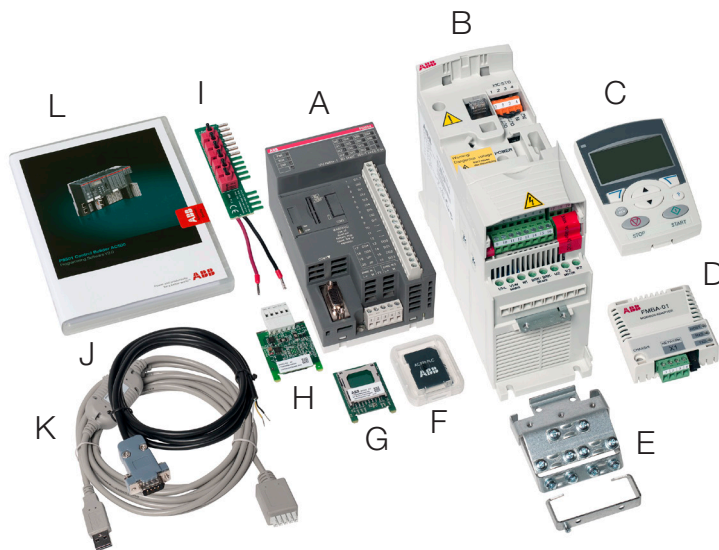


Quick installation guide

Starter kit

AC500-eCo PLC and ACS355 drive



- A AC500-eCo PM554-T
- B Frequency converter ACS355-01E-02A4-2
- C Assistant control panel ACS-CP-A
- D Modbus adapter module FMBA-01
- E ACS355 clamping plates
- F SD memory card
- G SD memory card adapter MC503
- H Serial adapter option board TA562-RS
- I AC500-eCo CPU simulator TA571-SIM
- J RS-485 Modbus cable TK505
- K Programming cable TK504
- L PS501 Control Builder AC500 programming software



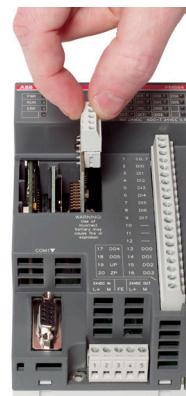
1
Remove the cover
for installation of
the accessories.



2
Open the slots for
the accessories.



3
Slide in the SD
memory card
adapter.



4
Slide in the serial
adapter option
board.

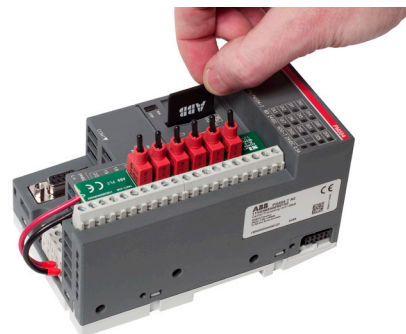
Quick installation guide

Starter kit

AC500-eCo PLC and ACS355 drive



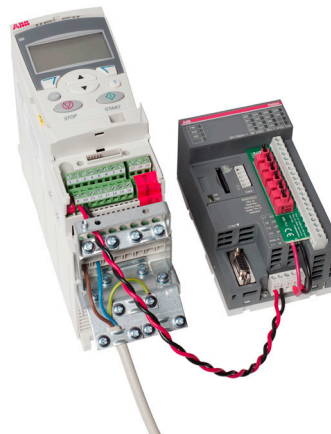
5
Install the AC500-eCo CPU simulator board and tighten the screws.



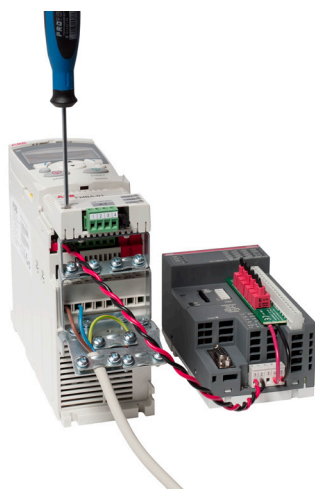
6
Insert the SD memory card.



