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Oil -free Air division
Service department

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ELEKTRONIKON MKIV
FAILURES LIST

CONTENTS

1. INTERNAL FAILURES

1.1 TEXT

→ → The following text can appear:

Elektronikon II (4x16 display):	**Inter.failure**	**Number**
Elektronikon III (4x40 display):	**Internal failure**	**Number**

"**Number**" stands for the number of the EXPANSION module giving a problem (can be 1, 2, 3, 4, 5, 6, or 7).

1.2 DETAILED INFORMATION

The expansion module giving a problem can be found in the "EXTRA" display.
(→EXTRA display can be seen: starting from the main display, pushing the 'Arrow down', then 'F3')

Display is showing the following info (example):

Display when all expansion modules are OK	Display when all expansion modules are NOT OK
Expansion Mods B 1 B 2 Back	Expansion Mods B 1 ← **flashing** B 2 Back

1.3 PROBLEM SOLVING

→ Check the following items:

1. Connection cable between Master module (2X3) and expansion module (.X3) connected?
2. Connect the cable and Power OFF and ON the compressor.

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2. FREQUENCY CONVERTER TYPE: ABB (ACS600/ACS800)

2.1. GENERAL

$\rightarrow$ 3 different types of text can appear:

Elektronikon II (4x16 display):   **Convert.Timeout**
                                    Conv.Format
                                    Fail Convert. Fail.

Elektronikon III (4x40 display):   **Converter Timeout**
                                    Converter Format Failure
                                    Converter Failure

2.2. COMMUNICATION FAILURES

$\rightarrow$ No communication between the Elektronikon MKIV and the Converter can be established.

This failure is always indicated by the message:

Elektronikon II (4x16 display):   **Convert.Timeout**
Elektronikon III (4x40 display):   **Converter Timeout**

Failure	Trigger	Meaning	Problem Resolution
Communication	?	No communication with Converter	$\rightarrow$ Try the reset button (F3) on the Elektronikon module $\rightarrow$ Check the communication cable and connections. $\rightarrow$ Check the converter Parameters.

2.3. CONVERTER STATUS FAILURES

$\rightarrow$ The communication between the Elektronikon MKIV and the Converter is OK, but the Status of the Converter is not what the Elektronikon module is expecting to be.

This failure is always indicated by the message:

Elektronikon II (4x16 display):   **Conv.FormatFail**   "**number**"
Elektronikon III (4x40 display):   **Converter Format Failure** "**number**"

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Failure "number"	Trigger	Meaning	Problem Resolution
90	Converter Condition	External Run Enable = OFF (Expected to be = ON)	→ In Running condition: 1. For the Main Motor converter the Elektronikon K05 relay should be closed. 2. For the Dryer converter (if present) the Elektronikon K02 relay should be closed 3. For the Fan converter (if present) the Elektronikon K03 relay should be closed → Check the connection between the relevant relay and the corresponding frequency converter
80	Converter Condition	Remote control = OFF (Expected to be = ON)	→ Converter was sent to LOCAL Control by the push-button "LOC/REM" on the control panel. Set back the converter back to Remote.
70	Converter Condition	External Control Location = EXT2 (Expected to be = EXT1)	→ The Service Switch is in the wrong position (is set in Service mode). → Set the Service Switch back to normal position
Others	Converter Condition	The communicated massages cannot be understood or are not conform the expected massages	→ Contact the CTE department.

2.4. CONVERTER FAILURES

→ These failures are due to the fact that the Converter is in FAULT condition

This failure is always indicated by the message:

Elektronikon II (4x16 display):   **Convert.Failure**
Elektronikon III (4x40 display):   **Converter Failure**

IMPORTANT NOTE   Since from the ABB converter no clear Converter Fault number can be read, the actual fault must be read directly on the converter indication panel (to be found on the converter itself). So, Check the frequency converter to find the fault and a more detailed fault description. See ASC Binder ZR(T)55-90 (+VSD) (+IMD), Tab22 "ABB Software manual"

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On the Elektronikon module a fault can be displayed. If so, this fault must be interpreted according the following list:

Fault "number"	Problem
0	Problem cannot be read, please check the frequency converter panel
1	Short circuit
2	Over current
4	DC Over Voltage
8	ACS 600/800 temperature
16	Earth Fault
32	Thermistor problem
64	Motor temperature
128	System fault

A combination of faults will lead to sum of the fault numbers.

Example: Fault number.   17
                 Active faults: 16 = Earth fault
                                    1 = Short circuit

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3. FREQUENCY CONVERTER TYPE: SIEMENS (MASTER DRIVE)

3.1. GENERAL

→ 3 different types of text can appear:

Elektronikon II (4x16 display):
Convert.Timeout
Conv.Format
Fail Convert. Fail.

Elektronikon III (4x40 display):
Converter Timeout
Converter Format Failure
Converter Failure

2.2. COMMUNICATION FAILURES

→ No communication between the Elektronikon MKIV and the Converter can be established.

This failure is always indicated by the message:

Elektronikon II (4x16 display):   **Convert.Timeout**
Elektronikon III (4x40 display):   **Converter Timeout**

Failure	Trigger	Meaning	Problem Resolution
Communication	?	No communication with Converter	→ Try the reset button (F3) on the Elektronikon module → Check the communication cable and connections. → Check the converter Parameters.

3.3. CONVERTER STATUS FAILURES

→ The communication between the Elektronikon MKIV and the Converter is OK, but the Status of the Converter is not what the Elektronikon module is expecting to be.

This failure is always indicated by the message:

Elektronikon II (4x16 display):   **Conv.FormatFail**   "number"
Elektronikon III (4x40 display):   **Converter Format Failure**   "number"

<u>*IMPORTANT*</u>   The Siemens converter communicates his failure towards the Elektronikon module.
<u>*NOTE*</u>   See Siemens Manual for detailed information.

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4. FREQUENCY CONVERTER TYPE: VACON (CX)

4.1. GENERAL

→ 3 different types of text can appear:

Elektronikon II (4x16 display): **Convert.Timeout**
Conv.Format
Fail Convert. Fail.

Elektronikon III (4x40 display): **Converter Timeout**
Converter Format Failure
Converter Failure

2.2. COMMUNICATION FAILURES

→ No communication between the Elektronikon MKIV and the Converter can be established.

This failure is always indicated by the message:

Elektronikon II (4x16 display): **Convert.Timeout**
Elektronikon III (4x40 display): **Converter Timeout**

Failure	Trigger	Meaning	Problem Resolution
Communication	?	No communication with Converter	→ Try the reset button (F3) on the Elektronikon module → Check the communication cable and connections. → Check the converter Parameters.

3.3. CONVERTER STATUS FAILURES

→ The communication between the Elektronikon MKIV and the Converter is OK, but the Status of the Converter is not what the Elektronikon module is expecting to be.

This failure is always indicated by the message:

Elektronikon II (4x16 display): **Conv.FormatFail** "number"
Elektronikon III (4x40 display): **Converter Format Failure** "number"

IMPORTANT NOTE The Vacon converter communicates his failure towards the Elektronikon module. See Siemens Manual for detailed information.