	DC20.4V to DC28.8V			
	Allowable Voltage Drop	10ms or less (for DC24V power supply)			
	Internal Power Consumption	4.5W or less	15A or less		
	In-rush Current	30A or less	30A or less		
Environmental	Voltage Endurance	AC500V 20mA for 1 min. (combined I/O power and FG terminals)	AC500V 20mA for 1 min. (between I/O and earth terminals)		
	Insulation Resistance	10MΩ or higher at DC500V (combined I/O power and FG terminals)	10MΩ or higher at DC500V (between I/O and earth terminals)		
	Operating Temperature	0°C to +55°C			
	Storage Temperature	-25°C to +70°C			
	Operating Humidity	30% RH to 95% RH (non-condensing)			
Structural	Storage Humidity	30% RH to 95% RH (non-condensing)			
	Air Purity (Dust)	0.1mg/m ³ or less (non-conductive levels)			
	Corrosive Gas	Free of corrosive gases			
	Atmospheric Pressure	800hPa to 1,114 hPa (2,000m or lower)			
	Vibration Endurance	IEC61131-2 (JIS B 3501) compliant When vibration is NOT continuous: 10Hz to 57Hz 0.075mm, 57Hz to 150Hz 9.8m/s ² When vibration is continuous: 10Hz to 57Hz 0.035mm, 57Hz to 150Hz 4.9m/s ² X, Y, Z directions for 10 times (80min.)		AC1500V 10mA 1 min. (between input/output and FG terminals) AC500V 1 min. (between power supply 1st Level and 2nd Level)	
	Shock Endurance	IEC61131-2 (JIS B3501) Compliant 147m/s ² (for 11ms in X, Y, Z directions-2 times each)		5Hz to 55Hz 60m/s ² (in X, Y, Z directions for 3 times each)	
	Noise Immunity (via noise simulator)	Noise voltage: 1000Vp-p, Pulse Duration: 1μs, Arise time: 1ns			
	Electrostatic Discharge Immunity	Contact Discharge Method 6kV (IEC 61000-4-2 Level 3)			
	Attachment Method	via 35mm DIN rail or by attachment screws			
	Cooling Method	Natural air circulation			
	Weight	700g [1.54lb] or less (Main unit only)		350g [0.77lb] or less	
	External Dimensions	W122mm [4.80in] x H196mm [7.72in] x D35mm [1.38in]		W108mm [4.25in] x H49mm [1.93in] x D45mm [1.77in]	
		Rating IP30 (without terminal block)		Rating IP30 (without terminal block)	
	Performance	No. of Control Axis	1		
		Input Control	Photo-coupler Isolation		
Program Method		Sequence program, Teaching loader			
Max. Positioning Memory		90 points (ABS/INC)			
Pulse Output Method		CW/CCW Line Driver Output/Open Collector Output			
Output Frequencies*2		1.5625pps to 62.5kpps/6.25pps to 250kpps/12.5pps to 500kpps/50pps to 2Mpps (set via parameters)			
Max. Pulse Output		+/-2,147,483,647 pulses			
Accelerate/Decelerate Method		Trapezoidal and Sine/Sinusoidal curves			
Position Settings		Absolute/Incremental			
Backlash Correction		0 to 65,535 pulses			
Control Mode		Manual, Automatic, Direct			
Origin Point Return		4 Types (option, low-speed, 2 types of high speed)			
Origin Point Correction		-32,767 to 32,767 pulses			
Input		Rated Input Voltage	DC24V		
		Maximum Allowable Input Voltage	DC26.4V		
	No. of Input Points	5 points (1 common)			
	Input ON Voltage	DC19V or higher			
	Input OFF Voltage	DC5V or less			
	Input Impedance	3.9kΩ			
	Input Delay OFF-ON	1.5ms or less			
	Input Delay ON-OFF	1.5ms or less			
	Rated Output Voltage	DC5V			
	Maximum Allowable Output Voltage	DC5.5V			
	No. of Input Points	1			
	Input Impedance	330Ω			
	Input ON Voltage	DC4V or higher			
	Input OFF Voltage	DC1V or lower			
	Input Delay OFF-ON	1.5ms or less			
Input Delay ON-OFF	1.5ms or less				
Rated Output Voltage	DC24V				
Maximum Allowable Output Voltage	DC24V (+/-10%)				
No. of Output Points	1				
Maximum Load Current	50mA or less				
Output Hold Feature	None				
Voltage Drop (ON Voltage)	DC1.5V or less				
Clamp Voltage	DC39V +/-1V				
Current Leakage	0.1mA or less				
Output Delay Time OFF-ON	1ms or less				
Output Delay Time ON-OFF	1ms or less				
Contact Rating	1A at AC240V (resistive load, dielectric load) 1A at DC24V (resistive load, dielectric load)				
Max. Closing Load	1mA/DC5V				
Initial Contact Resistance	50mΩ or less				
Electrical Lifetime	100,000 operations or more				
Mechanical Lifetime	20,000,000 operations or more				
Number of Occupied Nodes	4				

*1 Digital input is for detecting signals from mechanical switching devices such as relay contacts, push buttons, switches, etc.

