ENGLISH

Quick Start Guide - ATV312

S1A1094202

⚠⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Read and understand this quick start guide before performing any procedure with this drive.
- The user is responsible for compliance with all international and national electrical code requirements with respect to grounding of all equipment.
- Many parts of this drive, including the printed circuit boards, operate at the line voltage. DO NOT TOUCH. Use only electrically insulated tools.
- DO NOT touch unshielded components or terminal strip screw connections with voltage present.
- DO NOT short across terminals PA/+ and PC/- or across the DC bus capacitors.
- Before servicing the drive:
  - Disconnect all power, including external control power that may be present.
  - Place a "DO NOT TURN ON" label on all power disconnects.
  - Lock all power disconnects in the open position.
  - WAIT 15 MINUTES to allow the DC bus capacitors to discharge.
  - Measure the voltage of the DC bus between the PA/+ and PC/- terminals to ensure that the voltage is less than 42 Vdc.
  - If the DC bus capacitors do not discharge completely, contact your local Schneider Electric representative. Do not repair or operate the drive
- Install and close all covers before applying power or starting and stopping the drive.

Failure to follow these instructions will result in death or serious injury.

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this product.

Information below is designed to use **single drive** connected to **single motor with a motor cable length less than 50 meters (164 ft).**
In any other case, consult the ATV312 installation manual (BBV46391) and programming manual (BBV46385) on www.schneider-electric.com.

❶ Check the delivery of the drive

- Remove ATV312 from the packaging and check that it has not been damaged.

⚠ WARNING

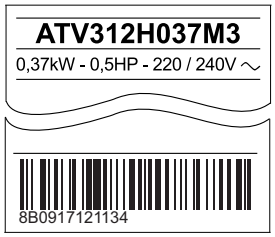
DAMAGED DRIVE EQUIPMENT

Do not operate or install any drive or drive accessory that appears damaged.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

- Check that the drive reference printed on the label matches the delivery note and corresponding purchase order.

Write the drive Model Reference: _____ _____and Serial Number: _____

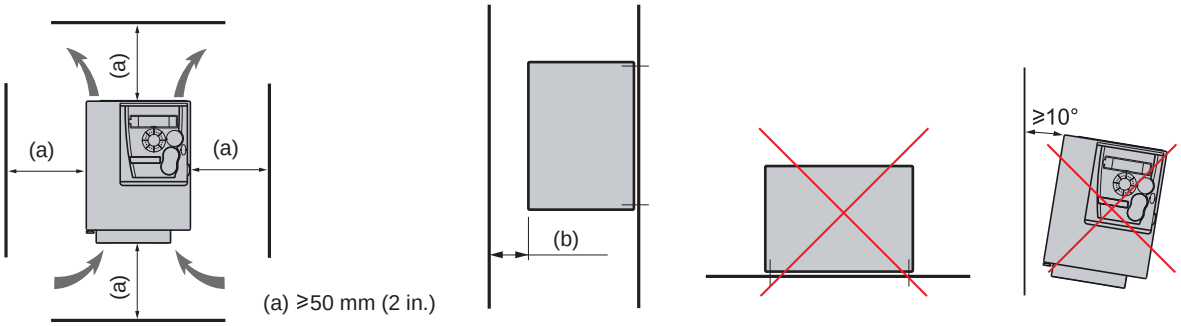


❷ Check the line voltage compatibility

- Check that the **line voltage** is compatible with the supply range of the drive.
  Line voltage _____ Volts / Drive voltage range _____ Volts
  Drive range: ATV312••••M2 = 200/240 V single phase / ATV312••••M3=200/240 V three-phase
  ATV312••••N4 = 380/500 V three-phase / ATV312••••S6 = 525/600 V three-phase

❸ Mount the drive vertically

For a surrounding air temperature up to 50 °C (122 °F)



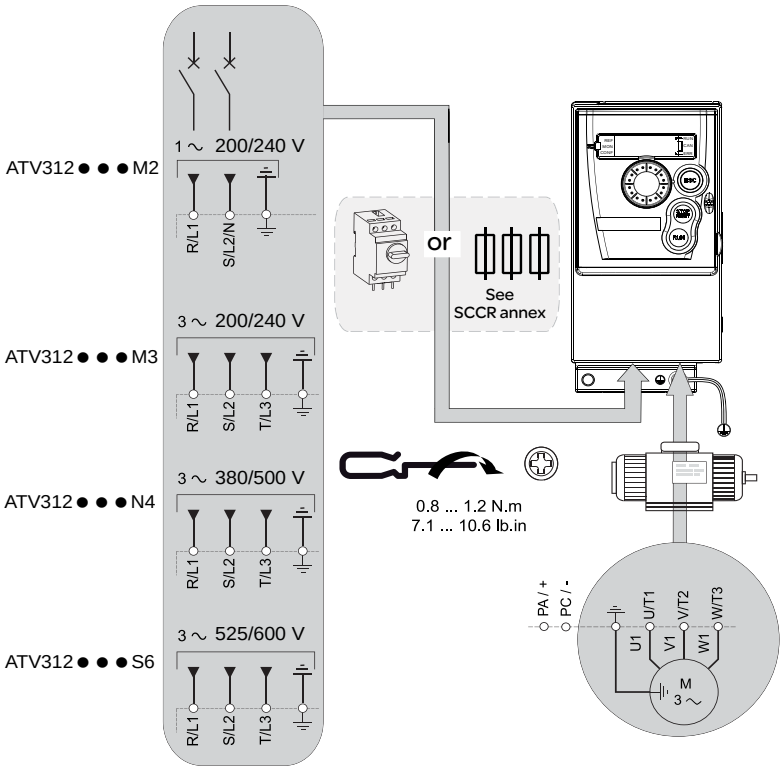
(a) ≥50 mm (2 in.)

(b) ≥ 10 mm (0.4 in.)

See installation manual (BBV46391) on www.schneider-electric.com for other thermal conditions.

❹ Connect power wiring

- Wire the drive to the ground.
- Check circuit breaker rating or fuse rating (see SCCR annex)
- Check that the motor voltage is compatible with the drive voltage.
  Motor voltage _____Volts.
- Wire the drive to the motor.
- Wire the drive to the line supply.



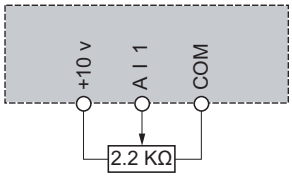
❺ Connect control wiring and select control configuration:

5.1 or 5.2

5.1 [REMOTE configuration] (Control by **external** reference)

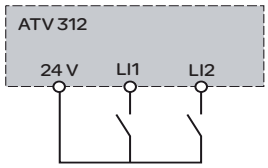
- Ensure SW1 = "SOURCE" 

- **Wire the speed reference:**



- **Wire the command:**

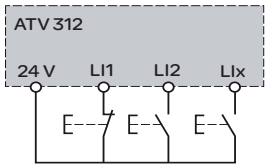
Control command 2-wire:



LI1: forward
LI2: reverse

OR

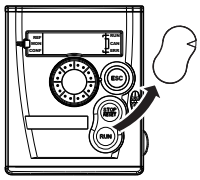
Control command 3-wire:



LI1: stop
LI2: forward
LIx: reverse

- Next steps, do: ❻+❼+❽+9.1

5.2 [LOCAL configuration] (control by **internal** reference).



Do: ❻+❼+❽+9.2

❻ Apply power to the drive

- Ensure that Logic Inputs are not active (see Li1, Li2, Lix).
- Apply power to the drive.
- At first power up, the drive displays nSt (3-wire control) or rdY (2-wire control), after pushed ENT drive displays bFr.
- On next start-ups, the drive displays nSt or rdY.

❼ Set motor parameters

- Refer to the motor nameplate for the following parameter settings.

Menu	Code	Description	Factory setting	Customer setting
drC - [MOTOR CONTROL]	bFr	[Standard mot. freq]: Standard motor frequency (Hz)	50. 0	
	UnS	[Rated motor volt.]: Nominal motor voltage on motor nameplate (V)	drive rating	
	FrS	[Rated motor freq.]: Nominal motor frequency on motor nameplate (Hz)	50. 0	
	nCr	[Rated mot. current.]: Nominal motor current on motor nameplate (A)	drive rating	
	nSP	[Rated motor speed]: Nominal motor speed on motor nameplate (rpm)	drive rating	
	COS	[Motor 1 Cosinus Phi.]: Nominal motor cos φ on motor nameplate	drive rating	

7 Set motor parameters (continued)

- Set tUn parameter to YES.

