

Pro-face

Human Machine Interface

Touch Panel

Information Integration

Beautiful Graphics

Control Functions



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   



- 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   

Aluminum body for superb cooling and dust resistance.

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

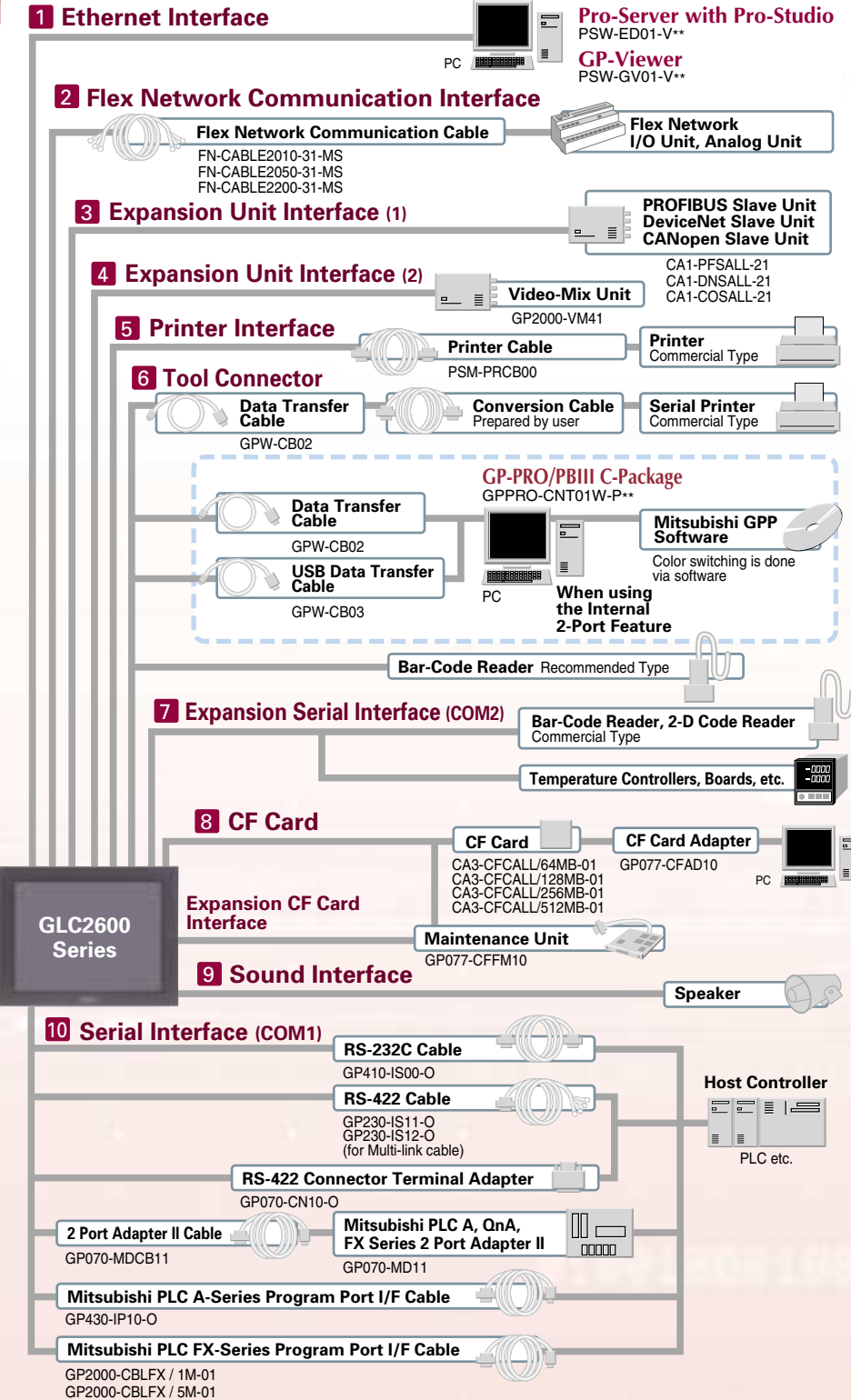
12.1 inch

800 x 600 Pixels

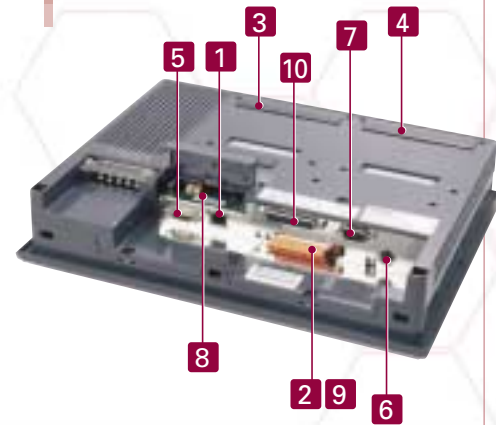


GLC2600T

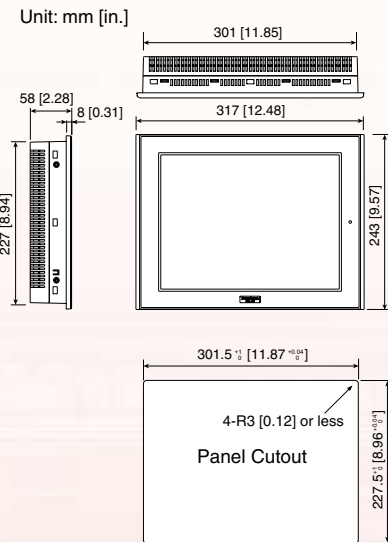
SYSTEM DESIGN



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) Hangeul 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