*2 Max. speed for open collector output is 100kpps.

*3 FN-AD04AH11 is an impedance 1kΩ. FN-DA04AH11 is an impedance 1kΩ.

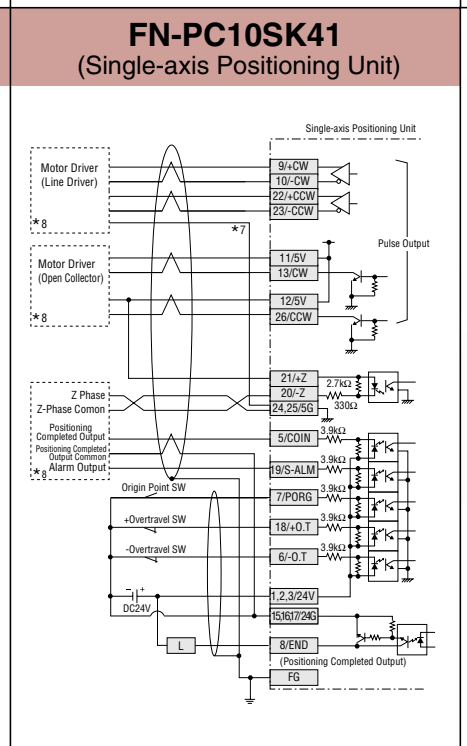
