



TME9378900

1 Download The Manual

You must have detailed information to be able to carry out the installation and commissioning. This information can be found in the following manual that can be downloaded on www.se.com

or scan the QR-code in front of the Drive.

- ATV310L User manual [MFR14700](#) (English)

The Getting Started manual does not replace the User manual.



Verify the Key Points of your installation, identified by this symbol.



DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Only appropriately trained persons who are familiar with and understand the contents of this manual and all other pertinent product documentation and who have received safety training to recognize and avoid hazards involved are authorized to work on and with this drive system. Installation, adjustment, repair and maintenance must be performed by qualified personnel.

- The system integrator is responsible for compliance with all local and national electrical code requirements as well as all other applicable regulations with respect to grounding of all equipment.
- Many components of the product, including the printed circuit boards, operate with mains voltage.
- Only use properly rated, electrically insulated tools and measuring equipment.
- Do not touch unshielded components or terminals with voltage present.
- Motors can generate voltage when the shaft is rotated. Prior to performing any type of work on the drive system, block the motor shaft to prevent rotation.
- AC voltage can couple voltage to unused conductors in the motor cable. Insulate both ends of unused conductors of the motor cable.
- Do not short across the DC bus terminals or the DC bus capacitors or the braking resistor terminals.
- Before performing work on the drive system:
 - Disconnect all power, including external control power that may be present. Take into account that the circuit breaker or main switch does not de-energize all circuits.
 - Place a Do Not Turn On label on all power switches related to the drive system.
 - Lock all power switches in the open position.
 - Wait 15 minutes to allow the DC bus capacitors to discharge.
 - Verify that no other voltage is present in the drive system.
- Before applying voltage to the drive system:
 - Verify that the work has been completed and that the entire installation cannot cause hazards.
 - If the mains input terminals and the motor output terminals have been grounded and short-circuited, remove the ground and the short circuits on the mains input terminals and the motor output terminals.
 - Verify proper grounding of all equipment.
 - Verify that all protective equipment such as covers, doors, grids is installed and/or closed.

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

2 Verify The Delivery Of The Drive

Unpack the drive and verify that it has not been damaged.

Damaged products or accessories may cause electric shock or unanticipated equipment operation.

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not use damaged products or accessories.

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

Contact your local Schneider Electric sales office if you detect any damage whatsoever.

Verify compatibility between your drive and your application.

See the ATV310L Catalog [DIA2ED2180901EN](#)



Environment

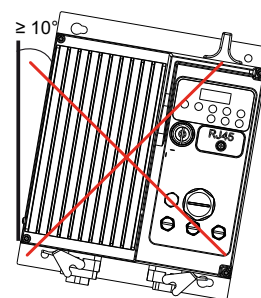
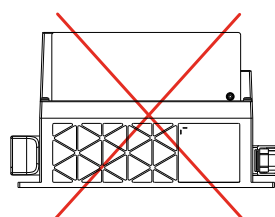
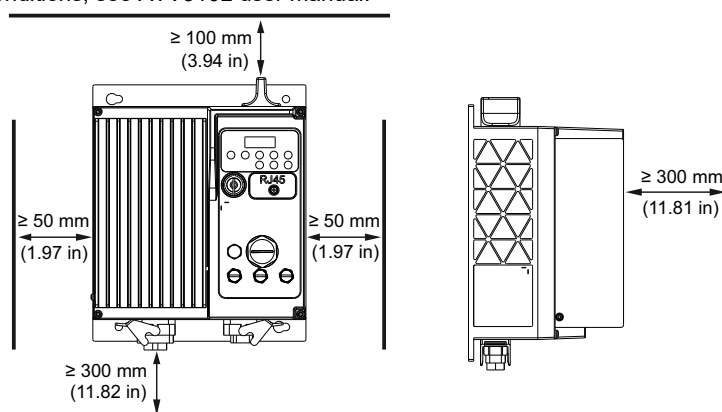
The drive is suitable for operation in these environments:

- Degree of protection: IP65 with the switch key inserted, mains supply and motor connectors plugged
- Mechanical class: 3S2* conforming to IEC/EN 60721
- Chemical class: 3C3* conforming to IEC/EN 60721

*: except the key switch.