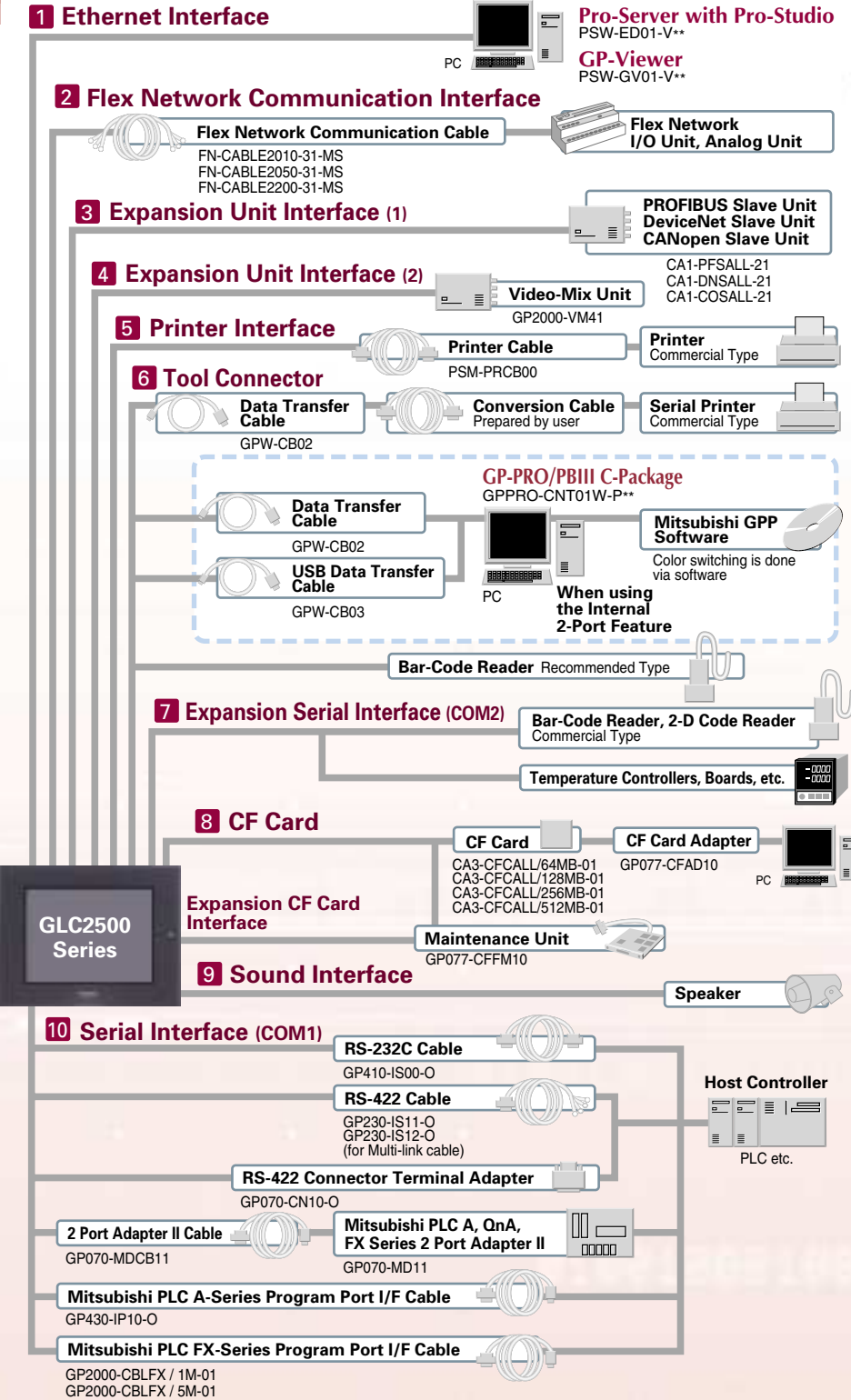
10.4 inch

640 x 480 Pixels

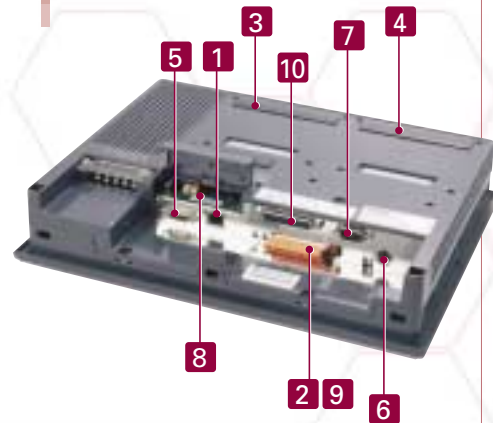


GLC2500T

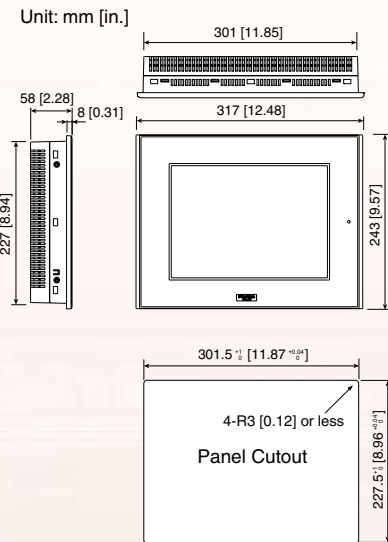
SYSTEM DESIGN



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) 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", 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

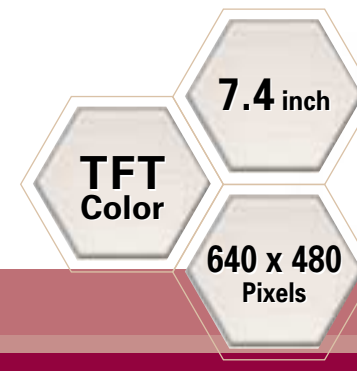
Model	GLC2500-TC41-200V	GLC2500-TC41-24V
Rated Voltage	AC100V to AC240V	DC24V
Rated Voltage Range	AC85V to AC265V	DC19.2V to DC28.8V
Power Consumption	50VA or less (ACIN100V) 85VA or less (ACIN240V)	50W or less
Allowable Voltage Drop	20ms or less	10ms or less
Voltage Endurance	AC1500V 20mA for 1 minute (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: 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, EN61000-3-2, 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.

