

# COMBICOM



Ethernet-Operator

Version 1.0

**1 General.....3**

**1.1 Product Description.....3**

**1.2 Technical Data .....3**

**2 Ethernet Interface.....4**

**2.1 Supported Protocols .....4**

**2.2 Ip Address .....4**

**2.3 Supported Ports.....4**

2.3.1 Http ..... 4

2.3.2 Data..... 4

**3 Diagnostic Interface.....5**

**4 Operation .....6**

**4.1 Keyboard parameters .....6**

**4.2 Diagnostic Elements.....6**

**4.3 Connector Pin Assignment.....7**

## **1 General**

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This instruction manual describes the software release from 02/2003.

### **1.1 Product Description**

The described module is a plug-on operator with Ethernet interface for the frequency inverter KEB COMBIVERT F5. The voltage supply takes place via the frequency inverter and for independent supply it can also be fed externally over the terminal strip of the inverter. Parallel to the network access the operation via the integrated display/keyboard as well as a further serial interface for diagnosis/parameterizing (KEB COMBIVIS) is possible.

### **1.2 Technical Data**

|                       |                                 |
|-----------------------|---------------------------------|
| Ethernet Connector    | RJ45                            |
| Ethernet Interface    | IEEE 802.3 10Base-T (10Mbaud)   |
| Voltage supply        | via the inverter                |
| Housing               | Standard F5 Operator, pluggable |
| Operating temperature | -10° to 45° Celsius             |
| Part number           | 00.F5.060-8000                  |

## 2 Ethernet Interface

### 2.1 Supported Protocols

|         |                                      |
|---------|--------------------------------------|
| ARP     | Address Resolution Protocol Response |
| ICMP    | Echo Response (Ping)                 |
| TCP/IP  | HTTP-Port, Data-Port                 |
| TCP/UDP | Data-Port                            |

### 2.2 Ip Address

The IP address can be adjusted by the operator parameters. If the lowest byte is 255 (xxx-xxx-xxx-255), then the inverter address (sy.06) is used instead of this 255. The real IP address can also be seen in the operator parameter.

### 2.3 Supported Ports

Multiple clients can access the ethernet operator the same time. The following ports are defined at this time:

#### 2.3.1 Http

This port is set fixed to 80, the standard http-Port. Here the Hypertext-Transfer-Protocol can be used to view the inverter parameters online by a standard internet browser. Only TCP/IP is possible.

#### 2.3.2 Data

The data port is used to transfer inverter parameter data by using encapsulated DIN66019II-Frames. This port is initially set to 8000, but can be changed by the operator parameter settings. Possible protocol types are TCP/IP or TCP/UDP here. By this port the access with the COMBIVIS5 IP driver is possible.

### 3 Diagnostic Interface

#### ATTENTION :

To prevent a destruction of the PC-interface, the diagnostic interface may only be connected to the PC over a special HSP5 cable with voltage adaption. On disregard the PC-interface may be damaged.

Over an adapter a HSP5 cable is connected to the diagnostic interface. By way of the PC-software KEB COMBIVIS 5 one has now normal access to all inverter parameters. The operator-internal parameters can also be read and adjusted or parameterized by means of download.

#### Separately available accessory

HSP5-cable between PC and adaptor: Part.-No.: 00.F5.0C0-0001

Adaptor D-Sub9/Western: Part.-No.: 00.F5.0C0-0002

Following operator-parameters for the operation with KEB COMBIVIS 5 are available:

| Address | Name                     | Description                                                                                                                                               |
|---------|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0080h   | Date                     | Indication of the version number. The parameter name also contains the date of the operator firmware. Writable for verification only with the same value. |
| 0081h   | Parameter Count          | Number of operator parameters. Read-only.                                                                                                                 |
| 0082h   | Diag Rsp.DelayTime       | Adjustable time delay for the diagnostic interface.                                                                                                       |
| 0083h   | Current Password         | Display of the current inverter password level. Read-only.                                                                                                |
| 0084h   | HSP5_Max_InvBusy_Retries | Adjustment of the number of repetitions at error code 'Inverter Busy'.                                                                                    |
| 0086h   | Diag Error Counter       | Error counter of diagnostic interface. Can be reset by writing.                                                                                           |
| 0087h   | HSP5 Tout Count          | Error counter of HSP5-interface to the inverter. Can be reset by writing.                                                                                 |
| 0090h   | MAC Address              | Physically ethernet address, High bytes are always 00-08-FA-xx-xx-xx                                                                                      |
| 0091h   | IP Address               | Settable IP address for the operator, see part [IP Address].                                                                                              |
| 0092h   | Active IP Address        | Currently effective IP address, Read only.                                                                                                                |
| 0093h   | Dataport Number          | Port number for the data port, see part [supported ports]                                                                                                 |
| 0094h   | IP Errorcount            | Error counter of IP protocol stack.Can be reset by writing.                                                                                               |
| 0095h   | TCP Connections          | Number of currently active TCP-connections. Read-only.                                                                                                    |
| 0096h   | UDP Connections          | Number of currently active UDP-connections. Read-only.                                                                                                    |

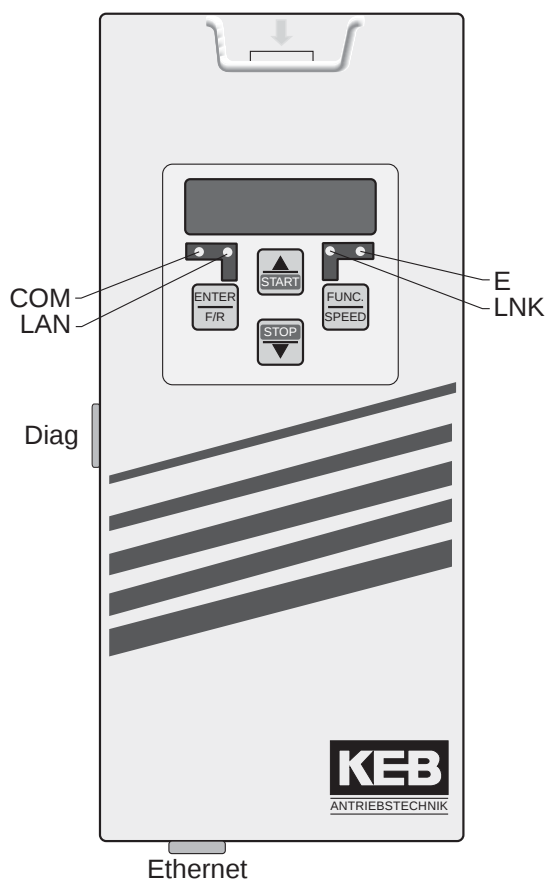
## 4 Operation

### 4.1 Keyboard parameters

The setting of the IP-Address and the dataport number can be processed via the keyboard also. For that the keys ENTER and FUNC are to be pressed simultaneously and been hold until the display shows five dots. With the FUNC-key the desired parameter is selected, UP or DOWN shows and changes the value. With the ENTER-key the value is stored (FUNC without previous ENTER does not change the value !). All values are displayed decimal. For leaving the setup mode the keys FUNC and ENTER are hold simultaneously again until the display shows five dots. Following parameters are available:

IP\_1 High byte of the IP-address  
IP\_2 2.nd byte of IP-address  
IP\_3 3.rd byte of IP-address  
IP\_4 Lowest byte of IP-address. 255 uses the value of the inverter parameter Sy.06.  
dPort Data port number

### 4.2 Diagnostic Elements



COM (green)  
Lights up at communication over the data port(s).

LAN (green)  
Lights up when there is trafic on the ethernet interface.

LNK (green)  
On: Valid ethernet link pulses detected  
Off: No ethernet connection

E (red)  
On: Inverter ready for operation  
Blinking: Inverter failure  
Off: no supply voltage

Ethernet  
LAN-interface RJ45

Diag  
Diagnostic interface to the PC

### 4.3 Connector Pin Assignment

| Connector Ethernet (RJ45 female) | Pin |
|----------------------------------|-----|
| TxD+                             | 1   |
| TxD-                             | 2   |
| RxD+                             | 3   |
| n.c.                             | 4   |
| n.c.                             | 5   |
| RxD-                             | 6   |
| n.c.                             | 7   |
| n.c.                             | 8   |



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