

# GP3000 Series FLEX NETWORK Interface Installation Guide

## Caution

Be sure to read the “Warning/Caution Information” on the attached sheet before using the product.

## CAUTION

This manual describes the part names and general specifications related to the FLEX NETWORK I/F included with the FLEX NETWORK board type unit of the GP3000 series, as well as the wiring to the FLEX NETWORK connector. Before using the FLEX NETWORK connector, be sure to read this Installation Guide in conjunction with the attached GP3000 Series’ Installation Guide.

## Package Contents

- (1) Installation Guide (1) <This Guide>
- (2) FLEX NETWORK Connector (1)



This unit has been carefully packed, with special attention to quality. However, should you find anything damaged or missing, please contact your local GP distributor immediately.

## About the Manual

For the detailed information on GP3000 series, refer to the following manual.

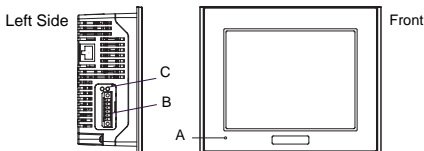
- GP3000 Series Hardware Manual
- Maintenance/Troubleshooting Guide

The manuals can be selected from the help menu of GP-Pro EX or downloaded from Pro-face Home Page.

URL

<http://www.pro-face.com/>

## Part Names and Functions




Name		Description				
A	Status LED	Color	Indicator	Operation Mode (Drawing)	Logic execution mode (when logic is enabled)	
		Green	ON	OFFLINE	-	
			Flashing	In operation	RUN	
		Red	ON	When power is turned on.		STOP
			Flashing	In operation	Major Error	
		Orange	ON	Backlight burnout		
Flashing	During software startup					

(The logic program is disabled in the AGP-3302B/3301L/3301S. The Status LED turns on only in Operation Mode (Drawing).)

B	FLEX NETWORK Interface	Used to connect the FLEX NETWORK I/O unit or analog unit, etc.						
C	FLEX NETWORK Communication Status LED	This LED indicates the communication status of the FLEX NETWORK.						
		<table border="1"> <thead> <tr> <th>Status LED</th> <th>Indicates</th> </tr> </thead> <tbody> <tr> <td>RUN (Green)</td> <td>Turns on when Communication is enabled.</td> </tr> <tr> <td>ERR (Red)</td> <td>Turns on when failure occurs in connected I/O Unit.</td> </tr> </tbody> </table>	Status LED	Indicates	RUN (Green)	Turns on when Communication is enabled.	ERR (Red)	Turns on when failure occurs in connected I/O Unit.
		Status LED	Indicates					
RUN (Green)	Turns on when Communication is enabled.							
ERR (Red)	Turns on when failure occurs in connected I/O Unit.							

## FLEX NETWORK Specifications

### ■ FLEX NETWORK Interface (Connector)

Applicable connector	284510-6 <Tyco Electronics AMP.>		
Pin Arrangement		Signal Name	Description
 <p>(Cable connection side)</p>	1	TR+	CH1 communication data
	2	TR-	CH1 communication data
	3	SLD	CH1 cable, shielded wire
	4	TR+	CH2 communication data
	5	TR-	CH2 communication data
	6	SLD	CH2 cable, shielded wire

### ■ FLEX NETWORK Data Transfer Settings

Communication Type	1:N
Connection Method	Multi Drop
Transfer Distance	At 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 check, bit check, CRC-12 check
No. of Stations	63 stations max., Bit variable input: 512 points <sup>*1</sup> , Bit variable output: 512 points <sup>*1</sup> , Integer variable input: 128 points <sup>*2</sup> , Integer variable output: 128 points <sup>*2</sup> (depending on type of units used.)

\*1 When using GP-Pro EX under Ver.2.50, Bit variable enables to input/output 256 points.

\*2 When using GP-Pro EX under Ver.2.50, Integer variable enables to input/output 64 points.

### ■ FLEX NETWORK Communication Cable

The following cables are used for connection to the FLEX NETWORK unit.

Model	Length per Unit
FN-CABLE2010-31-MS	10m
FN-CABLE2050-31-MS	50m
FN-CABLE2200-31-MS	200m

## Installations

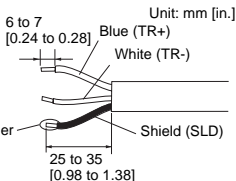
\*-966067-\* manufactured by Tyco Electronics AMP.

### 1. Wiring to the FLEX NETWORK Connector

#### IMPORTANT

- Be sure to remove the FLEX NETWORK Connector from the GP unit prior to starting wiring. Failure to do so may cause an electric shock.

Remove the wire's external covering and insert the wire center strand into the opening. The applicable wire size is AWG28-16. Strip at least 7.0mm [0.28in.] of cover from the wire.



#### IMPORTANT

- Tightening torque is 0.25N.m.
- Be sure to tape or put a plastic tube over the shield line.
- Do not solder the wire itself. This could lead to a bad or poor contact.