7
Connect the 1-phase 230 V supply cable to the U1 and N terminals and fasten the grounding cable PE under the grounding clamp. The motor is connected to the U2, V2 and W2 terminals and PE under the grounding clamp.

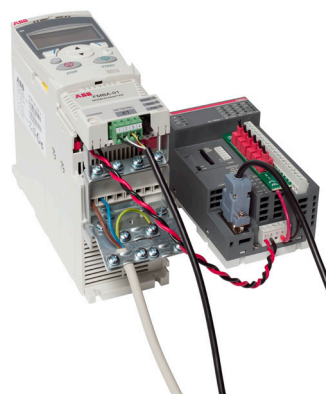


8
The AC500-eCo can be supplied for testing purpose from the ACS355 drive. Connect the 24 VDC output (X1A:9) to the PLC 24 VDC IN (L+). Connect the GND (X1A:10) to the PLC 24 VDC IN (M). 1 A/24 VDC separate supply is preferable to use.



9
Install the Modbus adapter module FMBA-01 and attach the grounding screw.

If the FMBA-01 is the last node on the bus, activate the end termination.



10
Connect the TK505 cable between the AC500-eCo and the FMBA-01 module.

TK505 cable has got integrated end termination.

Note! The ACS355 and the AC500-eCo must be cabinet-mounted for efficient cooling and protection against injuries.

Please read the following manuals:

- User's manual ACS355 drives: 3AUA0000066143 EN_ACS355_UM_A_A4_Screen on the SD-Card in folder „PS553-DRIVES\Documentation\Drives Documentation“
- AC500-eCo installation instructions: 2CDC125122M6801 and
- AC500 system description Vol 0: 2CDC125015M0201 on the SD-Card in folder „PS553-DRIVES\Documentation\AC500 installation instructions“

Additional recommended components that are not included in the starter kit:

- ABB 24 V DC supply : ABB CP-E24/0.75 or similar
- ABB motor M2AA 71 B 4: 0.37kW, 1355 rpm, 230 V 50 Hz or similar
- Twisted pair cable for 24 V DC power supply
- Cable for 230 V AC power supply
- Screened motor cable

Starting the system:

- Turn on the 230 V AC supply for the ACS355 drive.
- LEDs on the AC500-eCo (program is loaded from SD-Card to RAM and then started) – wait until PWR and RUN LEDs are steady green.

Go to the ACS355 parameter 9902 and select AC500 Modbus Macro (10)

