

5.3 Screens in integrated LC-display

When the LSM is turned on, the serial number of the device will be shown for approx. 4s by means of the following message: *Ser. No.# xxxxxxxx*.

By pressing the *Menu* – button for approx. 3 s, it is possible to change the menu language from German to English and vice versa. This does not work with the overload simulation (paragraph f).

The following displays must be activated by pressing the *Menu* – button:

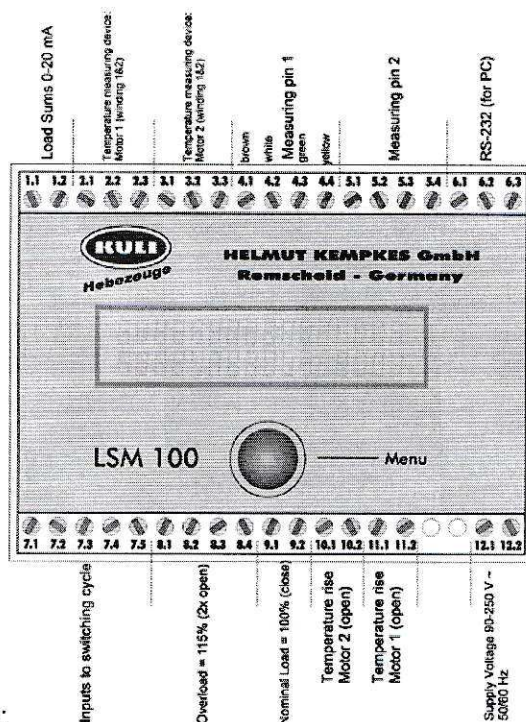
- a) Standard screen: percentage of the current nominal load of measuring bolt 1 and 2: <KULI-LSM 100>
1: 0% / 2: 0%
- b) Number of temperature rise alerts for windings 1-4 (4 displays).
- c) Number of switching cycles of the lifting contactor (lift 1, lift 2, lower 1, lower 2)
- d) Duration of full load life already taken in h:min:s.
- e) Number of operating hours of lifting unit in h:min:s.
- f) Overload simulation. (pressing of the *Menu* – button longer than 3s)
- g) Number of overload switch-offs (lifting load $\geq$ 115% of nominal load)

If the *Menu* – button will not be pressed for more than 10 s, the display returns to the standard screen a).

5.4 Extraordinary status messages in the LC-display

- a) *Overload*
With a fixed load of more than approx. 115% of the nominal load, the lifting process will be switched off. The display shows the message: *Overload*. Then, the load must be lowered in order to relieve the lifting unit. After a couple of seconds the display returns to the standard screen (5.3 a) and operation can be continued.
- b) *Err: Wire Break*
If there is no defined voltages at the measuring input 1, e.g. caused by a wire fracture in the measuring line or a defective measuring pin or amplifier, the display shows the message *Err: Wire Break* and the lifting process will be switched off. The defect must be remedied by trained electricians. If the defect has been removed, the error message can be deleted by quitting (switch device on and off) the device.

5.5 Clamp plan LSM 100



Designation of clamps:

X1: Current output of load sums

1.1: minus

1.2: plus

X2: Measuring input winding temperature Motor 1

2.1: PTC winding 1

2.2: PTC winding 2

2.3: GND

X3: Measuring input winding temperature Motor 2

3.1: PTC winding 1

3.2: PTC winding 2

3.3: GND

X4: Connection measuring pin 1

4.1: +12 V

4.2: GND

4.3: + 1-4 V (quasi 4..20 mA)

4.4: Overload symolation

X5: Connection measuring pin 2

5.1: +12 V

5.2: GND

5.3: + 1-10 V (quasi 4..20 mA)

X6: RS-232connection for PC or RS-868 transmission path

6.1: GND

6.2: Received data to LSM

6.3: Transmission data from LSM

X7: Inputs to switching cycle measurement

7.1: Lifting slowly

7.2: Lowering slowly

7.3: Lifting fast

7.4: Lowering fast

7.5: N (together)

X8: Overload

8.1 and 8.2 and/or 8.3 and 8.4 are normally closed. With load sum $\geq 115\%$ of the nominal load, 8.1/8.2 and 8.3/8.4 open.

X9: Load / Nominal load

The contact of a relay (230 V ~ / 8 A) closes with 100 % load sum

X10: Temperature rise Motor 2

Break contact of a relay

X11: Temperature rise Motor 1

Break contact of a relay

X12: Supply voltage / 90-250 V / 50/60 Hz

12.1: L1

12.2: N