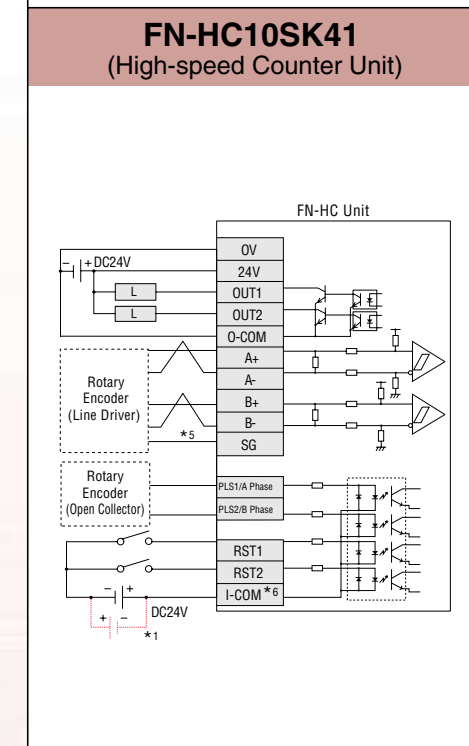
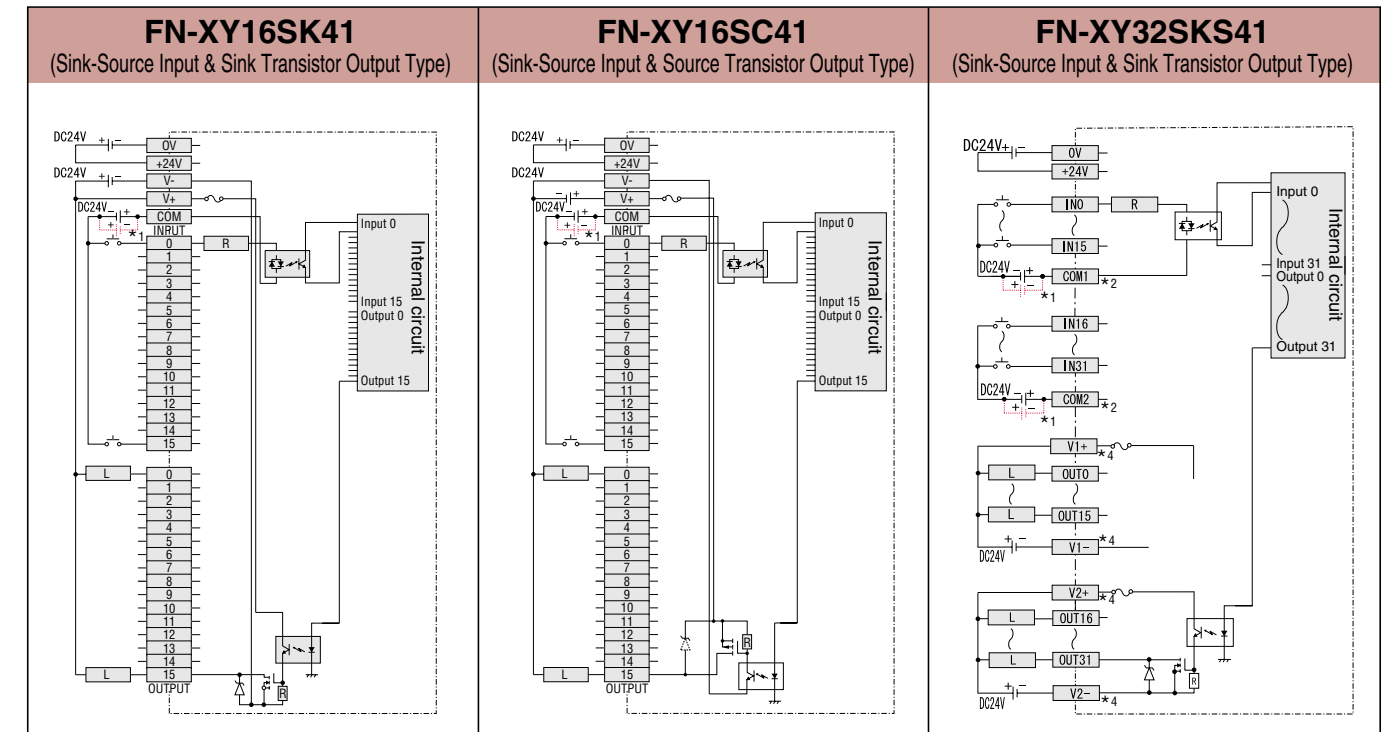
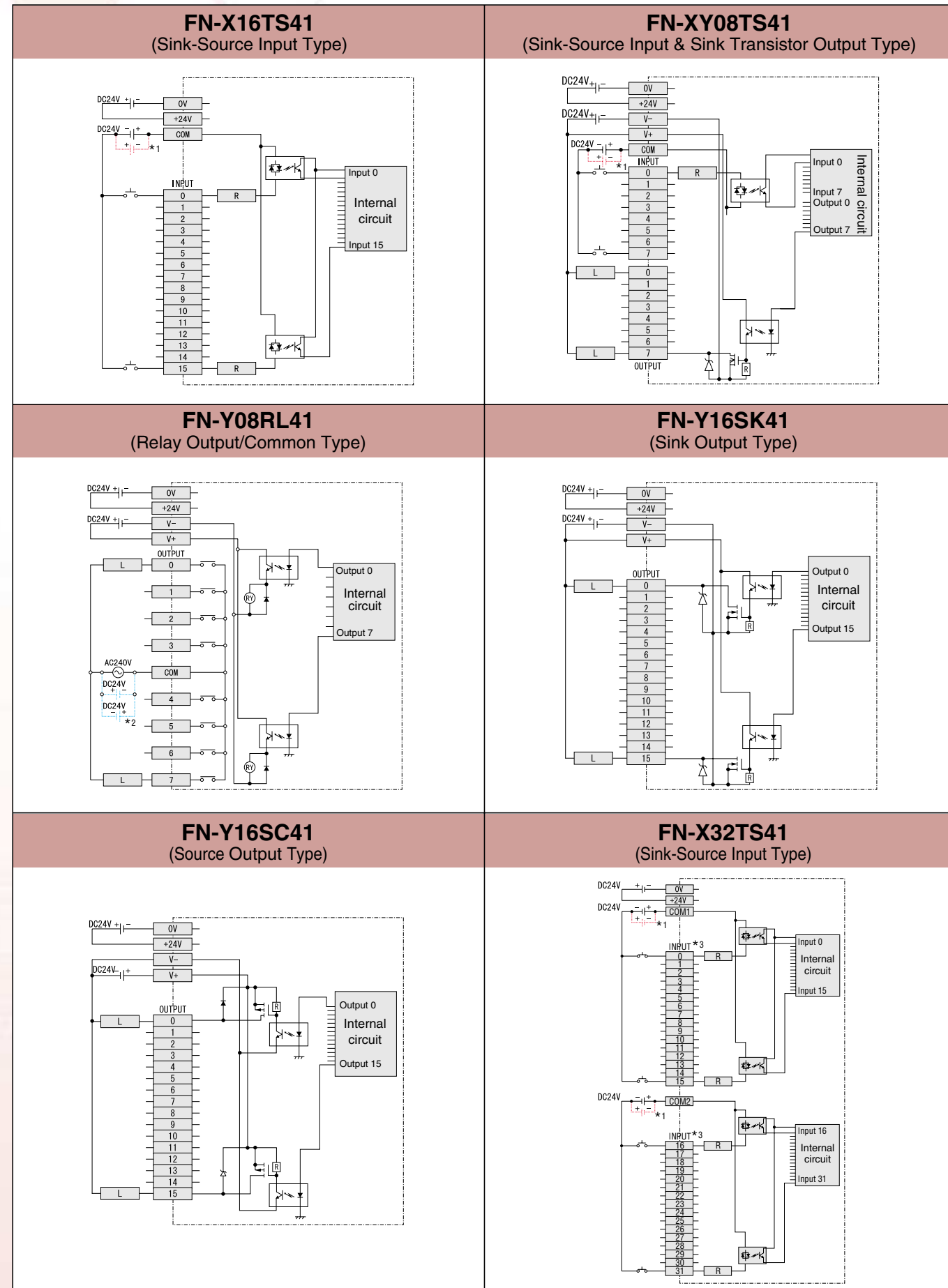
*4 FN-AD04AH11 is an impedance 200Ω. FN-DA04AH11 is an impedance 400Ω.

