Version FLJE-03122025

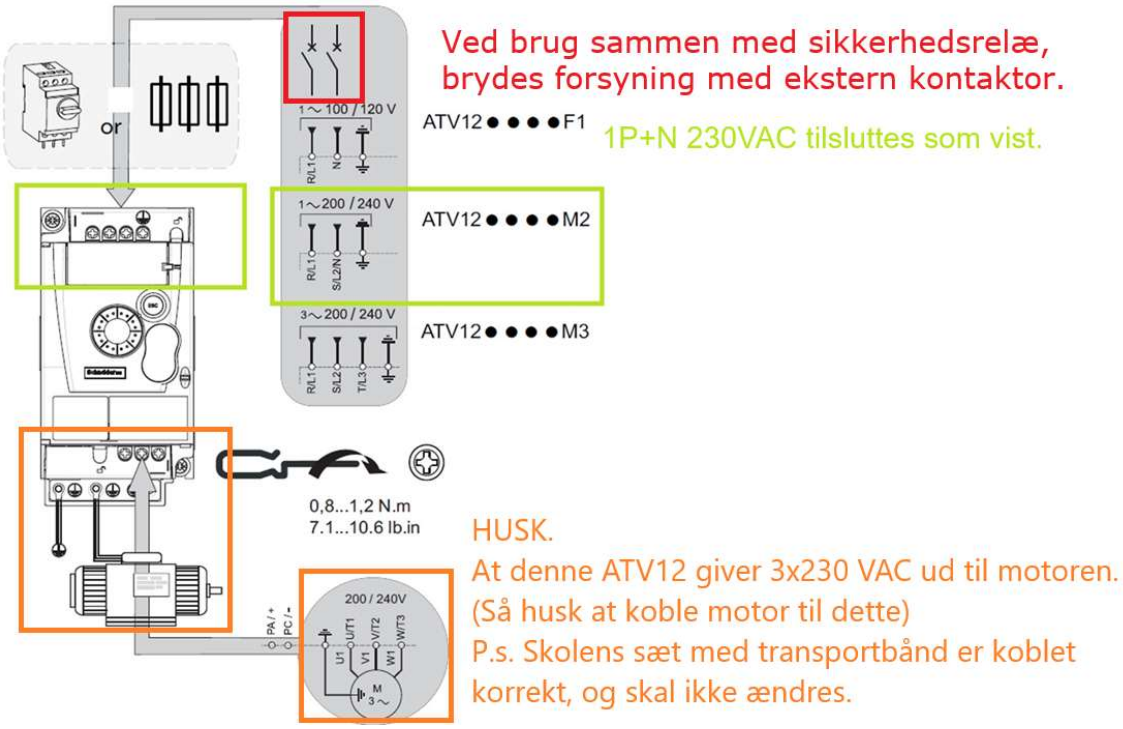
Altivar 12

Variable speed drives
for asynchronous motors



Quick Guide
for tilslutning og opsætning af
ATV12 frekvensomformer
på EUC Sjælland

Montering af forsyningsspænding 230 ATV12M2 1-faset + nul samt motor.



Nulstilling af ATV12 inden opsætning.

Det kan klart anbefales at nulstille frekvensomformeren, så der startes ud med fabriksindstilling inden man første gang går i gang med at arbejde med den.



Sæt spænding på ATV12én. Når der står rdY i displayet, trykkes der midt på drejehjulet (Bemærk at hvis der nu står nSt i displayet, er det sikkert fordi at der er monteret ledning i klemme LI2. fjern den)

Drej nu på drejehjulet indtil der i displayet står ConF tryk midt på drejehjulet.

Drej på drejehjulet indtil der i displayet står FCS, tryk midt på drejehjulet.

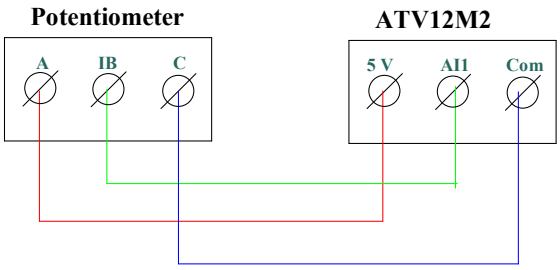
Drej på drejehjulet indtil der i displayet står InI, tryk og hold drejehjulet nede i 3 sekunder.

Den er nu sat tilbage til fabriksindstilling.

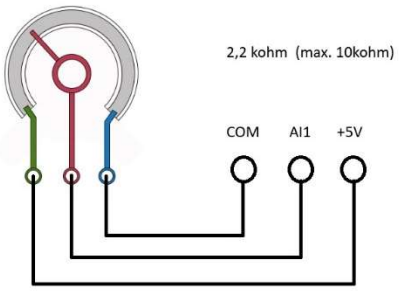
Tryk derefter på ESC . indtil der i displayet står rdy.

Montering af potentiometer på ATV12.

Med Schneider potentiometer.



Med standard potentiometer.



Skalering af potentiometer indgang / analog indgang for frekvensen, stilles i parameter LSP og HSP.
LSP er frekvens ved 0% og HSP er ved 100% Som standard er de sat til 0Hz og 50Hz

Start og stop input.

Ønskes ATV12 betjent kun ved trykknapper udenom ekstern styring, vælges der 3C som er 3 wire kontrol. Stop, start og reversering.
(se illustration 2og3 wire)
P.S. bruges denne drift form sammen med PLC, skal der huskes at lave puls-output / one-shot som vist.
(se illustration PLC1 for TIA/step7)

Ved brug af ATV12 sammen med PLC, anbefales det at vælge 2C som er 2 wire kontrol. Ved dette valg kører ATV12 så længe indgangen er høj. (PLC output er højt)
Der er ikke en indgang for stop, men det anbefales at bygge nødstop sammen i sit set up.
(se illustration Nødstop1)

Der skal ligeledes huskes at tråde op som "Source - external supply" ved brug af ATV12 sammen med PLC.
Dette gør at det er 24VDC fra PLCéns PSU, som bruges hele vejen igennem.
(se illustration External supply1)

Input Output menu

illustration 2og3 wire

tCC

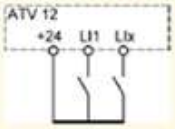
❑ Type of control

2C

2C

☐ 2-wire control (see page 52)
The open or closed state of the input controls the running or stopping.
Example of "source" wiring:

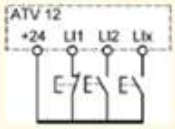
2 s



LI1: forward
LIx: reverse

3C

☐ 3-wire control (see page 52)
"forward" or "reverse" pulse is sufficient to command starting, a "stop" pulse is sufficient to command stopping
Example of "source" wiring:



LI1: stop
LI2: forward
LIx: reverse

illustration PLC1



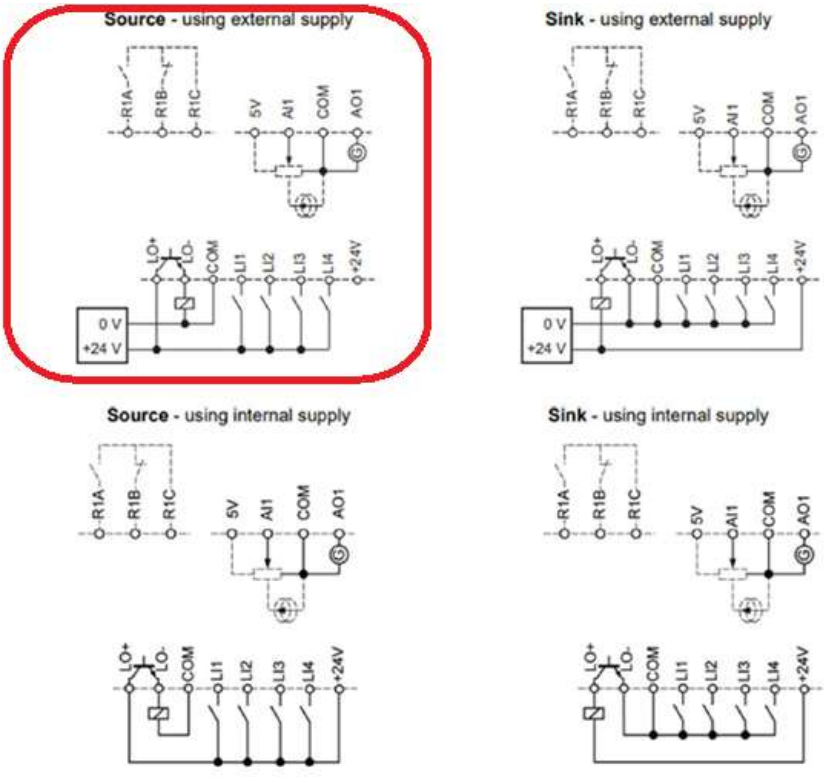


illustration External supply1

Tænd for spænding på frekvensomformeren ATV12M2.