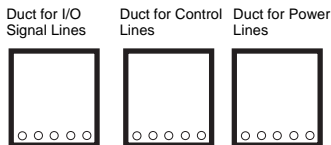
#### NOTE

- Use a small sized screwdriver to tighten the set screws. (Point depth: 0.6mm [0.02in.], point height: 2.5mm [0.10in.])
- If the central wire's end (individual) wires are not twisted correctly, the end wires may either short against each other, or against an electrode. To use a pin terminal, reference the recommended pin terminal shown below or equivalent terminals. The optimum pin terminal varies depending on the size of the electric wire to be used.

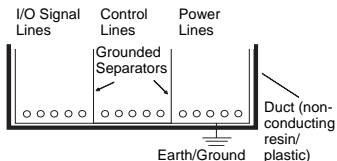
## Wiring

### 1. Wiring Precautions

- To help prevent noise and interference problems, separate all control, communication and power lines by placing them in a separate ducts.



If different wires must be placed in the same duct, separate them with an earthed/grounded divider.



#### NOTE

- If the lines cannot be separated, use shielded lines and create a ground from the shield line.

#### IMPORTANT

- Use noise-reducing external wiring methods to increase overall system reliability.
- To prevent power surges or noise interference, use ducts to separate all DC I/O or current circuit wires from communication cables.
- To prevent malfunctions due to noise, communication cables must be wired separately from high-frequency lines and power lines such as high-voltage lines, high-current lines, and inverters.

## Installation prerequisites for standards

The following units are UL/c-UL listed products.

(UL File No.E220851, UL File No.E182139)

Product Model No.	UL/c-UL Registration Model No.
AGP3300-L1-D24-FN1M	3280007-03
AGP3300-T1-D24-FN1M	3280007-01
AGP3400-T1-D24-FN1M	3280035-01

The following units are UL/c-UL recognized components. (UL File No.E171486, UL File No.E231702)

Product Model No.	UL/c-UL Registration Model No.
AGP3500-T1-AF-FN1M	3280035-45
AGP3600-T1-AF-FN1M	3280024-13

The following units are UL/c-UL listed products.

(UL File No.E220851, UL File No.E210412)

Product Model No.	UL/c-UL Registration Model No.
AGP3500-T1-D24-FN1M	3280035-41
AGP3600-T1-D24-FN1M	3280024-14

For the detailed certification's information, refer to the Pro-face Home page.

#### <Cautions>

Be aware of the following items when building the GP into an end-use product:

- The GP unit's rear face is not approved as an enclosure. When building the GP unit into an end-use product, be sure to use an enclosure that satisfies standards as the end-use product's overall enclosure.
- The GP unit must be used indoors only.

- Install and operate the GP with its front panel facing outwards.
- If the GP is mounted so as to cool itself naturally, be sure to install it in a vertical panel. Also, it's recommended that the GP should be mounted at least 100mm away from any other adjacent structures or machine parts. The temperature must be checked on the final product in which the GP is installed.
- Serial Interface (COM2) is not Limited Power Source.

impossible to insert or pull the cable from the applicable port. Be sure to check that the location is Non-Hazardous before inserting or pulling it.

## Hazardous Locations - Compliance and Handling Cautions

- (1) Power and input/output wiring must be in accordance with Class I, Division 2 wiring methods - Article 501.10(B) of the National Electrical Code, NFPA 70 within the United States, and in accordance with Section 18-152 of the Canadian Electrical Code for units installed within Canada.
- (2) Suitable for use in Class I, Division 2, Groups A, B, C, and D Hazardous Locations, or Non-Hazardous Locations.
- (3) WARNING: Explosion hazard- substitution of any components may impair compliance to Class I, Division 2.
- (4) WARNING: Explosion hazard-when in hazardous locations, turn the power OFF before replacing or wiring modules.
- (5) WARNING: Explosion hazard-confirm that the power supply has been turned OFF before disconnecting equipment, or confirm that the location is not subject to the risk of explosion.
- (6) WARNING: Explosion hazard-do not disconnect equipment unless power has been switched off or the area is known to be Non-Hazardous.
- (7) In the case of use in Hazardous Locations, be sure to check that the externally connected unit and each interface have been fixed with screws and locked. In Hazardous Locations, it's

## CE Marking

The following units are CE marked products complying with the EMC Directive.

- AGP3300-L1-D24-FN1M
- AGP3300-T1-D24-FN1M
- AGP3400-T1-D24-FN1M
- AGP3500-T1-D24-FN1M
- AGP3600-T1-D24-FN1M

The following units are CE marked products complying with both the EMC Directive and low-voltage directive.

- AGP3500-T1-AF-FN1M
- AGP3600-T1-AF-FN1M

For the detailed information, be downloaded and refer the Declaration of Conformity from Pro-face Home Page.

### INQUIRY

Do you have any questions about difficulties with this product?

Please access our site anytime that you need help with a solution.

<http://www.pro-face.com/otasuke/>

### Note

Please be aware that Digital Electronics Corporation shall not be held liable by the user for any damages, losses, or third party claims arising from the uses of this product.



### SCIGATE AUTOMATION (S) PTE LTD

No.1 Bukit Batok Street 22 #01-01 Singapore 659592

Tel: (65) 6561 0488

Fax: (65) 6562 0588

Email: [sales@scigate.com.sg](mailto:sales@scigate.com.sg)

Web: [www.scigate.com.sg](http://www.scigate.com.sg)

Business Hours: Monday - Friday 8.30am - 6.15pm

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>

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