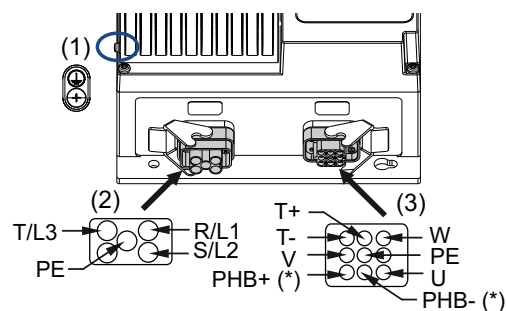
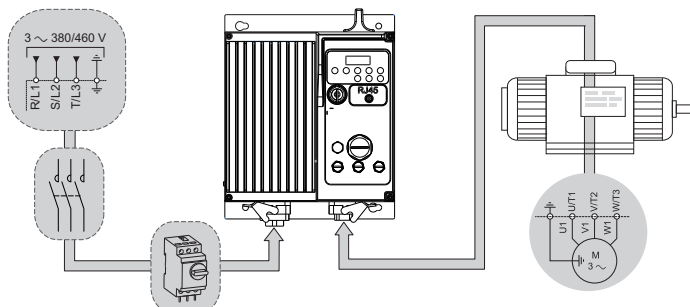
3 Mount The Drive Vertically

For a surrounding air temperature up to 45 °C (113 °F). For other thermal conditions, see ATV310L user manual.



4 Connect the drive: Power

- Connect the drive to the ground. The grounding screw is shown in (1).
- Verify circuit breaker rating or fuse rating according to the table below.
- Verify that the nominal motor voltage is compatible with the drive voltage.
Nominal motor voltage _____ volts.
- Connect the drive to the mains via the 5-pin terminal. See (2).
- Connect the drive to the motor via the 9-pin terminal. See (3). (*)
- For motor and mains connector information see the user manual [MFR14700](#) (English).



Drive	Contactor	Circuit breaker	Rated current	Wire size
ATV310L075N4T22●	LC1-D09●●●●N	GV2P08 GV2L08	4 A	2.5 mm ² (14 AWG)
ATV310LU15N4T22●	LC1-D09●●●●N	GV2P14 GV2L14	10 A	2.5 mm ² (14 AWG)
ATV310LU22N4T22●	LC1-D09●●●●N	GV2P14 GV2L14	10 A	2.5 mm ² (14 AWG)

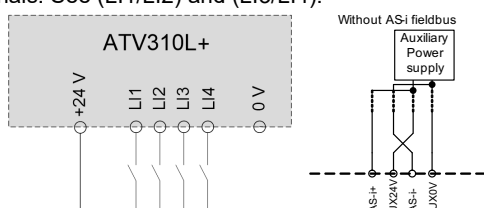
(*): If you use a motor brake, you must wire PHB- / PHB+ on the motor terminal (3).
See ATV310L user manual to:
 • Verify the characteristics of the brake terminals;
 • Handle the release and engage of the motor brake with the Brake Logic Control function.

5 Connect the drive: AS-i

- Connect the drive to the AS-i fieldbus via the M12 5-pin male terminal. See (AS-i).

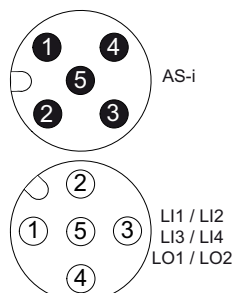
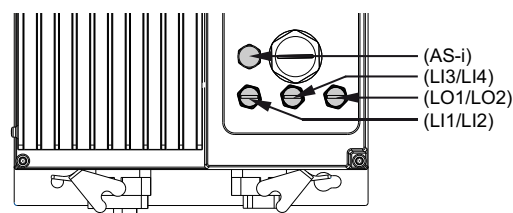
6 Connect the drive: Control

- Connect the logic inputs of the drive via the M12 5-pin female terminals. See (LI1/LI2) and (LI3/LI4).



The logic input type is positive logic. At first power-on:
 - the control type is 2-wire control: LI1= Forward, LI2=Reverse
 - the speed reference is given by the drive.
 - the command is given by the terminals.

NOTE: Without AS-i fieldbus, AS-i- and AS-i+ must also be wired to the auxiliary power supply to operate with logic inputs and outputs



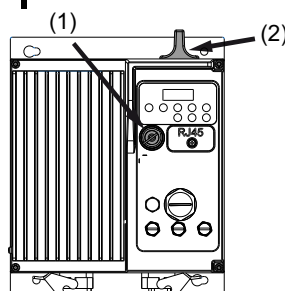
M12 - 5 pins Connector				
Pin No	AS-i	LI1/LI2	LI3/LI4	LO1/LO2
①	AS-i-	+24 V		
②	AUX0V	LI2	LI4	LO2
③	AS-i+	0 V		
④	AUX24V	LI1	LI3	LO1
⑤	Functional ground			

See ATV310L user manual to use an 24V external source to supply the logic inputs.

NOTE: The +24V power and 0V are supplied by AUX24V and AUX0V.

7 Apply power to the drive

- Verify that the used logic Inputs are not active.
- Verify that the AS-i communication is not active.
- Verify that the Key Switch is on local mode (LOC), see (1).
- Apply the power to the drive, see (2).
- At first power up, the drive displays the parameter [AS-i address 1 7 1 2](#) in the menu [Configuration Conf](#).



8 Select the type of motor and the application parameter group

- Set the following parameters according to the application and the motor.

Menu	Code	Description	Factory setting	Customer setting
Conf → FULL → 300 - Motor control menu	3 2 4	Motor type selection: Verify the presetting of the motor nameplate parameters.	0 1 NORD motor	
Conf → FULL → 500 - Function menu	5 1 4	Application Parameter Group Selection: Verify the presettings in the menu 0 0 0 - .	0 1 Conveyor (with V/F control)	
Conf → FULL Full menu	0 0 0 -	Application Parameter Group (menu): List of application parameters if 5 1 4 is different from General 0 0	Verify the settings in this menu.	

See ATV310L user manual for further information on the parameter presets via these parameters.

9 Set motor parameters

- Refer to the motor Nameplate to set the following parameters.

Menu	Code	Description	Factory setting	Customer setting
CONF → FULL → 300 - Motor control menu	301	Motor Standard: Standard motor frequency	00 50Hz IEC	
	302	Rated motor power: Nominal motor power on motor nameplate (kW/HP)	Drive rating (kW) ⁽¹⁾	
	304	Rated motor voltage: Nominal motor voltage on motor nameplate (V)	400 ⁽¹⁾	
	305	Rated motor current: Nominal motor current on motor nameplate (A)	Drive rating ⁽¹⁾	
	306	Rated Motor Frequency: Nominal motor frequency on motor nameplate (Hz)	50.0	
	307	Rated motor speed: Nominal motor speed on motor nameplate (rpm)	Drive rating ⁽¹⁾	
	308	Maximum frequency: Maximum motor frequency (Hz)	60.0	
CONF → FULL → 200 - Inputs / Outputs Menu	201	Type of control: Command control by 2-wire or 3-wire control	00 2-wire control	
CONF → FULL → 600 - → 604 - Motor thermal monitoring menu	604.0	Motor thermal current: Nominal motor current on motor nameplate (A)	Drive rating	

(1): If **Motor type selection 324** is modified, this parameter setting can be modified.

10 Set basic parameters

Menu	Code	Description	Factory setting	Customer setting
CONF → FULL → 500 - → 501 - Ramp menu	501.0	Acceleration Ramp Time: Acceleration time (s)	0.5 ⁽¹⁾	
	501.1	Deceleration Ramp Time: Deceleration time (s)	0.5 ⁽¹⁾	
CONF → FULL → 500 - → 512 - Speed Limit menu	512.0	Low speed: Motor frequency at minimum reference (Hz)	0.0	
	512.2	High speed: Motor frequency at maximum reference (Hz)	50.0	
CONF → FULL → 500 - → 502 - Stop configuration menu	502.0	Type of Stop: Type of stop followed by the drive when stopping	00 Ramp Stop	
CONF → FULL Full menu	100	Macro configuration Drive application type	00 Start/Stop	

(1): If **Application parameter group selection 514** is modified, this parameter setting can be modified.