Når alle ledninger er monteret fra punkt 1-4 kan der sættes til spænding på frekvensomformeren

- **Sørg for, at logiske indgange ikke er aktive (se Li1, Li2, Lix).**
- **Sæt spænding på frekvensomformeren.**
- **Frekvensomformeren viser bFr ved første opstart.**
- **Ved næste opstart viser frekvensomformeren rdY .**

Opsætning af basic parameters på frekvensomformeren ATV12M2.

Indtast motorværdier som I aflæser på jeres motors mærkeplade.
(Hvis det er skolens små transportbånd, skal motor parametre indstilles til følgende
bFr = 50.0 nPr = 0.10 nCr = 0.4 nSp = 1300)

❼ Set motor parameters

- Refer to the motor Nameplate for the following parameters settings.

Menu	Code	Description	Factory setting	Customer setting
CONF > FULL > DRC - [Motor control menu]	bFr	[Standard motor frequency]: Standard motor frequency (Hz)	50.0	
	nPr	[Rated mot. power]: Nominal motor power on motor nameplate	drive rating	
	nCr	[Rated mot. current]: Nominal motor current on motor nameplate (A)	drive rating	
CONF > FULL > FLT - > THT - [Motor thermal protection menu]	ItH	[Motor thermal current]: Nominal motor current on motor nameplate (A)	drive rating	

Rampetider stilles på ACC og dEC
Skalering på frekvensomformerens hastighed stilles her LSP og HSP

❽ Set basic parameters

Menu	Code	Description	Factory setting	Customer setting
CONF [CONFIGURATION]	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	

❾ Set control choice

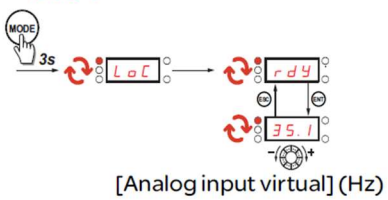
Menu	Code	Description	5.1 [REMOTE configuration]	5.2 [LOCAL configuration]	Customer Setting
CONF > FULL > CTL - [Control menu]	Fr1	[Reference channel1]: Reference control	AI1	AIU1	
CONF > FULL > I_O - [Input Output menu]	tCC	[Type of control]: Command control	2C : 2-wire control 3C : 3-wire control	–	

❾1 [REMOTE configuration] (configuration factory setting)

Parameters factory settings:
Fr1 = AI1
tCC = 2C

❾2 [LOCAL configuration]

Parameters factory settings:
Fr1 = AIU1



[Analog input virtual] (Hz)