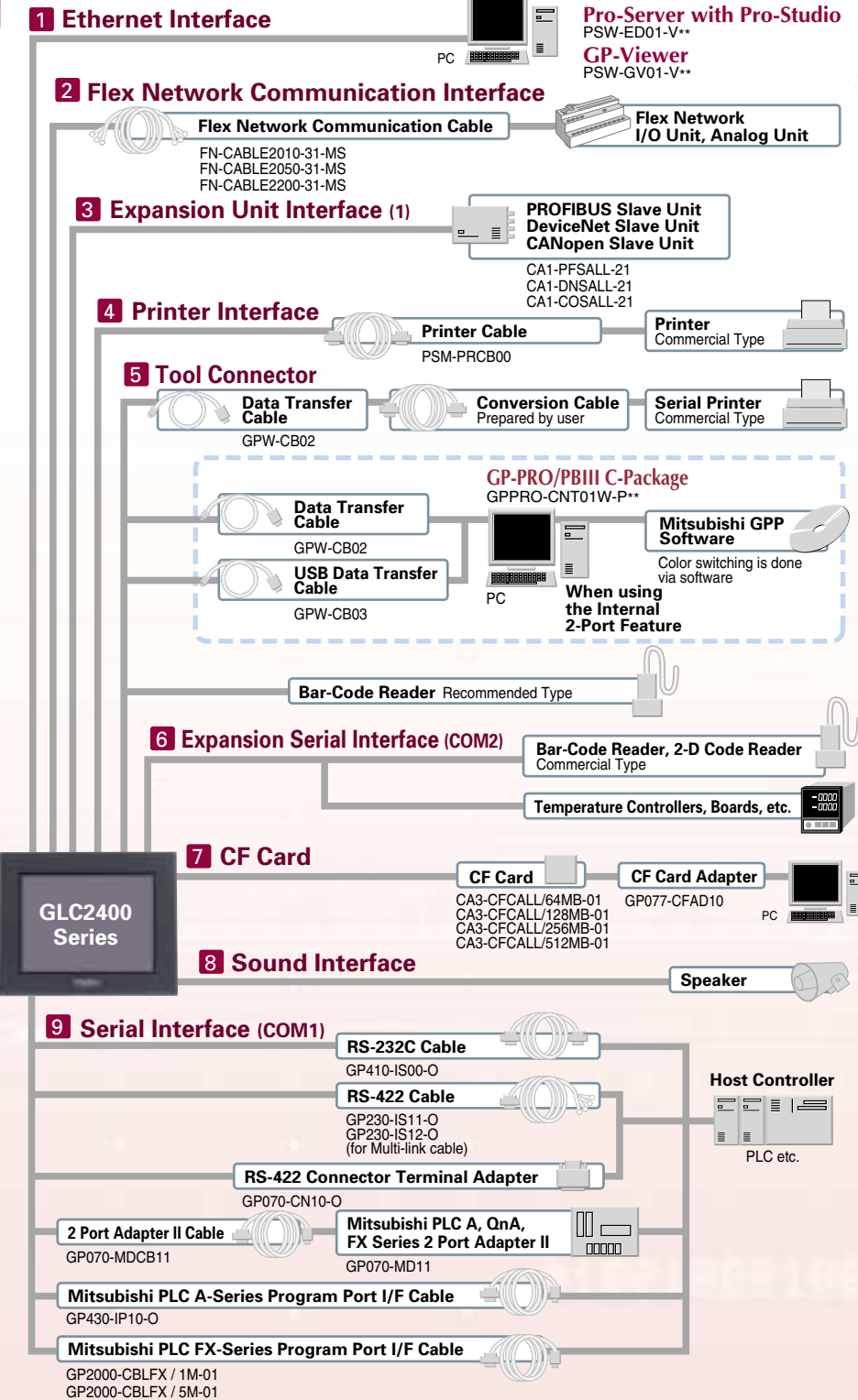
GLC 2400 Series

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

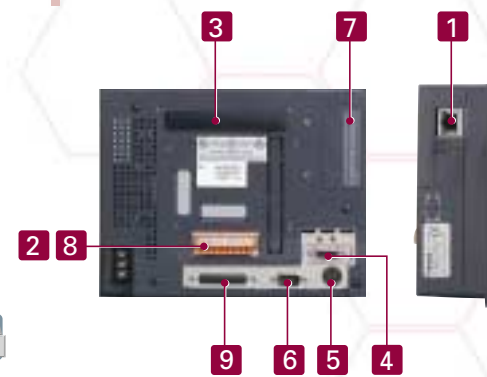


GLC2400T

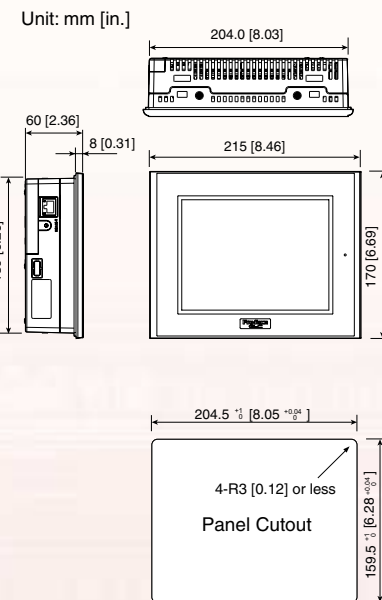
SYSTEM DESIGN



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.