*5 Between input terminal and internal circuit (FN-AD04AH11).

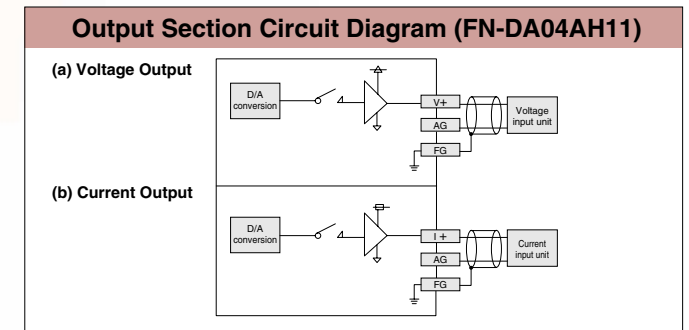
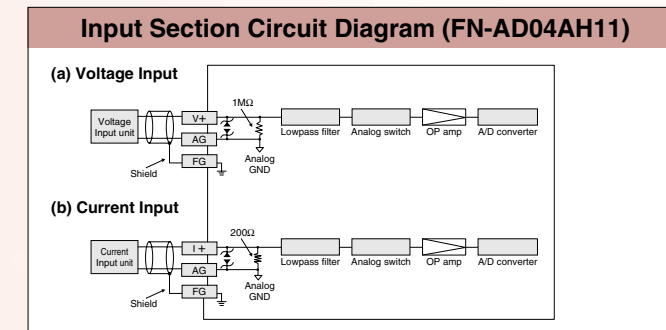
Between output terminal and internal circuit (FN-DA04AH11).

GLC Distributed I/O System

FLEX NETWORK I/O CIRCUIT DIAGRAMS



- *1 Dotted line shows the source output connection.
- *2 The COM power supply can be changed according to the relay specifications.
- *3 When using IN0 to IN15, use COM1. When using IN16 to IN31, use COM2 as the input common.
- *4 For OUT0 to OUT15, connect the output power to V1+/V1-. For OUT16 to OUT31, connect the output power to V2+/V2-.
- *5 The FN-HC unit's input line is not isolated. When connecting this unit to a non-isolated line driver, be sure to connect the signal ground (SG terminal).
- *6 The Input Common (I-COM) shown here is connected to a Sink Output type. (The dotted line shows the connection with a Source Output type.)
- *7 The FN-PC unit's live line is not isolated. If it is connected to a non-isolated servo driver, be sure to connect the signal ground (5G) to prevent an over-current accident.
- *8 For motor driver connection details, refer to appendix 1.



