

AMX AC drive

Using the function keys

-  Step to lower menu level or confirm changed setting.
-  Step to higher menu level or ignore changed setting.
-  Step to next menu on the same level.
-  Step to previous menu on the same level.
-  Increase value or change selection.
-  Decrease value or change selection.
-  Toggle between menus in the toggle loop.
Change the sign of a value. Switching between local and remote control.

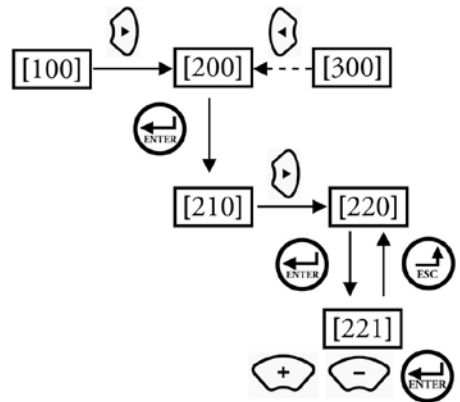


Figure 1: Example of menu navigation when entering motor voltage

Remote control

In this example external signals are used to control the AC drive/motor. A standard 4-pole motor for 400 V, an external start button and a reference value will also be used.

Switch on the mains

Once the mains is switched on, the internal fan in the AC drive will run for 5 seconds.

Set the Motor Data

Enter correct motor data for the connected motor. The motor data is used in the calculation of complete operational data in the AC drive. Change settings using the keys on the control panel.

Dashboard is displayed when started.

1. Press  (Enter) to display Menu [100].
2. Press  (Minus) to select menu [200], Main Setup.
3. Press  (Enter) and then  (Minus) select menu [220], Motor Data.
4. Press  (Enter) to display menu [221] and set motor voltage.
5. Change the value using the  (Plus) and  (Minus) keys.
Confirm with  (Enter).

6. Set motor frequency [222].
7. Set motor power [223].
8. Set motor current [224].
9. Set motor speed [225].
10. Set power factor ($\cos \Phi$) [227].
11. Select supply voltage level used [21B].
12. Set Motor type [22I].
13. [229] Motor ID run: Choose Short, confirm with  (Enter) and give start  (Forward) command. The AC drive will now measure some motor parameters. The motor makes some beeping sounds but does not rotate. When the ID run is finished after about one minute ("Test Run OK!" is displayed), press  (Reset) to continue.
14. Use Analog Input 1 as input for the reference value. The default range is 4-20 mA i.e shunt connected between S2 - (2-3). If you need a 0-10 V reference value, change shunt between S2 - (1-2) on control board.
15. Switch off power supply.
16. Connect digital and analogue inputs/outputs as in figure below.

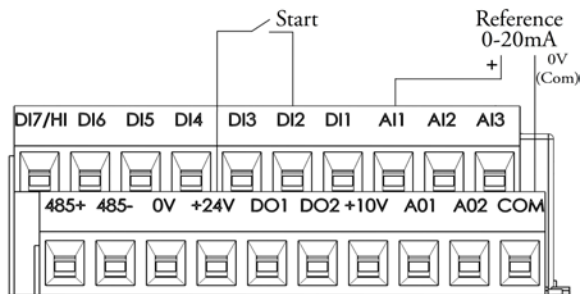


Figure 2: Connecting reference signal

17. Ready!
18. Switch on power supply.

Run the AC drive

Now the installation is finished, and you can press the start button to start the motor. This example will show that the main connections are OK and that the motor will run with the load.

Default toggle loop

Figure 3 shows the default toggle loop. This loop contains the necessary menus that need to be set before starting. Press Toggle to enter menu [211] then use the Next key to enter the sub menus [212] to [21A] and enter the parameters. When you press the Toggle key again, menu [221] is displayed.

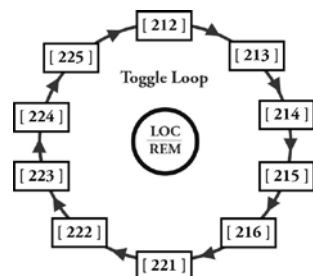


Figure 3: Default toggle loop

Control connections

Terminal	Name	Function (Default)
AI1	Analog Input 1	Process reference, default: Off
COM	Common	Signal ground
DI2	Digital Input 2	RunR; rotation right
+24V	24V	+24VDC Supply voltage
0V	Common for 24 V	Signal ground (If desired)
A01	Analog Output 1	Min speed to max speed (If desired)
A02	Analog Output 2	0 to max torque (If desired)
DI7	Digital Input 7	Reset

Table 1: Description of used terminals.