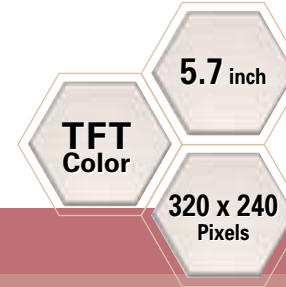
GENERAL SPECIFICATIONS

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

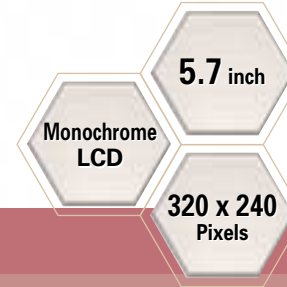
*1 Grounding requirements differ from country to country. Be sure to confirm your work environment requirements prior to installation. For more information, please contact your GLC distributor.
 *2 The degree of protection provided by these products is equivalent to IP65f, however their performance cannot 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.

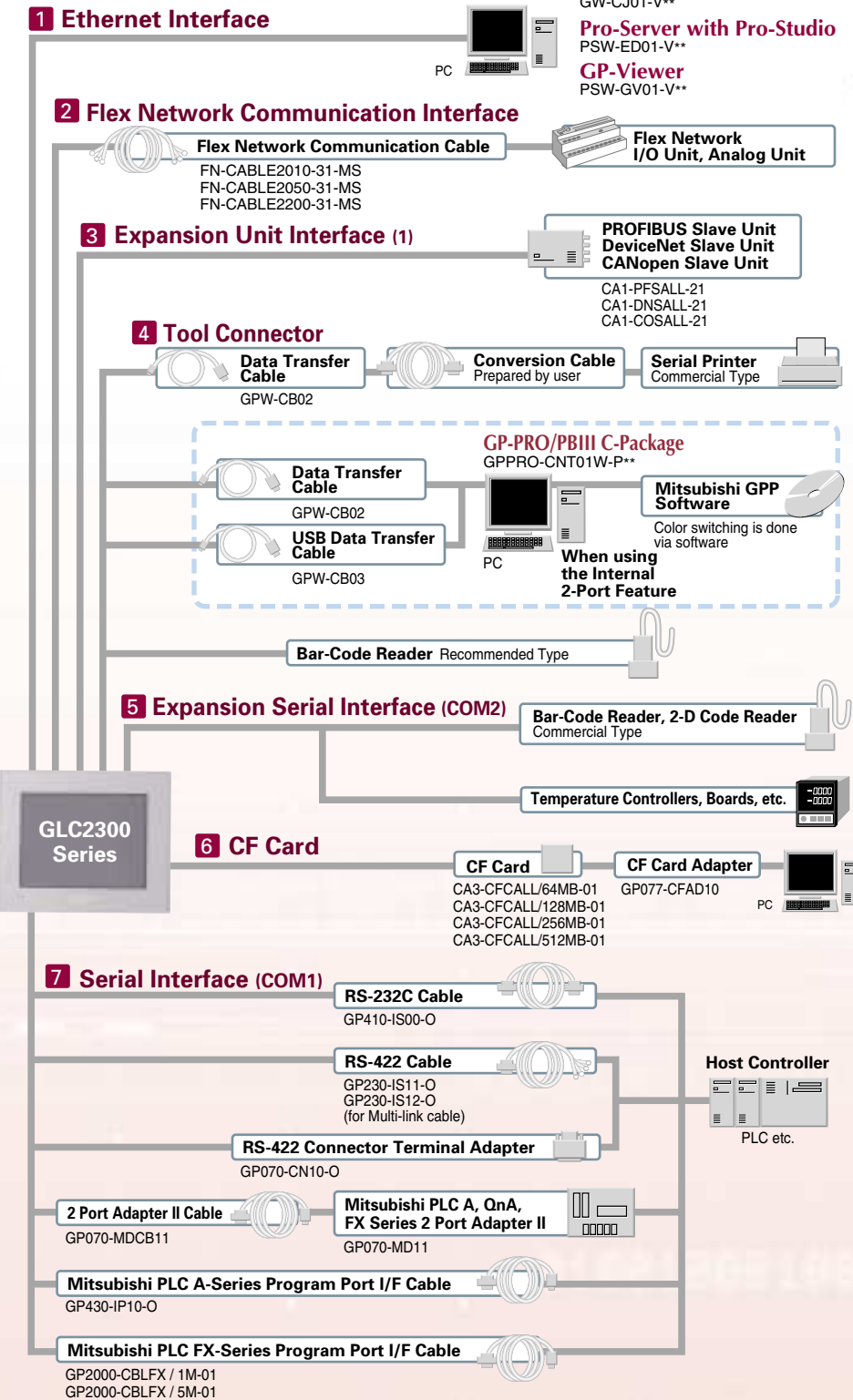


GLC2300T

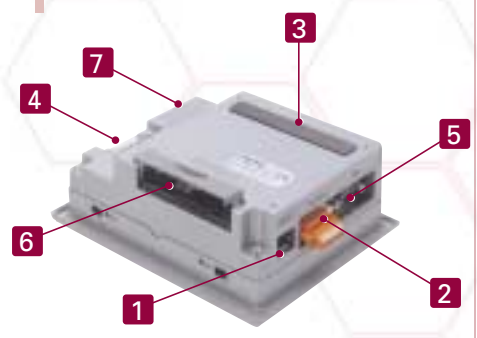


GLC2300L

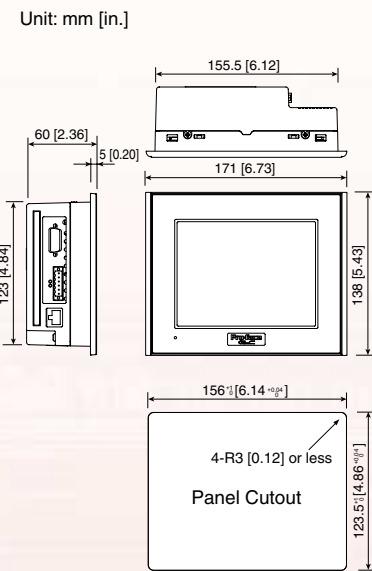
SYSTEM DESIGN



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) Hangul 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 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.

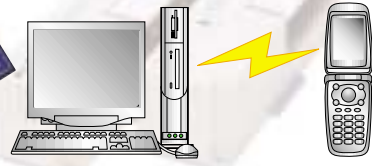
*3 The degree of protection provided by these products is equivalent to IP65f, however their performance cannot be guaranteed for every environment. Be sure to confirm your work environment requirements prior to installation.

System Design

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



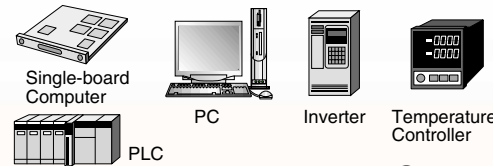
SIO Expansion Unit I/F

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

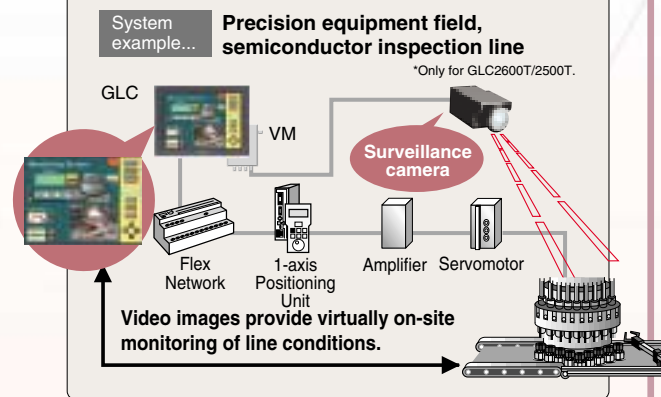
Fieldbus slave connection*

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

8-point Relay Output/1 Common



High-spec Units

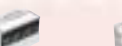
4-channel Analog Input Unit

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.



FN-X32TS41

FN-XY16SK41

FN-XY16SC41

FN-AD04AH11*1

FN-DA04AH11*1

FN-HC10SK41

FN-PC10SK41

Teaching Loader FN-PC10LD41

Software

EASY SCREEN CREATION & LOGIC PROGRAM DEVELOPMENT

Screen Editor and Logic Program Development Software

GP-PRO/PBIII - C-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 supported communication protocols (CPU, Link, Direct, 1:n, Multi-Link, Device-Net, Ethernet).

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

Rockwell (Allen-Bradley)

Table listing Rockwell PLC models (SLC500, PLC-5, Control Logix 5000, MicroLogix1000, MicroLogix1200, MicroLogix1500, CompactLogix) and their communication capabilities.

Schneider Electric

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

Schneider Electric

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

Sharp

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

Shinko Electric

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

SIEMENS

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

Toshiba

Table listing Toshiba PROSECT PLC models and their communication protocols.

Toshiba

Table listing Toshiba PROSECT and V Series PLC models and their communication protocols.

Toshiba Machine

Table listing Toshiba Machine PROVISOR PLC models and their communication protocols.

Toyota Machine Works

Table listing Toyota Machine Works TOYOPUC PLC models and their communication protocols.

Yaskawa Electric

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

Yokogawa

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

Ubon

Table listing Ubon UPZ PLC models and their communication protocols.

■ Inverters

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

Hitachi Industrial Equipment Systems

Table listing Hitachi Industrial Equipment Systems inverter models (SJ300, L300P).

Mitsubishi Electric

Table listing Mitsubishi Electric inverter models (FREOROL, FREOROL-ES00, FREOROL-F500, FREOROL-F50L, FREOROL-S500, FREOROL-B3).

Toshiba Schneider Inverter

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

Yaskawa Electric

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

■ Temperature Controllers

Chino

Table listing Chino temperature controller models (LT, JU).

Fenwal Controls of Japan

Table listing Fenwal Controls of Japan AL Series temperature controllers.

Fuji Electric

Table listing Fuji Electric Micro Controller-X (PXR) temperature controllers.

OMRON

Table listing OMRON E5_N Digital Temperature Controller models.

RKC Instrument

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

Toho Denshi

Table listing Toho Denshi temperature controller models (TTM series).

RKC Instrument

Table listing RKC Instrument HA400 temperature controllers.

Shimaden

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

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).

Toho Denshi

Table listing Toho Denshi temperature controller models (TTM series).

Yamatake

Table listing Yamatake SDC and DMC temperature controllers.

Yokogawa M&C

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

■ Servos

Table listing Matsushita Electric Servo Motor models (MINAS-A, MINAS-S).

■ Analyzer

Table listing JT Engineering JE-70 Analyzer.

■ Bar-Code Readers

2-D Code Reader (Connected to Expansion Serial Interface)

Table listing 2-D Code Readers (Tohken, Denso).

Bar Code Readers (Connected to Tool Connector)

Table listing Bar Code Readers (Aimex, OPTO Electronics, Tohken, NEC, Infrontia).

*1 Be sure to use the Y cable included with the unit and connect it between GLC unit and a bar-code reader. Data cannot be read correctly, if a non-"Y" cable is used, or if the bar-code reader is connected directly to the GLC unit.

*2 The following settings must be entered prior to using the bar-code reader with a GLC unit.

1) Set the CAPS. 2) Add the Carriage Return (CR) in the Postamble's settings. For the details about these settings, please refer to the Installation Guide included with the bar-code unit.

Bar-Code Readers (Connected to Expansion Serial Connector)

Table listing Bar-Code Readers (Aimex, OPTO Electronics, Symbol Technology, Keyence, Denso).

■ Speakers

Table listing Arrow Electronics, Noboru Electric, and Denso speaker models.

*GLC2600/2500/2400 Series only.

* There are also precautions and other information related to their connection. For details, please refer to the Device/PLC Connection Manual.

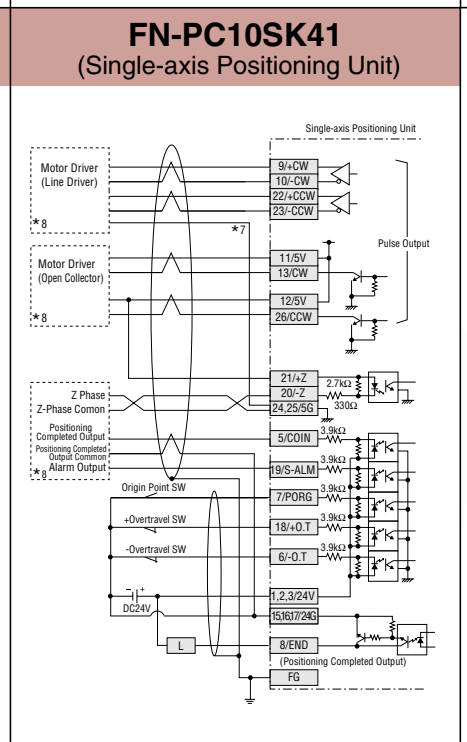
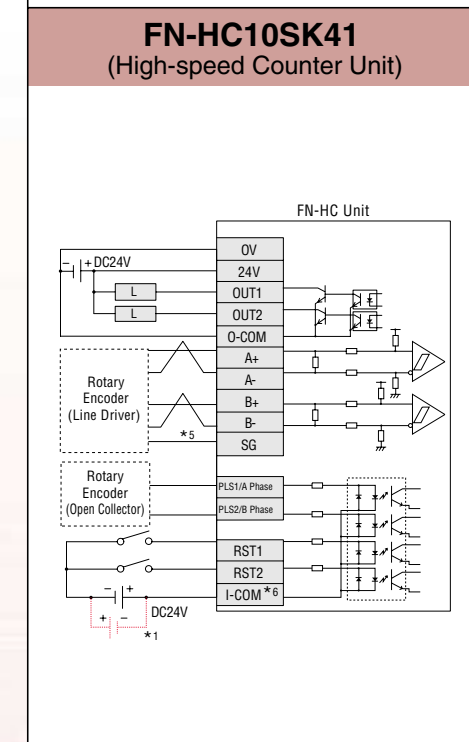
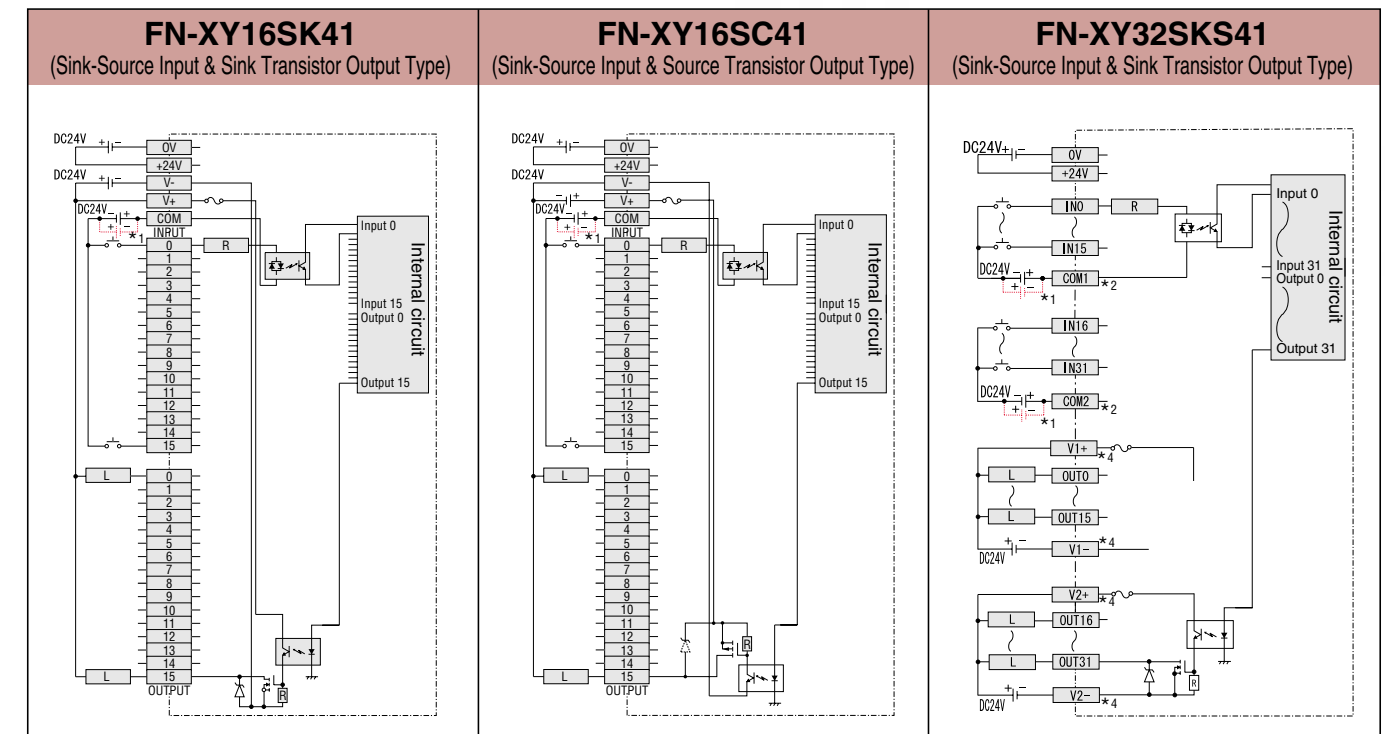
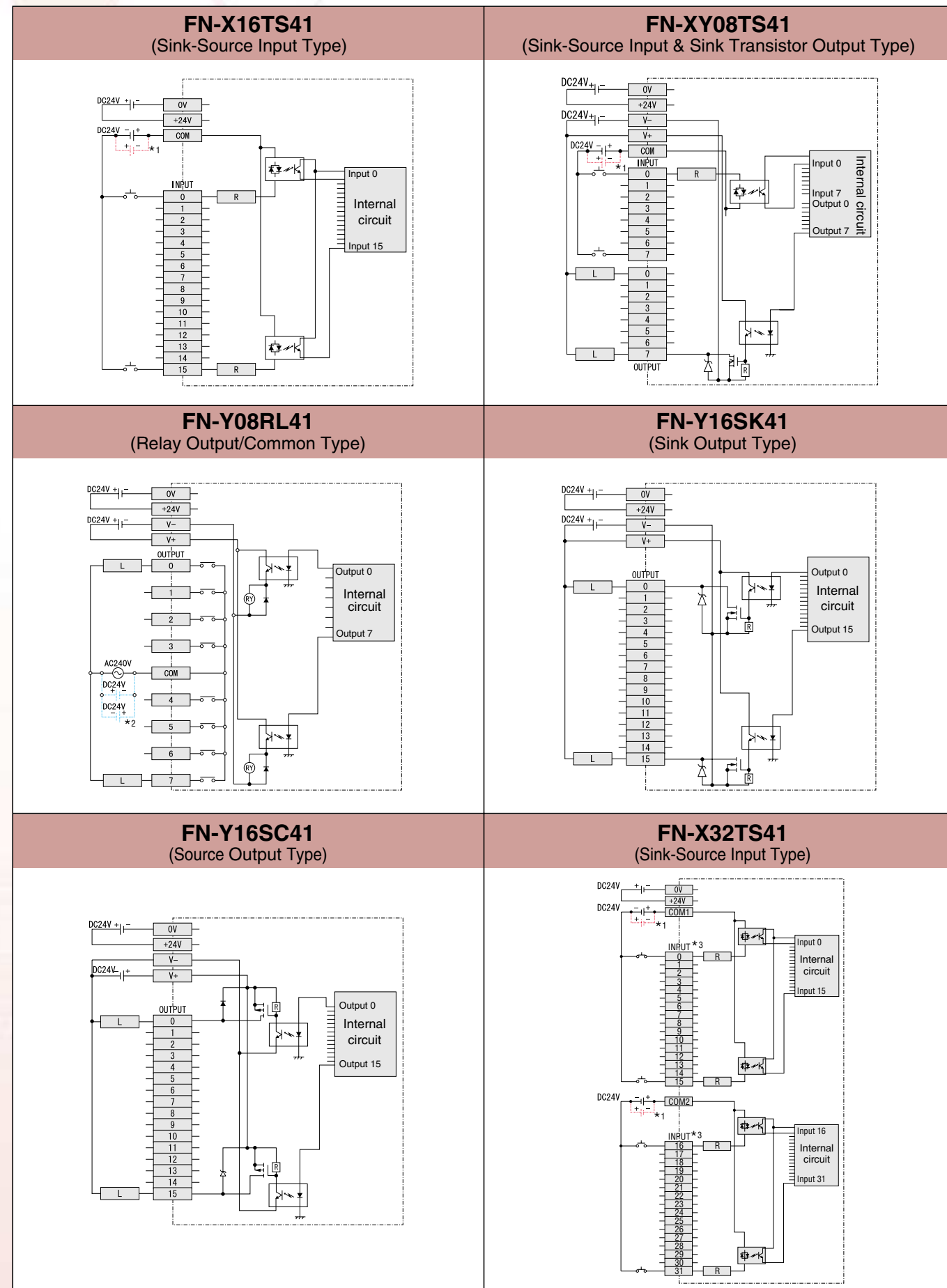
* New equipment is being added to this list regularly. Please consult your Pro-face sales representative for the latest information.