Specifications

GLC DISTRIBUTED I/O (FLEX NETWORK) I/F SPECIFICATIONS

Communication Type	1:N
Connection Method	Multi-Drop Connection
Transfer Distance	6Mbps 200m per CH, at 12Mbps 100m per CH
Transfer Method	During cyclic period, distributed transmission, Half-duplex
Transfer Speed	6Mbps, 12Mbps
Transfer I/F	Differential method, Pulse transfer resistance
Error Check	Format, bit, CRC-12 verification
No. of Nodes	63 (max.), 1008 I/O points

I/F Connector (GLC2600T/2500T/2400T)

Pin No.	Signal Name	Condition		Pin Assignments
1	AUXCOM	External Reset Common	Ext.Reset	
2	AUXRESET	External Reset Input		
3	TR+	CH1 Communication Data	Flex Network	
4	TR-	CH1 Communication Data		
5	SLD	CH1 Cable Shield Line		
6	TR+	CH2 Communication Data		
7	TR-	CH2 Communication Data		
8	SLD	CH2 Cable Shield Line		
9	RESERVE	Reserved	Sound Output	
10	SP OUT	Speaker Output		
11	GND	Ground		
12	LINE OUT	Sound Lineout Output		

I/F Connector (GLC2300T/L)

Pin No.	Signal Name	Condition		Pin Assignments
1	TR+	CH1 Communication Data		
2	TR-	CH1 Communication Data		
3	SLD	CH1 Cable Shield Line		
4	TR+	CH2 Communication Data		
5	TR-	CH2 Communication Data		
6	SLD	CH2 Cable Shield Line		

SERIAL I/F (COM1) SPECIFICATIONS

Recommended Connector: Dsub 25-pin plug XM2A-2501 (OMRON)
Recommended Cover: Dsub 25-pin cover XM2S-2511 (OMRON)
 Jack Screws XM2Z-0071 (OMRON)
 * Use rough metric type M2.6x0.45 p threads to secure the cable's set screws.

Recommended Cable: CO-MA-VV-SB5P 28AWG (Hitachi Cable Ltd.)

Serial I/F	Asynchronous: RS-232C/RS-422; Data length: 7 or 8bits; Stop bit: 1 or 2bits; Parity: none, odd or even; Data transmission speed: 2400 to 115.2kbps (MPI: 187.5kbps)
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SIO Connector Specifications

Pin No.	Signal Name	Condition	Pin Assignments
1	FG	Frame Ground	
2	SD	Send Data (RS-232C)	
3	RD	Receive Data (RS-232C)	
4	RS	Request Send (RS-232C)	
5	CS	Clear Send (RS-232C)	
6	DR	Data Set Ready (RS-232C)	
7	SG	Signal Ground	
8	CD	Carrier Detect (RS-232C)	
9	TRMX	Termination (RS-422)	
10	RDA	Receive Data A (RS-422)	
11	SDA	Send Data A (RS-422)	
12*	NC	No Connection (Reserved)	
13*	NC	No Connection (Reserved)	
14	VCC	5V ±5% Output 0.25A	
15	SDB	Send Data B (RS-422)	
16	RDB	Receive Data B (RS-422)	
17	RI	Ring Indicate (RS-232C)	
18	CSB	Clear Send B (RS-422)	
19	ERB	Enable Receive B (RS-422)	
20	ER	Enable Receive (RS-232C)	
21	CSA	Clear Send A (RS-422)	
22	ERA	Enable Receive A (RS-422)	
23*	NC*	No Connection (Reserved)	
24*	NC*	No Connection (Reserved)	
25*	NC*	No Connection (Reserved)	

*Pins 12, 13, 23, 24 and 25 are reserves. Do not connect anything to them.

COMMON I/F SPECIFICATIONS

Tool Connector

Tool Connector	Asynchronous: TTL level non-procedural command Connect data transfer cable for transferring data, serial printer, Bar code reader
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SERIAL I/F (COM2) SPECIFICATIONS

Recommended Connector: Dsub 9-pin socket XM2D-0901 (OMRON)
Recommended Cover: Dsub 9-pin cover XM2S-0913 (OMRON)
 Jack Screws XM2Z-0073 (OMRON)

SIO Connector Specifications

Pin No.	Signal Name	Signal Direction	Condition	Pin Assignments
1	CD	Input	Carrier Detect (RS-232C)	
2	RD	Input	Receive Data (RS-232C)	
3	SD	Output	Send Data (RS-232C)	
4	ER	Output	Enable Receive (RS-232C)	
5	SG	—	Signal Ground	
6	DR	Input	Data Set Ready (RS-232C)	
7	RS	Output	Request Send (RS-232C)	
8	CS	Input	Clear Send (RS-232C)	
9	RI/VCC	Input/Output	Ring Indicate (RS-232C) +5V+5% 0.25A	