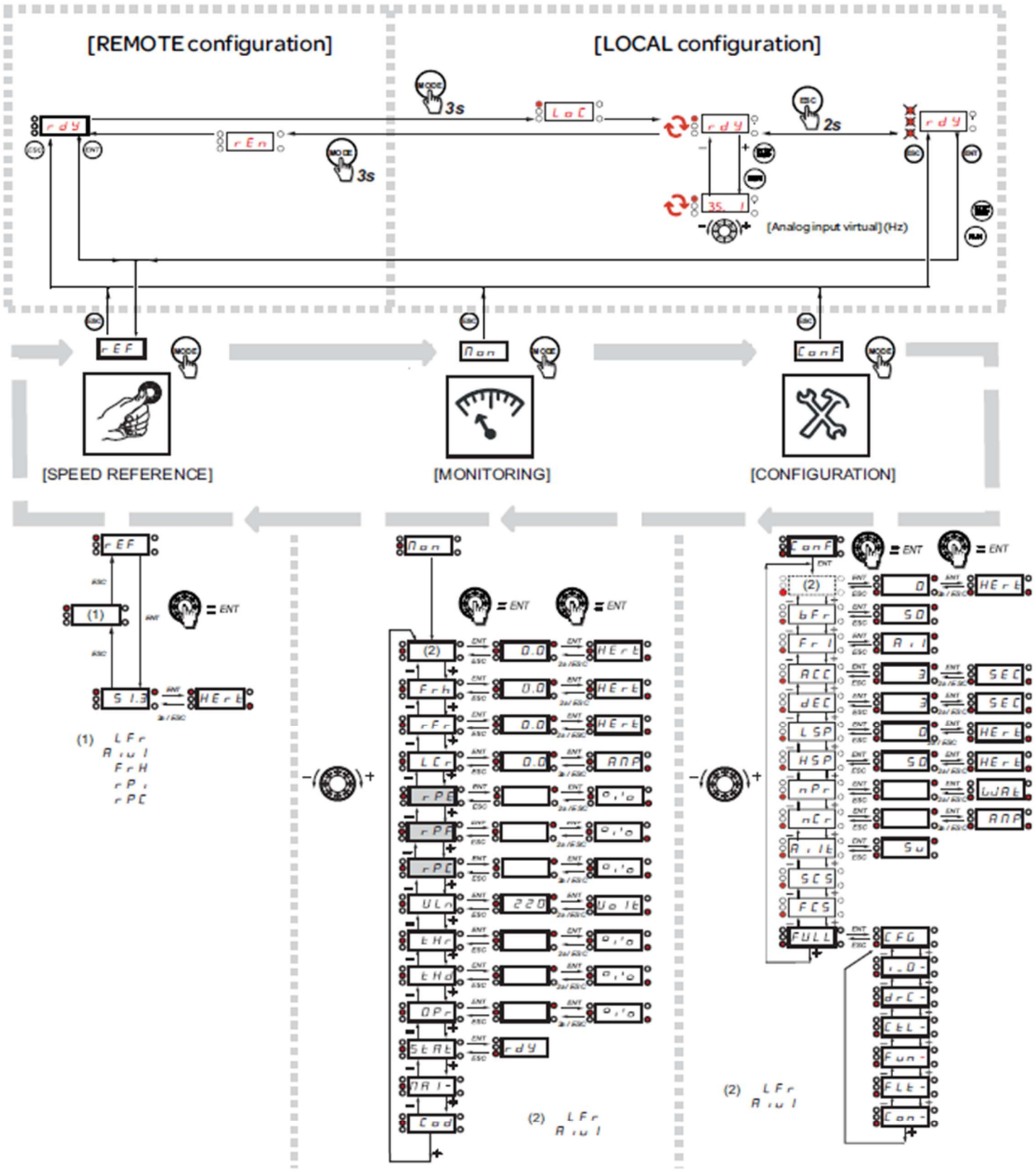
Troubleshooting

Code	Cause	Remedy
SCF1 SCF3	Short-circuit or grounding at the drive output • Ground fault during running status • Commutation of motors during running status • Significant current leakage to ground if several motors are connected in parallel	• Verify the cables connecting the drive to the motor, and the motor insulation • Connect motor chokes
obF	• Braking too sudden or driving load too high	• Increase the deceleration time • Install a module unit with a braking resistor if necessary • Verify the Supply mains voltage, to be sure that it is under the maximum acceptable (20% over maximum supply mains during run status)
oSF	• Supply Mains voltage too high: - At drive power-on only, the supply is 10% over the maximum acceptable voltage level - Power with no run order, 20% over the maximum Supply Mains • Disturbed Supply Mains	• Turn Off the Drive. Verify and adjust the Supply mains voltage. • After Supply mains come back to nominal voltage (within tolerance) • Do power On. If intermittent oSF code appear, set Relay R1 to FLt and it can be connected to upstream protection to avoid overvoltage in the drive. In this case LO1 can be used. For others drive status see user manual
oPF1	• Loss of one phase at drive output	• Verify the connections from the drive to the motor • In case of using downstream contactor, verify the right connection, cable and contactor
oPF2	• Motor not connected • Motor power too low, below 6% of the drive nominal current • Output contactor open • Instantaneous instability in the motor current	• Verify the connections from the drive to the motor • Test on a low-power motor or without a motor: In factory settings mode, motor phase loss detection is active Output Phase loss detection oPL = YES. To verify the drive in a test or maintenance environment, without having to use a motor with the same rating as the drive, deactivate motor phase loss detection Output Phase loss detection oPL = no • Verify and optimize the following parameters: IR compensation (law U/F) UFr, Rated motor voltage UnS and Rated motor current nCr and perform an Auto-tuning tUn.
uSF	• Supply Mains too low • Transient voltage dip	Verify the voltage and the parameters of UndervoltagePhase Loss Menu USb-.

Ved 2C 2 wire control, skal der vælges hvilke indgang der er forbundet.
LI1 er brugt i forvejen til forward, så LI2 kunne være passende til reverse.

Code	Name/Description	Adjustmen
Fun-	**Function menu** (continued)	
rrS	❑ **Reverse direction**	nO
	LI1 to LI4: choice of the input assigned to the reverse command	
no	☐ Function inactive	
L1H	☐ L1h: L1 active high	
L2H	☐ L2h: L2 active high	
L3H	☐ L3h: L3 active high	
L4H	☐ L4h: L4 active high	

Menus structure



Refer to the ATV12 user manual (BBV28581) for comprehensive menu description and troubleshooting information.

A dash appears after menu codes to differentiate them from parameter codes.

Example: [Motor control menu] (drC-), bFr parameter.