* n:1(Multi-link) = multiple GLCs : 1 PLC * 1:n = 1 GLC : multiple PLCs * n:m = multiple GLCs : multiple PLCs

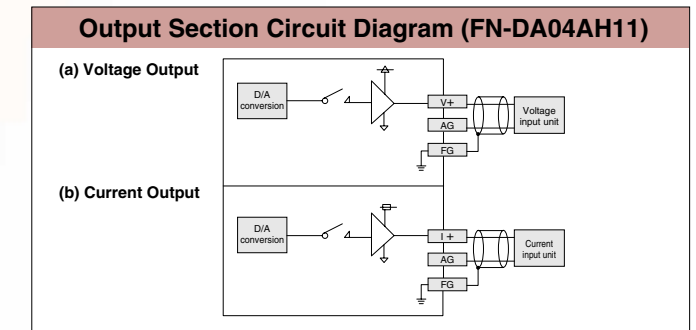
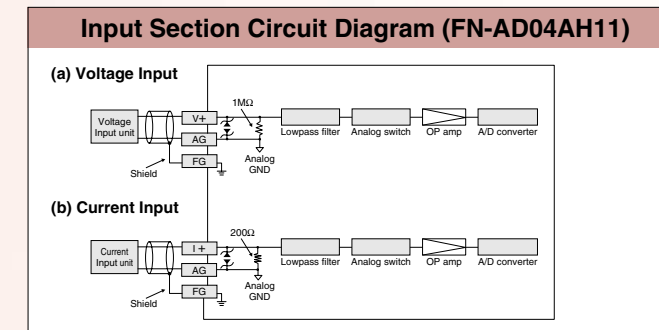
* Some usage restrictions exist for Pro-Server. Please refer to the Pro-Server User's Manual for details.

