



Quick Start Guide



Pro-face

Pro-face AGP3000 to Altivar Adjustable Speed Drive via Modbus RTU

Tested, Trusted, Out-of-the-Box

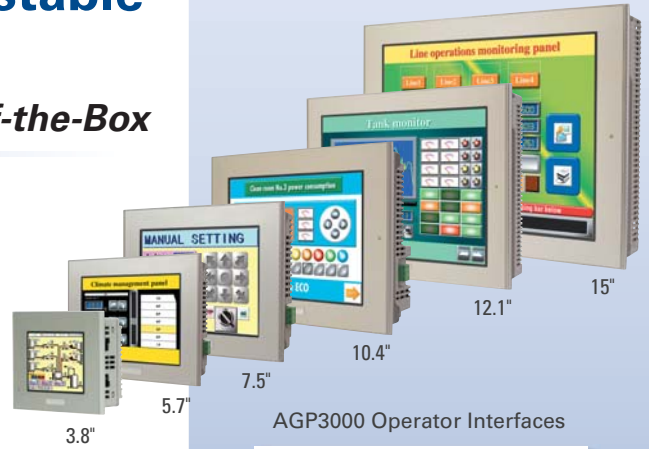


Pro-face AGP3300-T1

Modbus
Serial Cable



Altivar 31
Adjustable Speed Drive



AGP3000 Operator Interfaces

Pro-face®

HMI Motion Control Quick Start Guides

Pro-face HMI motion control quick start guides make it easy to integrate variable speed drives directly to your operator interface and control system. With minimal knowledge a user can quickly set up a variable speed drive operator interface without requiring a separate programmable controller and drive interface wiring.

Differentiating Value:

- Simple, fast installation, 3 step guide with a sample project you can use
- No PLC required, logic controller is built-in
- Reduce system cost, no need for analog interfaces, eliminate pilot lights and push buttons
- Precision high resolution digital control

Applications:

- Conveyors
- Pumps and fans
- Packaging equipment
- Discrete manufacturing

These instructions along with the downloadable sample project facilitate quickly connecting and establishing communications between a Pro-face AGP using GP-Pro EX and a Telemecanique Altivar 31 or 71 Adjustable Speed Drive Controller. For a full explanation of this project refer to Pro-face America Application Note 1163.

Materials:

1. Pro-face GP-Pro EX Screen and Logic Editing software v2.1 or higher
2. Pro-face AGP3000 Series HMI with ladder logic programming feature
3. Telemecanique Altivar 31 or 71 Adjustable Speed Drive Controller
4. Pro-face CA3-ADPCOM-01 Port Adapter or CA4-ADPONL-01 COM2 Port Adapter
5. Pro-face CA3-ADPTRM-01 Termination Adapter
6. Industrial RJ-45 cable
7. The Pro-face sample project "APNT1163.zip" available at: <https://www.hmisource.com/otasuke/files/appnotes/>

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Right Size, Right Technology Solutions



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Easy Configuration

STEP 1 - Connecting to the Drive

The Altivar 31 and 71 Drives communicate using the Modbus RTU protocol via a built-in RJ45 RS-485 interface.

- To make this cable connection quickly, use the following Pro-face cable adapters:
 - CA3-ADPTRM-01 Breakout Adapter
 - CA3-ADPCOM-01 Port Adapter for COM1 (*AGP3302B COM2) or CA4-ADPONL-01 Port Adapter for COM2 (*Not for use with AGP3202B)
- In the enclosed demonstration project, COM1 on the AGP3300T is connected to the Altivar 31 or 71 Drive via RS422/485 2 Wire communication. For this reason, the following cable diagram (fig 2a) indicates to use the CA3-ADPCOM-01 adapter. If COM2 will be used in your project, simply substitute the CA4-ADPONL-01 adapter for the CA3-ADPCOM-01 adapter. These port adapters are not simply gender changers. The color codes shown in the diagrams match the RJ45 CAT5 TIA/EIA 568A and 568B cable standards. .

STEP 1 - Cable Adapters:



CA3-ADPTRM-01

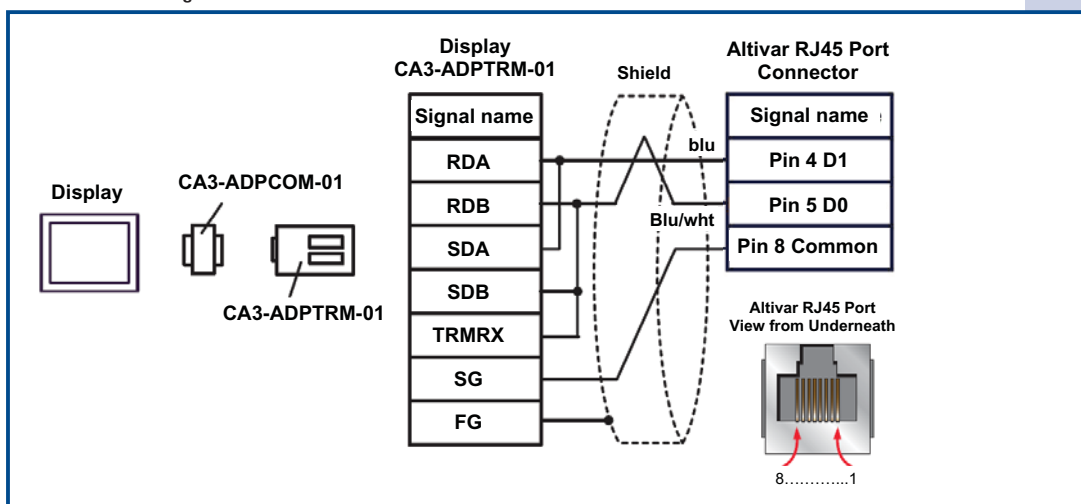


CA3-ADPCOM-01

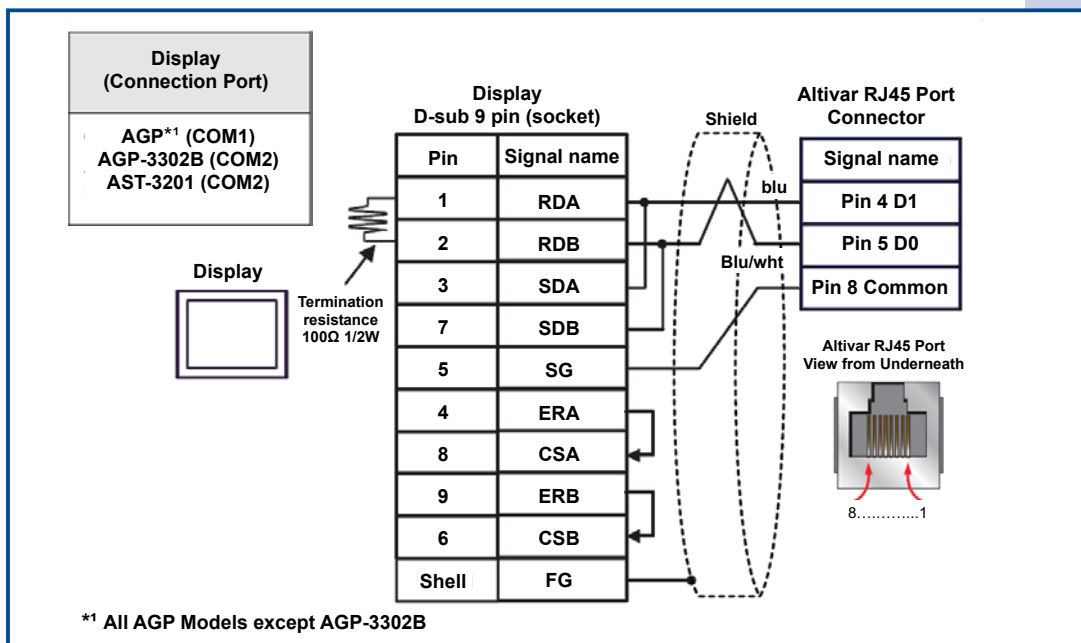


CA4-ADPONL-01

2a - Cable Diagram



2b - Cable Diagram to build the cable without using the Pro-face adapters



*1 All AGP Models except AGP-3302B

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STEP 2 - Configure the Drive

1. Install a jumper from +24 to L11 on the Altivar Drive control terminal strip to complete the 3 wire stop circuit.
2. Set the following drive parameters using the Drive Control Panel as directed in the Altivar drive documentation. Default the drive to factory settings. Then use the following parameter settings to configure the drive for use with the included sample project:

(LAC) = (3) *This parameter Altivar 31 only*
 [Address] (Add) = 1 = (1) [0]
 [Ref.1 channel] (Fr1) = 164 = (ndb) [Modbus]
 [OUTPUT PHASE LOSS] (OPL-) = 0 = (n0) [No] *Allows the drive to run without a motor*
 [INPUT PHASE LOSS] (IPL-) = 0 = (n0) [Ignore] *Allows single phase input power*
 [2/3 wire control] tCC = 1 = (3C) [3 wire]

3. Power cycle the Altivar Drive to ensure the new settings take effect.

STEP 3 - Configure the Operator Interface

The sample project is already configured for a AGP3300. Simply download the project to the operator interface. When the download is complete press "Operator Panel" to view drive status and operate the drive.

Using a Different Model AGP/AST/LT33xx:

The following models of the Pro-face 3000 series can be used with the sample project:

Panel Size	Series	Class/Type			
		Standard	Control	Multimedia	Hand-held
All	AGP3xxx	✓ *1	✓	✓	✗
All	AST3xxx	✗	✗	✗	✗
All	LT33xx	✗	✓ *2	✗	✗

The sample project is configured for an AGP3300T. To use the project with a different model (AGP) and screen size, follow these steps:

1. Open the enclosed GP-Pro EX project, click "Project (F)" then "System Settings (C)".
2. Click on "Display" in the System Settings menu then "Change Display Unit".
3. Select the series line and model of the your AGP. If the "Convert Resolution" prompt appears, check the box to automatically resize all screen objects in the application.
4. Click "OK" to the reminder to check the screen objects before downloading to an AGP.
5. Click "YES" to acknowledge that AGP models have hardware capabilities.
6. Save the project to a new file.

*Note: *1 The logic program must be converted to scripting when using this sample project on a AGP3200 or any other model that does not have the logic feature.*

*Note: *2 To use the sample project with a LT33xx: Open the project in GP-Pro EX. Open another instance of GP-Pro EX and select the LT33xx model you are using. Copy the desired screens and the logic program from the first instance to the second.*

Customizing the Project:

The sample project includes a screen "Operator Panel" (B20). It includes common operator interface controls on a single screen for your convenience. All other screens in this project can be deleted. If the "Main" screen is deleted a new startup screen must be selected in Display Unit. If the "Operator Panel" is copied to another project, you will also need to copy the main logic program from this project. The ladder program is needed for the "Enable Drive" and "Fault Reset" buttons to function.

Project Screen:

