## Status messages

Status messages appear in the third line of the display, see example below:


**LOCAL STOP (ENAB STP LOC):**
"Local" or "local with external stop" has been selected in parameter 003, and "stop" has been activated on the keyboard.

**VLT® ready, local (UNIT RDY LOC):**
"Local" or "local with external stop" has been selected in parameter 003, "free-wheeling stop" in parameter 404, and there is 0 V to terminal 27.

**Local start ok (START LOKAL):**

**Local operation ok (RUN OK LOCAL):**
"Local" or "local with external stop" has been selected in parameter 003, and the VLT® frequency converter is running at the set speed reference (parameter 004).

**Local jogging (JOG LOCAL):**
"Local" or "local with external stop" has been selected in parameter 003, and "jog" has been activated on the keyboard.

**Local ramp operation (RAMP LOCAL):**
"Local" or "local with external stop" has been selected in parameter 003, and the output frequency changes according to the set ramp times.

**Stop (ENAB STOP):**
"Remote control" has been selected in parameter 003, and the VLT® frequency converter has been stopped via the keyboard or digital input.

**VLT® ready (UNIT READY):**
"Remote control" has been selected in parameter 003, "free-wheeling stop" in parameter 404, and there is 0 V to terminal 27.

**Start ok (START OK):**

**Operation ok (RUN OK):**
"Remote control" has been selected in parameter 003, and the VLT® frequency converter is running at the speed reference.

**Jogging (JOGGING):**
"Remote control" has been selected in parameter 003, "jogging" in parameter 405, and there is 24 V to terminal 29.

**Ramp operation (RAMPING):**
"Remote control" has been selected in parameter 003, and the output frequency changes according to the set ramp times.

**Freeze reference (FREEZE.):**
"Remote control" has been selected in parameter 003, "freeze reference" in parameter 400, 401 or 405, and the respective input (16, 17 or 29) has been activated.

**Auto optimization (ADPT.TUNING)**
Adaptive motor tuning is active.

**The following status messages are only found when serial communication is used (RS485):**

**OFF 2 (OFF 2):**
Bit 01 in the control word is "0", see **p.** 77.

**OFF 3 (OFF 3):**
Bit 02 in the control word is "0", see **p.** 77.

**Start disabled (START INHIB.):**
Bit 06 in the status word is "1", see **p.** 78.

**Reference locked (HOLD):**
Bit 05 in the control word is "0", see **p.** 76.

## Warnings

Warnings appear in the third line of the display, see the example below:


**Voltage low (VOLTAGE LOW)**
The intermediate circuit voltage (d.c.) is below the control card's warning limit, see table **p.** 125. The inverter is still active.

**Voltage high (VOLTAGE HIGH):**
The intermediate circuit voltage (d.c.) is above the control card's warning limit, see table **p.** 125. The inverter is still active.

**Undervoltage (UNDERVOLTAGE):**
The intermediate circuit voltage is below the inverter's undervoltage limit, see table **p.** 125. The inverter has stopped, and after the time in parameter 311 there will be a trip.

**Overvoltage (OVERVOLTAGE):**
The intermediate circuit voltage is above the inverter's overvoltage limit, see table **p.** 124. The inverter has stopped, and after the time in parameter 311 there will be a trip.

**Current limit (CURRENT LIMIT):**
The motor current is higher than the value in parameter 209.

**Overcurrent (OVER CURRENT):**
The inverter's peak current limit (approx. 250% of rated current) has been exceeded, and after 7-11 sec. there will be a trip.

**Reference faults (REF. FAULT):**
A fault to the analogue input signal (terminal 53 or 60) when a signal type with "live" zero" has been selected (4-20 mA, 1-5 V or 2-10 V). The warning is activated when the signal level is below half of the zero level (4 mA, 1 V or 2 V).

**No motor (NO MOTOR):**
The motor check function (para. 313) detects that no motor is connected to the VLT® frequency converter's output.

**Frequency warning low (LO FREQ WARN):**
The output frequency is lower than the value in parameter 210.

**Frequency warning high (HI FREQ WARN):**
The output frequency is higher than the value in parameter 211.

**Current warning low (LO CURR WARN):**
The output current is lower than the value in parameter 212.

**Current warning high (HI CURR WARN):**
The output current is higher than the value in parameter 213.

**Warnings**
(Continued)

**Motor overloaded (MOTOR TIME):**
According to the electronic thermal motor protection, the motor is too hot. The warning only appears if "warning" has been selected in parameter 315. See curve **p.** 130.

**Inverter overloaded (INVERT TIME):**
The electronic thermal inverter protection reports that the VLT® frequency converter is close to cutting out due to overload (current too high for too long). The counter for electronic thermal inverter protection has reached 98% (100% gives trip).