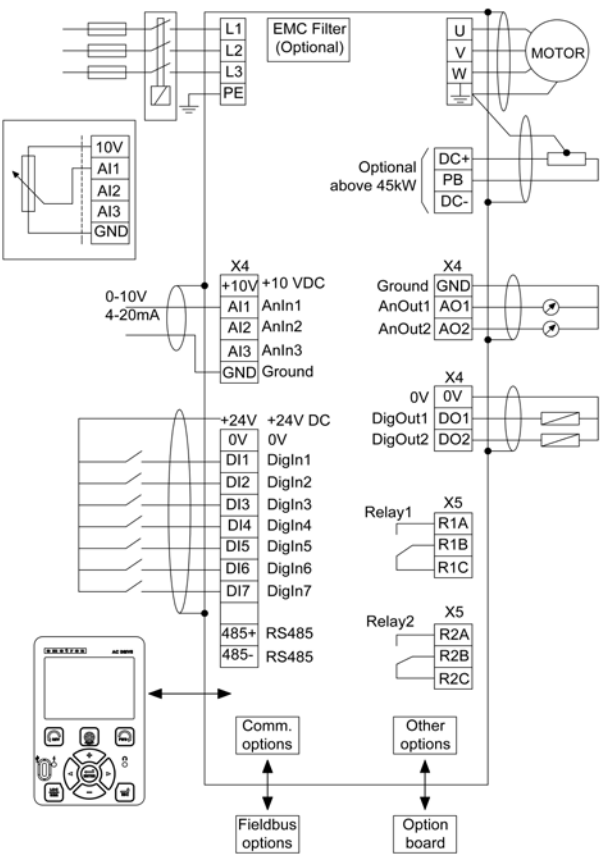


Figure 4: Connection example

Analogue input configuration (S2-S4)

The jumper's selection S2 to S4 are used to set the input configuration for the three analogue inputs AnIn1, AnIn2, and AnIn3 as described in table 2. See Fig. 5 for the location of the switch.

Input	Input Signal type Selector	Input Signal type Selector
AIN1	Voltage	S2 (1-2)
	Current (default)	S2 (2-3)
AIN2	Voltage	S3 (1-2)
	Current (default)	S3 (2-3)
AIN3	Voltage	S4 (1-2)
	Current (default)	S4 (2-3)

Table 2: Selectors S2-S4 settings

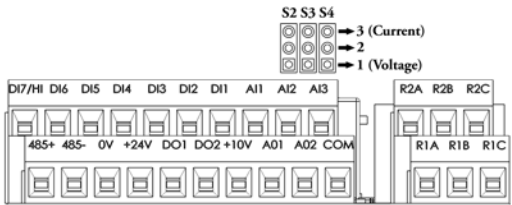


Figure 5: Location of connectors

RS-485 termination

RS-485 termination is enabled via software.

Overview of the main menu

[100] **Basic Setting.** To set up dashboard. To Shows actual values (default: Output Freq, Output Crnt, Output Volt, DC Volt, Elec Power), View Type, MF Key, User Login, Popup Warning Message.

[200] **Main Setup.** Main settings to get the inverter operable e.g., motor data, auto-reset and language.

[300] **Process and Application parameters.** Settings more relevant to the application such as Reference Speed, torque limitations, PID control settings, etc.

[400] **Monitor and process protection.** The monitor function enables the AC drive to be used as a load monitor to protect machines and processes against mechanical overload and underload.

[500] **Inputs/outputs and virtual connections.** All settings for analogue and digital inputs and outputs.

[600] **Logical functions and timers.** All settings for conditional signals are entered here.

[700] **View operation and status.** Viewing all the operational data like frequency, load, power, current, etc.

[800] **View Trip log.** Viewing the last 13 trips in the trip memory with 17 Extended Trip Log.

[900] **System data.** Electronic type label for viewing the software version and AC drive type.