Encoder check procedure

This procedure applies to all types of encoder.

1. Set [Motor control type] (Ctt) to a value other than [FVC] (FUC) even if it is the required configuration. For example, use [SVC V] (UUC) for an asynchronous motor and [Sync. mot.] (SYn) for a synchronous motor.

2. Configure the motor parameters in accordance with the specifications on the rating plate.
   - Asynchronous motor (see page 68): [Rated motor power] (nPr), [Rated motor volt.] (UnS), [Rated mot. current] (nCr), [Rated motor freq.] (FrS), [Rated motor speed] (nSP).
   - Synchronous motor (see "Synchronous motor parameters" on page 73): [Nominal I sync.] (nCrS), [Nom motor spdsync] (nSPS), [Pole pairs] (PPnS), [Syn. EMF constant] (PHS), [Autotune L d-axis] (LdS), [Autotune L q-axis] (LqS), [Cust. stator R syn] (rSAS). [Current limitation] (CLI) must not exceed the maximum motor current, **otherwise demagnetization may occur**.

3. Set [Encoder usage] (EnU) = [No] (nO).

4. Perform auto-tuning.

5. In the case of an incremental encoder, set [Encoder type] (EnS) and [Number of pulses] (PGI) page 76 according to the encoder used.

6. Set [Encoder check] (EnC) = [Yes] (YES)

7. Check that the rotation of the motor is safe.

8. Set the motor rotating at stabilized speed ≈ 15% of the rated speed for at least 3 seconds, and use the [1.2-MONITORING] (SUP-) menu to monitor its behavior.

9. If it trips on an [Encoder fault] (EnF), [Encoder check] (EnC) returns to [No] (nO).
   - Check the parameter settings (see points 1 to 4 above).
   - Check that the mechanical and electrical operation of the encoder, its power supply and connections are all OK.
   - Reverse the direction of rotation of the motor ([Output Ph rotation] (PHr) parameter page 69) or the encoder signals.

10. Repeat the operations from step 5 onwards until [Encoder check] (EnC) changes to [Done] (dOnE).

11. If necessary, change [Motor control type] (Ctt) to [FVC] (FUC).

[1.4 MOTOR CONTROL] (drC-)

Code	Name/Description	Adjustment range	Factory setting
EnC	❏ **[Encoder check]** Encoder feedback check. See procedure on previous page. The parameter can be accessed if an encoder card has been inserted (1). nO ☐ **[Not done]** (nO) Check not performed. YES ☐ **[Yes]** (YES): Activates monitoring of the encoder. dOnE ☐ **[Done]** (dOnE): Check performed successfully. The check procedure checks: - The direction of rotation of the encoder/motor - The presence of signals (wiring continuity) - The number of pulses/revolution If a fault is detected, the drive locks in [Encoder fault] (EnF) fault mode.		[Not done] (nO)
EnU	❏ **[Encoder usage]** The parameter can be accessed if an encoder card has been inserted (1). nO ☐ **[No]** (nO): Function inactive SEC ☐ **[Fdbk monit.]** (SEC): The encoder provides speed feedback for monitoring only. rEG ☐ **[Spd fdk reg.]** (rEG): The encoder provides speed feedback for regulation and monitoring. This configuration is automatic if the drive is configured for closed-loop operation ([Motor control type] (Ctt) = [FVC] (FUC). If [Motor control type] (Ctt) = [SVC V] (UUC) the encoder operates in speed feedback mode and enables static correction of the speed to be performed. This configuration is not accessible for other [Motor control type] (Ctt) values. PGr ☐ **[Speed ref.]** (PGr): The encoder provides a reference. Can only be selected with an incremental encoder card.		[No] (nO)

(1) The encoder parameters can only be accessed if the encoder card has been inserted, and the available selections will depend on the type of encoder card used. The encoder configuration can also be accessed in the [1.5- INPUTS / OUTPUTS CFG] (I/O) menu.