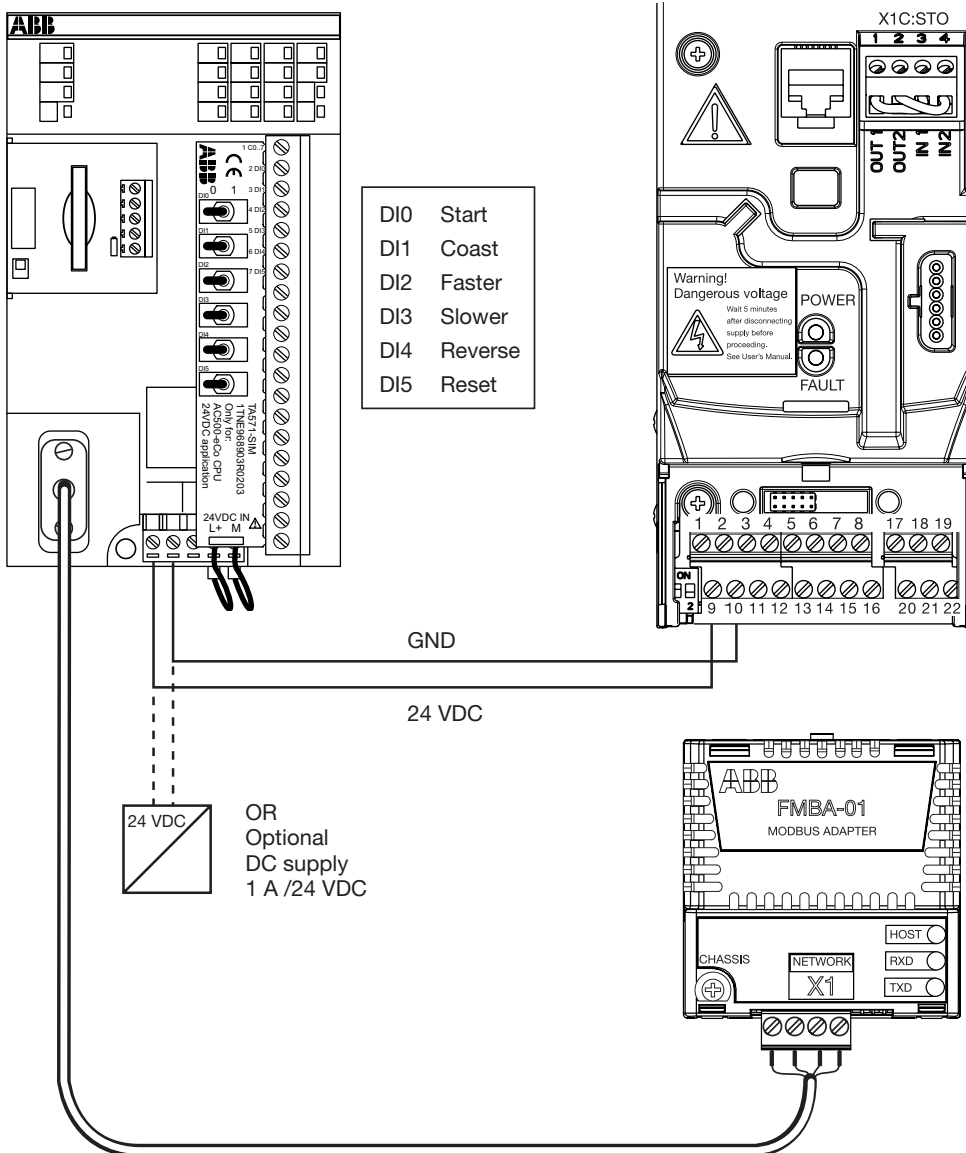
The parameter settings correspond to ABB Standard Macro except for the following parameters:

Parameters different from ABB Standard Macro of ACS355		
1001	EXT 1 COMMANDS	COMM
1102	EXT1/EXT2 SEL	COMM
1103	REF1 SEL	COMM
1604	FAULT RESET SEL	COMM
3018	COMM FAULT FUNC	FAULT
5302	EFB STATION ID	2
5303	EFB BAUD RATE	192
5304	EFB PARITY	8 NONE 1
5305	EFB CTRL PROFILE	ABB DRV FULL
5310	EFB PAR 10	101
5311	EFB PAR 11	303
5312	EFB PAR 12	305
9802	COMM PROT SEL	STD MODBUS

The drive can now be controlled with the AC500-eCo CPU simulator board as described:

AC500-eCo CPU simulator board					
DI0	START	1	START FROM ZERO SPEED	0	RAMP STOP TO ZERO SPEED
DI1	COAST	1	COAST STOP	0	IMMEDIATE RESTART
DI2	FASTER	1	SPEED UP COUNTER TO NOM SPEED	0	INACTIVE
DI3	SLOWER	1	SPEED DOWN COUNTER TO ZERO SPEED	0	INACTIVE
DI4	REVERSE	1	REVERSE DIRECTION	0	FORWARD DIRECTION
DI5	RESET	1	FAULT RESET ON RISING EDGE	0	INACTIVE

AC500-eCo PLC, ACS355 drive and Modbus adapter module Connections overview



Connector X1 on the Modbus adapter module FMBA-01

1	2	3	4	1 SHLD Bus cable shield. Connected internally to GND via an RC filter and directly to CH_GND (chassis)
2	3	4	1	2 B Data positive
3	4	1	2	3 A Data negative
4	1	2	3	4 GND Isolated signal ground