PRINTER INTERFACE SPECIFICATIONS

Pin No.	Signal Name	Condition	Pin Assignments
1	GND	Ground	
2	RESERVE	Reserved	
3	PDB5	Data Signal	
4	PDB4	Data Signal	
5	PDB3	Data Signal	
6	GND	Ground	
7	SLCT	Select Status (Input)	
8	PDB0	Data Signal	
9	PSTB	Strobe Signal (Output)	
10	BUSY	Busy Signal (Input)	
11	PDB7	Data Signal	
12	PDB6	Data Signal	
13	GND	Ground	
14	ERROR	Printer Error (Input)	
15	GND	Ground	
16	PDB2	Data Signal	
17	PDB1	Data Signal	
18	PE	Paper Runout	
19	INIT	Initialization Signal (Output)	
20	GND	Ground	

Accessories

SOFTWARE

Screen Editor and Logic Program Development Software
GP-PRO/PB III
 Package
 GPPRO-CNT01W-P**

Data Collection Software
Pro-Server
 with Pro-Studio
 PSW-ED01-V**

Pro-Server Add-on Software
GP-Viewer
 PSW-GV01-V**

Web Operation Software
GP-Web
 GW-CJ01-V**

FOR TOOL CONNECTOR

Data Transfer Cable
GPW-CB02

USB Data Transfer Cable
GPW-CB03

FOR CF CARD INTERFACE

CF Card (64MB)
CA3-CFCALL/64MB-01
 CF Card (128MB)
CA3-CFCALL/128MB-01
 CF Card (256MB)
CA3-CFCALL/256MB-01
 CF Card (512MB)
CA3-CFCALL/512MB-01

CF Card Adaptor
GP077-CFAD10
 CF Card Front Maintenance Unit*
GP077-CFFM10 For GLC 2600T For GLC 2500T

* This Unit cannot be used at the same time as the Bus Conversion Unit (PSL-CONV00)

FOR SERIAL INTERFACE (COM1)

RS-232C Cable (5m)
GP410-IS00-O

RS-422 Cable (5m)
GP230-IS11-O

For Multi-link Cable
GP230-IS12-O

RS-442 Connector Terminal Block Adaptor
GP070-CN10-O

CPU I/F Cable for Mitsubishi PLC A, QnA Series
GP430-IP10-O

CPU I/F Cable for Mitsubishi PLC FX Series
GP2000-CBLFX/1M-01
GP2000-CBLFX/5M-01

FOR EXPANSION UNIT INTERFACE 1

Two-port Adapter II for Mitsubishi PLC A, QnA, FX Series
GP070-MD11

FOR EXPANSION UNIT INTERFACE 2

PROFIBUS Slave Unit *1
CA1-PFSALL-21 CE

DeviceNet Slave Unit *1
CA1-DNSALL-21 CE

CANopen Slave Unit *1
CA1-COSALL-21 CE

*1 To be sold at only Pro-Face Europe B.V.. For further information, please contact Pro-face Europe B.V..

FOR PRINTER INTERFACE

Printer Cable (2m)
PSM-PRCB00 For GLC 2600T For GLC 2500T For GLC 2400T

FOR FLEX NETWORK

Flex Network Communication Cable
FN-CABLE 2010-31-MS (10m)
FN-CABLE 2050-31-MS (50m)
FN-CABLE 2200-31-MS (200m)

Motor Driver Connection Cable
FN-PC10CB01 (1m)

64-point I/O unit DIO Connector (Spring Type)
GLC-DIOCN03

Single-axis Teaching Loader Cable
FN-LD10CBL (5m)

Screw Lock Terminal Block
GLC2300-FNCN01 For GLC 2300L/T

FOR MAINTENANCE OPTION

Backlight
PS600-BU00 For GLC 2600T

Rubber Gasket
GP570-WP10-MS For GLC 2600T For GLC 2500T

Installation Fastener
GP070-AT01

Screen Protection Sheet (5 sheets/set)
PSL-DF00 For GLC 2600T For GLC 2500T

Connector Cover
GP577RT-BL00-MS For GLC 2500T

PS400-WP00-MS For GLC 2400T

Screw Lock Terminal Block
GPM-AXCN01 For GLC 2600T For GLC 2500T For GLC 2400T

PS400-DF00 For GLC 2400T

PS400-BU00-MS For GLC 2400T

PS300-WP00 For GLC 2300L/T

PS300-DF00 For GLC 2300L/T