Menu	Code	Description	Factory setting	Customer setting
drC - [MOTOR CONTROL]	tUn	[Auto Tunning]: Auto-Tunning for UnS, FrS, nCr, nSP, nPr and COS	nO	

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- During auto-tuning, the motor operates at rated current.
- Do not service the motor during auto-tuning.

Failure to follow these instructions will result in death or serious injury.

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UNINTENDED EQUIPMENT OPERATION

- The Nominal Motor Parameters UnS, FrS, nCr, nSP, nPr and COS must be correctly configured before starting auto-tuning.
- If one or more of these parameters is modified after auto-tuning has been performed, tUn will return to nO and the procedure must be repeated.

Failure to follow these instructions will result in death or serious injury.

8 Set basic parameters

Menu	Code	Description	Factory setting	Customer setting
SEt - [SETTINGS]	ACC	[Acceleration]: Acceleration time (s)	3.0	
	dEC	[Deceleration]: Deceleration time (s)	3.0	
	LSP	[Low speed]: Motor frequency at minimum reference (Hz)	0.0	
	HSP	[High speed]: Motor frequency at maximum reference (Hz)	50.0	
	ItH	[Mot. therm. current]: Nominal current on motor nameplate (A)	drive rating	
I-O - [INPUTS / OUTPUTS CFG]	rrS	[Reverse assign.]: Reverse assignment	LI2	
Fun -> PSS - [PRESET SPEEDS]	PS2	[2 preset speeds]: Preset speeds	LI3	
	PS4	[4 preset speeds]: Preset speeds	LI4	
Fun -> SAI - [SUMMING INPUTS]	SA2	[Summing ref. 2] Analog input	AI2	

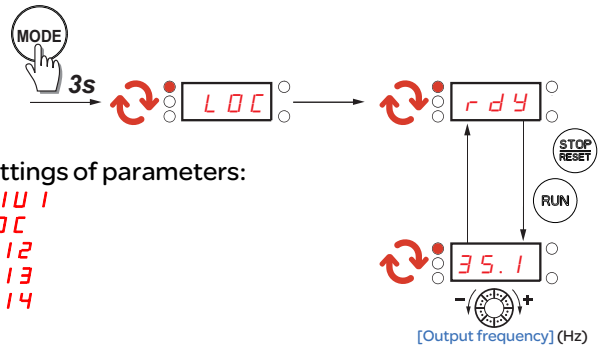
9 Set control choice

Menu	Code	Description	5.1 [REMOTE configuration]	5.2 [LOCAL configuration]	Customer Setting
CtL - [COMMAND]	Fr1	[Ref.1 channel]: Reference control	AI1 (factory setting), AI2, AI3	AIU1	
I-O - [INPUTS / OUTPUTS CFG]	tCC	[2/3 wire control]: Command control	2C : 2-wire (factory setting) 3C : 3-wire	LOC	

9.1 [REMOTE configuration] (Factory setting)