11 Set AS-i communication parameters

Menu	Code	Description	Factory setting	Customer setting
CONF → FULL → 700 - Communication menu	711	AS-i mode: AS-i communication mode	SnGL ⁽¹⁾	
	712	AS-i address 1: Address of AS-i node 1	0	
	713	AS-i address 2: Address of AS-i node 2, visible if Dual or CTT2 mode is activated.	0	

See ATV310L user manual for further information on the different mode of AS-i communication.

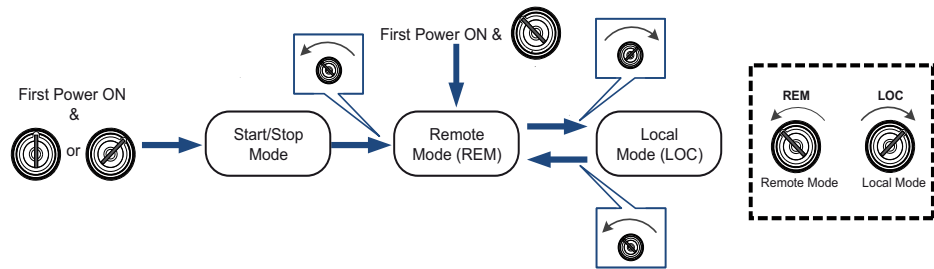
(1): If **Application parameter group selection 514** is modified, this parameter setting can be modified.

12 Start the motor

- Enter a **Speed Reference via local HMI 403** (in the **Reference menu REF** -).
The parameter is expressed in % of the **High Speed 512.2**.
- Activate the logic input LI1 to run forward or the logic input linked to **Reverse Assignment 503** to run in reverse.

Switch Mode: Local/Remote

To switch mode, disable the drive operation then turn the Key Switch:



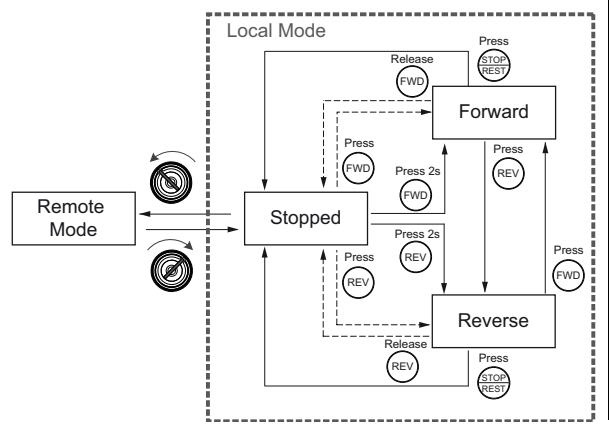
On ATV310L...N4T22... products, switching to the intermediate position of the Switch Key (Stop) sends a stop command to the motor but it does not modify the Local/Remote mode (nor the parameter **Macro Configuration 100**).

- NOTE:** On ATV310L...N4T22... products,
- A modification of the Local/Remote mode is only considered when the motor operation is disabled (i.e. a command to stop the motor has been send).
 - At unpacking of the drive, the default Switch Key position is the intermediate position (Stop).

