11 Fault indications

A fault indication is called automatically whenever a fault occurs. Faults are indicated by means of an **F** in the first position followed by a 2-digit number. The indication flashes (approximately 0.8 s bright, 0.2 s dark).

Mains faults

F02 Incorrect rotating field or
synchronization voltage does not correspond to phase voltage
(incorrect terminal-phase connection of terminals 1U/1W and 26/30)

F03 Mains frequency not in 45 Hz to 65 Hz range or
frequency change > 1.5Hz/sec

F04 Phase failure, mains fuse or electronics power supply was switched off in the presence of DRIVE ENABLE signal (at terminal 64)

F05 Mains voltage outside tolerance range (± 20%)

Interface fault

F06 Parity error during data reception via serial interface
(e.g.incorrect setting of P97; incorrect setting of PG635 / PG675 / PG685 data format)

F07 Syntax error during data reception via serial interface
(For details, see the "Serial interface" instruction manual)

F08 Faulty position setpoint input via connector X305
(applies only to spindle positioning option)

Machine-related faults

F10 Overspeed indication
(Responds if the speed set via parameter E21 is exceeded)

F11 Tacho-monitor (e.g. open circuit, incorrect tacho-polarity)

F12 I>300%
(Current actual value >300% of rated converter current)

F13 I2t monitor tripped
(Motor overtemperature)
Remedy: Reduce load on motor

F14 Exciter current monitor
($I_{Exc_{act}} \leq 50\%$ of $I_{Exc\text{-}set}$)

F16 Drive blocked
($I_A > I_X$ at standstill)

F13 Gear speed selection ambiguous
(e.g. more that one gear speed selected at a time)

F18 Drive does not reach speed despite maximum field weakening
(e.g. because threshold e.m.f. (P77) set too low)

F19 Armature circuit interrupted
(e.g. blown fuse, broken line, EMF_{set} (P77) set too high, line undervoltage, α_G too high (>30°), etc.)

Control section faults

F21 Firing pulses suppressed
(trigger module terminal 700 not connected to terminal 763)

Internal fault indications

F22 1) Coupling fault between SINEC-L1 interface module Z1001 and basic unit
(The Z1001 module is not intended for SIMODRIVE and must not therefore be selected in parameter E00)
Remedy: Check Parameter E00

F23 1) Coupling fault between supplementary modules
Z1004 (technology module) or
Z1011 (interface module) and basic unit
(These supplementary modules are not intended for SIMODRIVE and must not therefore be selected in parameter E00)
Remedy: Check Parameter E00

F24 1) Supplementary power supply (C98130-A1070-A1) faulty
(applies only to spindle positioning option)

F26 1) Current cannot be reduced
(e.m.f. too high)

F28 FIFO overflow

F34 1) EEPROM fault
(cyclic RAM / EEPROM comparison)
Check: Jumper 5 on module A1200-L13 must be inserted:
(Up to software version 03, C1, ...)
Plug-in jumper EA - EB - EC on module A1200-L13 must be inserted in position EB - EC (from software version 04, D1, ... onwards). See also P87.

1) This fault indication can <u>also</u> appear when there is no DRIVE ENABLE signal
(i.e. when terminal 64 is open and the firing pulses have already been blocked).

Faults during startup

F30 Fault during field characteristic
(e.g. load surge during measurement of field characteristic, field current reaches limit)

F32 Optimization run:
Remanence too high (drive rotates when $I_{FIELD_{SET}} = 0$)
Remedy: stall shaft

F35 Field-weakening blocked
(the block is activated if $e.m.f._{SET}$ is not 0 and no characteristic has been measured; the fault indication is suppressed in the CMD FIELD P90 = 2 mode)
Remedy: carry out field characteristic measurement

F36 Optimization run:
Current limit too low; the current limit is reached during automatic optimization
(if permitted: increase current limit)

F37 Optimization run:
Optimization run aborted for external reasons
(e.g. active signals at DRIVE ENABLE or PULSE ENABLE or QUICK STOP terminals interrupted)
Remedy: repeat optimization run

F38 Hardware not compatible with the option set with E00
or
the options set in E00 are mutually exclusive.

F39 Optimization run not possible when EEPROM disable is operative.
Remedy: set P87 to x3x or x0x.

F40 Erroneous input for automatic calculation of the parameters for speed-related current limitation.
Remedy: Ensure that n2 ≥ n1 and i1 ≥ i2 and repeat calculation run.

F41 to **F76** Fault messages from thyristor diagnosis (only for service purposes)
Works setting: Parameter E39 = 0

Acknowledging fault indications

Restart with acknowledgement

If a fault is indicated, it can be acknowledged when the DRIVE ENABLE terminal is open by pressing the MODE key on the unit. If the fault has been eliminated and acknowledged, the unit can be reconnected by activating the DRIVE ENABLE terminal.

If the electronics power supply is switched off while a fault indication is present without the fault having been acknowledged, the old fault indication will appear again when the power supply is switched back on.

External acknowledgement

With luxury units fitted with the A1210 module, every fault indication can be acknowledged by activating terminal R (reset fault memory) when the DRIVE ENABLE terminal is open.

Restart without acknowledgement

If **2** or **3** is set for parameter **P87** (CMD REST), the converter can be restarted by activating the DRIVE ENABLE terminal in the case of the following faults (acknowledgement at converter NOT necessary):

F04	Phase failure, mains fuse
F05	Mains voltage outside tolerance range (± 20%)
F12	I > 300% Current actual value > 300% of rated converter current
F13	I^2t monitor has operated
F14	Exciter current monitor
F21	Firing pulses suppressed (trigger module terminal 700 not connected to terminal 763)

The fault indication persists, but stops flashing. It must be acknowledged by pressing the MODE key on the device.

Automatic restart after the phase failure

If **1** or **3** is set for parameter **P87** (CMD REST), the converter will be automatically restarted after a phase failure if the phase recovers within approx. 400 ms.