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.



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.

ACCESS!!

www.pro-face.com

Worldwide Contacts:

General Info: info@pro-face.com
 Technical Info: support@proface.co.jp

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.



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.

- Microsoft® Excel, Access are registered trademarks of Microsoft Corporation.
- All product names used in this catalog are the registered trademarks of their respective companies.
- All information contained in this catalog is subject to change without notice.

©2004 Digital Electronics Corporation All Rights Reserved.

Global Head Office

Digital Electronics Corporation
 8-2-52 Nanko-higashi
 Suminoe-ku, Osaka 559-0031
 JAPAN
 Tel: +81-(0)6-6613-3116
 Fax: +81-(0)6-6613-5888
<http://www.pro-face.com>
info@pro-face.com

Asia Pacific Regional Office

Digital Electronics Corporation
 Bangkok Representative Office
 2034/52 (11-07/4), 11th floor
 Italthai Tower,
 New Phetchburi Road
 Bangkok, Huaykwang,
 Bangkok 10320
 THAILAND
 Tel: +66-(0)2-716-1733
 Fax: +66-(0)2-716-1737

Scandinavia

Pro-face Scandinavia ApS
 Copenhagen Vallensbækvej 18A
 DK-2605 Brøndby
 DENMARK
 Tel: +45 70 22 01 22
 Fax: +45 70 22 01 33
<http://www.pro-face.dk>
info@pro-face.dk

Italy

Pro-face Italia S.p.a.
 Via G. di Vittorio 26
 20030 Bovisio Masciago (Milano)
 ITALY
 Tel: +39 0362 59 96 1
 Fax: +39 0362 59 96
<http://www.pro-face.it>
info.italia@proface.it

China

Wuxi Pro-face Electronics Co., Ltd.
 Shanghai Office
 Room 2001, Singluar Mansion
 No.322, Xian Xia Road
 Shanghai 200336
 P. R. CHINA
 Tel: +86-(0)21-6208-6367
 Fax: +86-(0)21-6208-4816
<http://www.proface.com.cn>
proface@proface.com.cn

North/South American Head Office

Pro-face America, Inc. / Xycorn
 750 North Maple Road
 Saline, MI 48176-1292
 U.S.A.
 Tel: +1-734-429-4971
 Fax: +1-734-429-1010
<http://www.profaceamerica.com>
sales.info@profaceamerica.com

Sweden

Pro-face Sweden AB
 Malmö Amiralsgatan 20
 SE-211 55 Malmö
 SWEDEN
 Tel: +46 (0)40 660 19 55
 Fax: +46 (0)40 660 19 40
<http://www.pro-face.dk>
info@pro-face.dk

United Kingdom

Pro-face UK Ltd
 Pro-face House 8 Orchard Court
 Binley Business Park Coventry CV3 2TQ
 ENGLAND
 Tel: +44 (0)2476 440088
 Fax: +44 (0)2476 440099
<http://www.profaceuk.com>
info@profaceuk.com

South Korea

Pro-face Korea Co., Ltd.
 4th floor, Cheil Bldg. 94-46
 Youngdeungpo-Dong 7Ka,
 Youngdeungpo-Ku Seoul 150-037
 SOUTH KOREA
 Tel: +82-(0)2-2630-9850
 Fax: +82-(0)2-2630-9860
 Support Center (A/S Center)
 Tel: +82-(0)31-940-3713
 Fax: +82-(0)31-940-3780
<http://www.proface.co.kr>
proface@proface.co.kr

European Head Office

Pro-face Europe B.V.
 Jadelaan 34-36 2132 XW Hoofddorp
 THE NETHERLANDS
 Tel: +31 (0)23 55 44 099
 Fax: +31 (0)23 55 44 090
<http://www.proface.com>
info@proface.com

Germany

Pro-face Deutschland GmbH
 Albertus-Magnus-Straße 11
 42719 Solingen
 GERMANY
 Tel: +49 (0)212 258 260
 Fax: +49 (0)212 258 2640
<http://www.pro-face.de>
sales@pro-face.de

Spain and Portugal

Pro-face España
 Apartado de Correos No 62
 E-08440 Cardedeu Barcelona
 SPAIN
 Tel: +34 (0)93 846 07 45
 Fax: +34 (0)93 845 48 68
<http://www.pro-face.es>
central@pro-face.es

Taiwan

Pro-face Taiwan Co., Ltd.
 4F, No. 77, Section 3, Nanjing East Road
 Taipei 104
 TAIWAN R.O.C.
 Tel: +886-(0)2-2507-1102
 Fax: +886-(0)2-2507-1104
<http://www.proface.com.tw>
proface@proface.com.tw

France

Pro-face France S.A.S.
 Le Vinci 7
 1, rue Henri Becquerel
 77290 Mitry-Mory
 FRANCE
 Tel: +33 (0)1 60 21 22 91
 Fax: +33 (0)1 60 21 22 92
<http://www.proface.fr>
info@proface.fr

Switzerland

Pro-face Deutschland GmbH
 Niederlassung Schweiz
 Krummbuckweg 6
 8157 Dielsdorf
 SWITZERLAND
 Tel: +41 (0)1 8853322
 Fax: +41 (0)1 8853330
<http://www.pro-face.ch>
info@pro-face.ch

NP040522-GLC2000-05E15