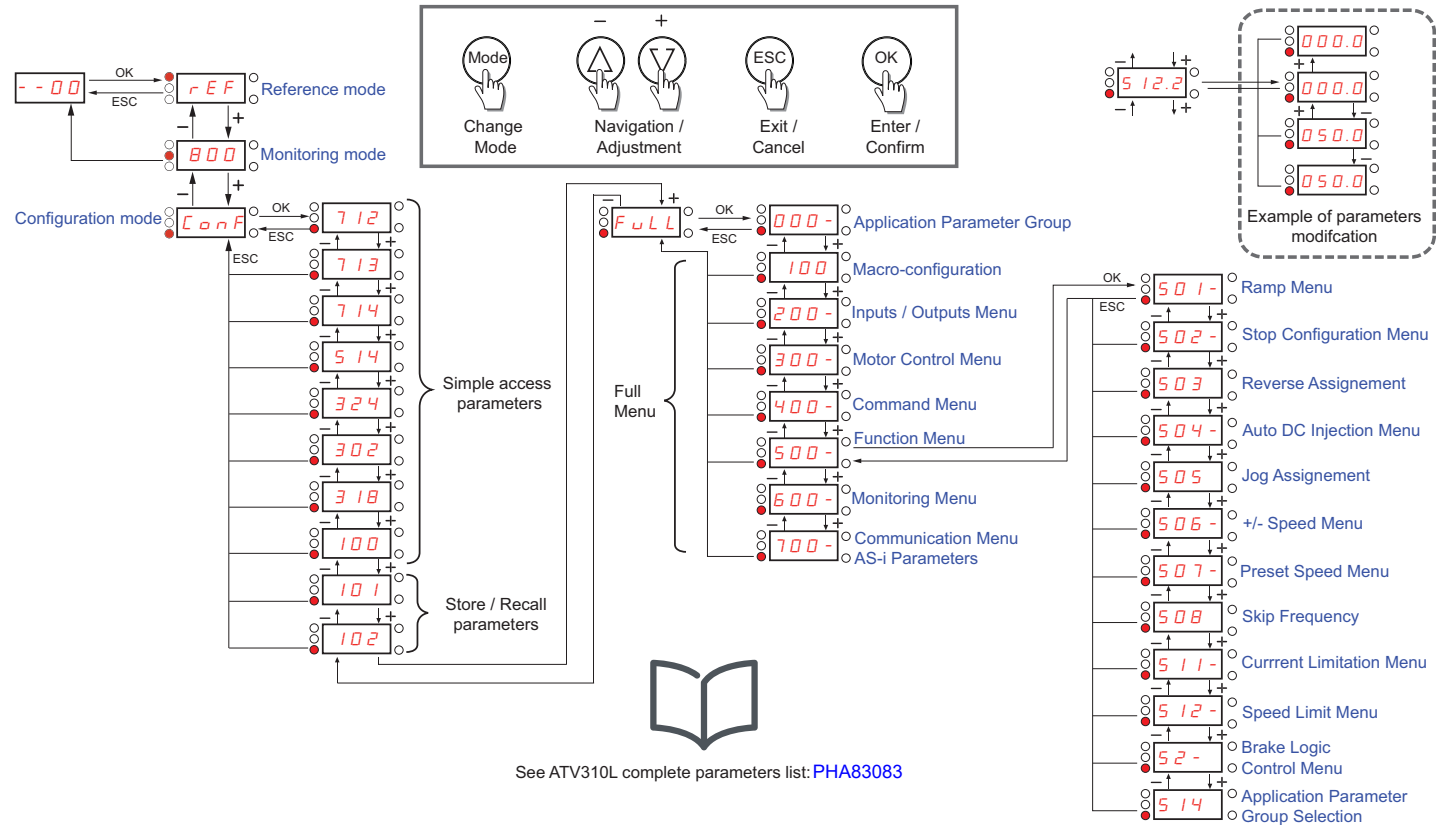
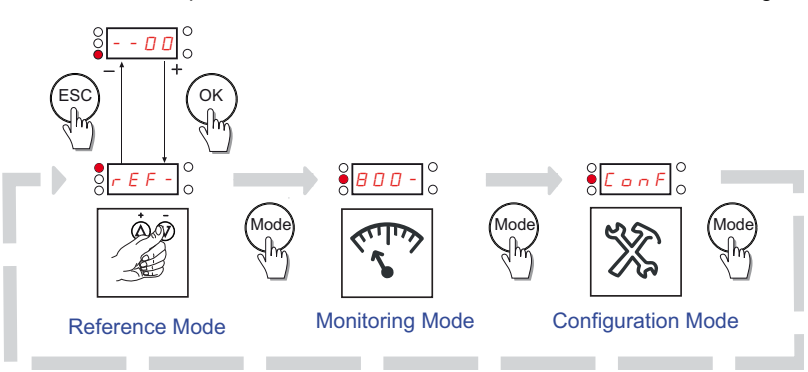
Parameters		Start/Stop Mode		Local Mode (LOC)		Remote Mode (REM)	
Macro configuration	100	Start/Stop	00	Local	17	Remote	18
Reference Channel	401	Local HMI	183	Local HMI	183	AS-i	164
Channel configuration	406	Separate	02	Not Separate	01	Not Separate	01
Command Channel	407	Terminal	01	Local HMI	02	AS-i	10

Menu Structure

Running in local mode (LOC):



In all modes it is possible to access to the HMI tree of the drive as following:



See ATV310L complete parameters list: [PHA83083](#)