Factory settings of parameters:
Fr1 = AI1
tCC = 2C

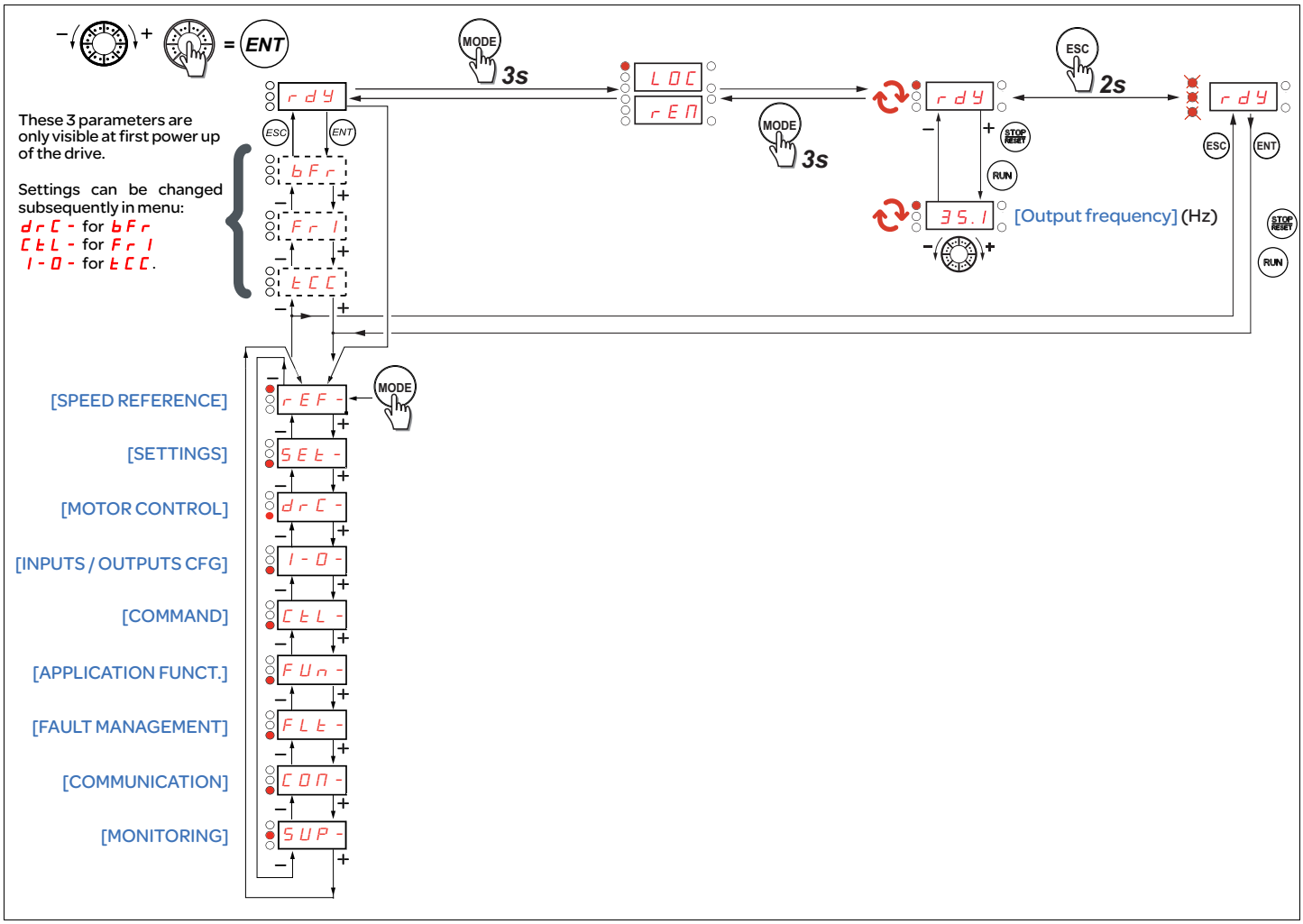
9.2 [LOCAL configuration]



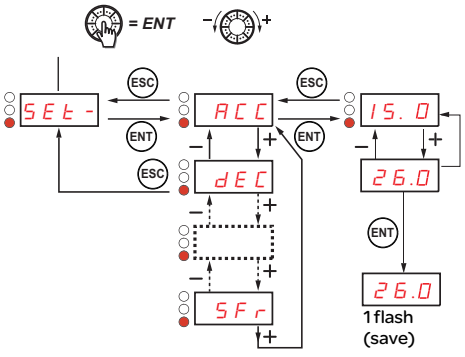
Factory settings of parameters:
Fr1 = AIU1
tCC = LOC
rrS = LI2
PS2 = LI3
PS4 = LI4

10 Start the motor

Menus structure



Parameter selection



Refer to the programming manual (BBV46385) for comprehensive menu descriptions.

A dash appears after menu codes to differentiate them from parameter codes.
Example:
[SETTINGS] (SEt-), ACC parameter.