**24 V fault (NO 24 VOLT):**
24 V voltage supply from power section to control card is absent.

**EEPROM fault (EEPROM ERROR):**
EEPROM fault, data changes are not saved when the mains voltage is switched off.

Voltage limits:

| VLT® 3000 Series | 3x200/230 V [VDC] | 3x380/415 V [VDC] | 3x440/500 V [VDC] | VLT® 3060-3250 [VDC] |
|---|---|---|---|---|
| Undervoltage | 210 | 400 | 460 | 470 |
| Voltage warning low | 235 | 440 | 510 | 480 |
| Voltage warning high (Brake option used, parameter 300) | 370 (395) | 665 (705) | 800 (845) | 790 (820) |
| Overvoltage | 410 | 730 | 880 | 850 |

The voltages stated are the VLT®'s intermediate circuit voltage, the equivalent mains voltage is the intermediate circuit voltage divided by $\sqrt{2}$.

## Reset messages

Reset messages appear in the second line of the display, and alarm messages appear in the third line of the display, see example below:


**Automatic restart (AUTO START):**
When "automatic reset" is selected as reset function, the message states that the VLT® frequency converter is trying to restart automatically after cutting out. The restart time depends on parameter 312.

**Trip (TRIP):**
The VLT® frequency converter has cut out, and manual reset is required. Manual reset can be the reset key on the keyboard, a digital input (terminal 16, 17 or 27) or bit 07 in the control word (RS485).

**Trip locked (TRIP LOCK):**
The VLT® frequency converter has cut out and can only be reset after the mains voltage is switched off. After the mains voltage is cut back in, manual reset is required.
Alarm messages

## Alarm messages

**Undervoltage (UNDER VOLTAGE): Fault code 3**
The intermediate circuit voltage is below the inverter's undervoltage limit, see table **p.** 125.

**Overvoltage (OVER VOLTAGE): Fault code 2**
The intermediate circuit voltage is above the inverter's overvoltage limit, see table **p.** 125.

**Current limit (CURRENT LIMIT): Fault code 9**
The motor current has exceeded the value in parameter 209 for longer than permitted in parameter 310.

**Overcurrent (OVER CURRENT): Fault code 4**
The inverter's peak current limit (approx. 250% of rated current) has been exceeded for more than 7-11 sec. (trip locked).

**Earth fault (GROUND FAULT): Fault code 5**
Discharge from the output phases to earth, either in the cable between the VLT® frequency converter and motor or in the motor (trip locked).

**Overtemperature (OVER TEMP.): Fault code 6**
An excess temperature has been measured inside the VLT® frequency converter, making a cooling off period necessary before reset is possible. (Trip locked).

**Inverter overloaded (OVER LOAD): Fault code 7**
The electronic thermal inverter protection reports that the VLT® frequency converter has cut out due to overload (excessive current for too long). The electronic thermal inverter protection counter has reached 100%.

**Motor overloaded (MOTOR TRIP): Fault code 8 and 15**
According to the electronic thermal motor protection, the motor is too hot. The alarm only comes if "trip" has been selected in parameter 315. See curve **p.** 130.

**Inverter fault (INVERTER FAULT): Fault code 1**
A fault in the VLT® frequency converter's power section, contact Danfoss.

**Alarm messages**
*(continued)*

**Auto optimization ok (TUNING OK):**
Auto optimization has taken place.

**Auto optimization fault**
**(TUNING. FAULT): Fault code 13**
The reasons for auto optimization fault can be the following:
The connected motor is very small or very large in relation to the VLT® frequency converter.
The motor is loaded more than 50%.
The connected motor is a special motor, e.g. a synchronous motor.
The fault can be due to electrical noise, e.g. no or poor earth connection to the VLT® frequency converter.
The reason can also be attempts at auto optimization on a very small motor in relation to the VLT® frequency converter (5-6 undersizes).

**EXCEPT fault::**

```
EXCEPT
XXXX ERROR
PC=XXXX
```

**Error messages**

- If disabled keypad is pressed:
  **KEY DISABLED**
  Indicates factory setup.
  Change parameter 001 to setup 1-4.
  Or the key is disabled (parameters 006-009).
- If data change only possible when the frequency converter is stopped is attempted: **ONLY ON STOP**
- If data change is attempted with open LOCK-switch:**PROG.LOCKED**
- If data change is attempted out of allowed range: **LIMIT**

**Start-up test:**

The VLT® frequency converter performs a self-test of the control card when the mains voltage is connected, giving the following message:

```
TESTING
CONTROL CARD
FAULT_XXXX
```

The reason for the fault message is a fault on the control card or possible option card.
Contact Danfoss.