BETRIEBSANLEITUNG
INSTRUCTION MANUAL

KEB Memory Operator   Memory Operator

KEB

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1. General

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KEB Antriebstechnik develops, manufactures and distributes static frequency inverters worldwide in the industrial power range. Within the scope of automization, systems are needed which are more powerful and flexible. With this in mind KEB developed a programming unit which makes it possible to program several inverters quickly and without internetworking. Parameter lists can be permanently stored in the programming unit, so they can be immediately retrieved when needed.

1.1 Product Description
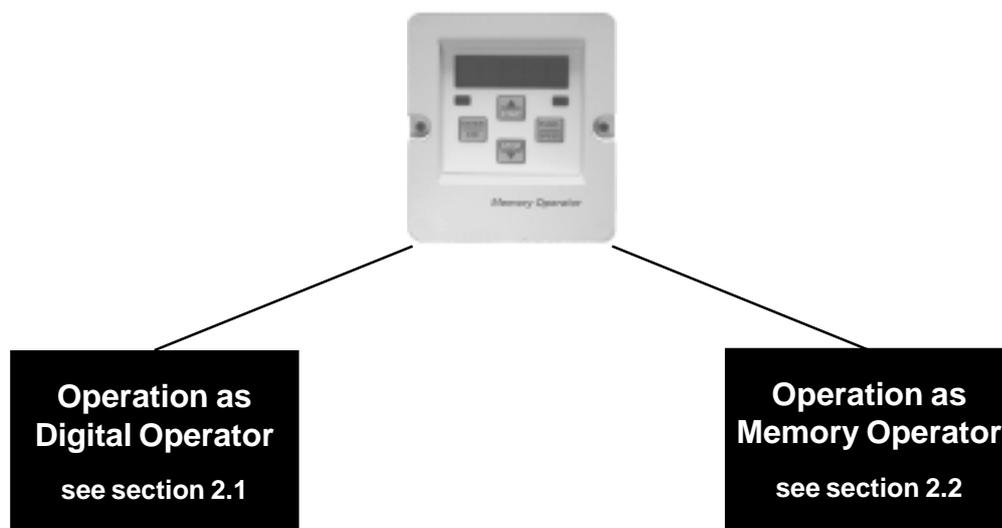
Memory Operator

00.F4.010-3009

The Memory Operator
- Can upload saved parameter lists from F4/S4 units
- Can download saved parameter lists
- Is downward compatible to the Digital-Operator (Exception: Drive-Mode)
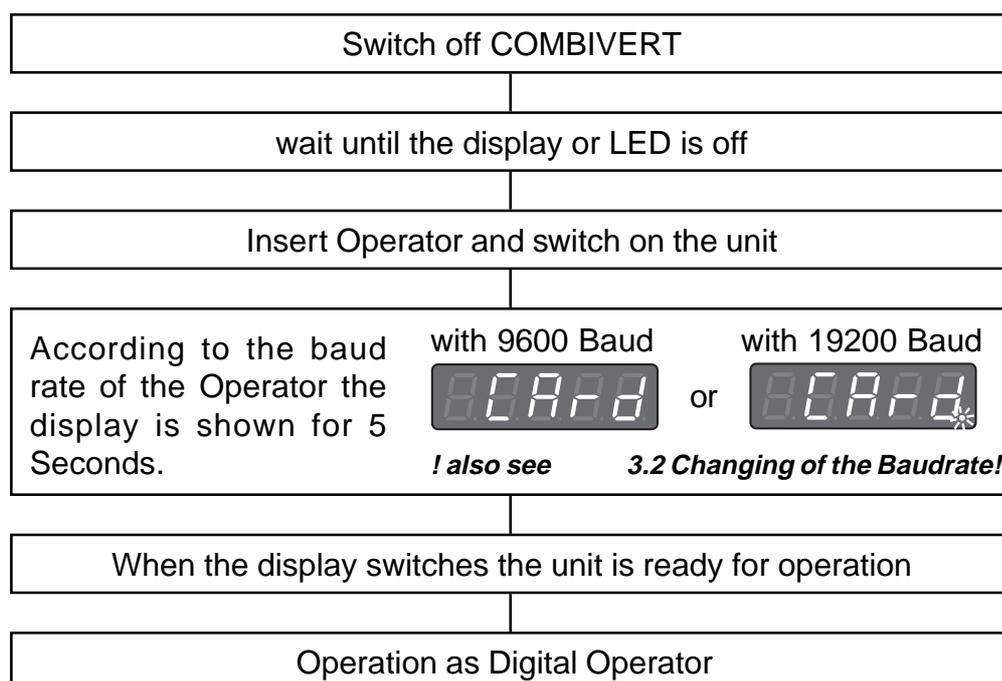- Can be directly connected to the F4/S4 units

2. Memory Operator

Operation as Digital Operator

see section 2.1

Operation as Memory Operator

see section 2.2

2.1 Operation as Digital Operator

The Digital Operator is the Standard Operator without interface in the KEB COMBIVERT F4/S4. The Memory Operator is downward compatible and can be used for normal operation except for one restriction.

> ! During the operation of the Memory Operator the Drive Mode in COMBIVERT F4/S4 may not be activated, because the key assignment overlaps with the memory mode. !

Switch off COMBIVERT

wait until the display or LED is off

Insert Operator and switch on the unit

According to the baud rate of the Operator the display is shown for 5 Seconds.	with 9600 Baud `CARd` or with 19200 Baud `CARd` *! also see* *3.2 Changing of the Baudrate!*

When the display switches the unit is ready for operation

Operation as Digital Operator

2.2 Operation as Memory Operator

In this operating mode the parameter lists can

- be read from the inverter (Mode: FU_OP) (Upload)

- be written to the inverter (Mode: OP_FU) (Download)

Switch off COMBIVERT

wait until the display or LED is off

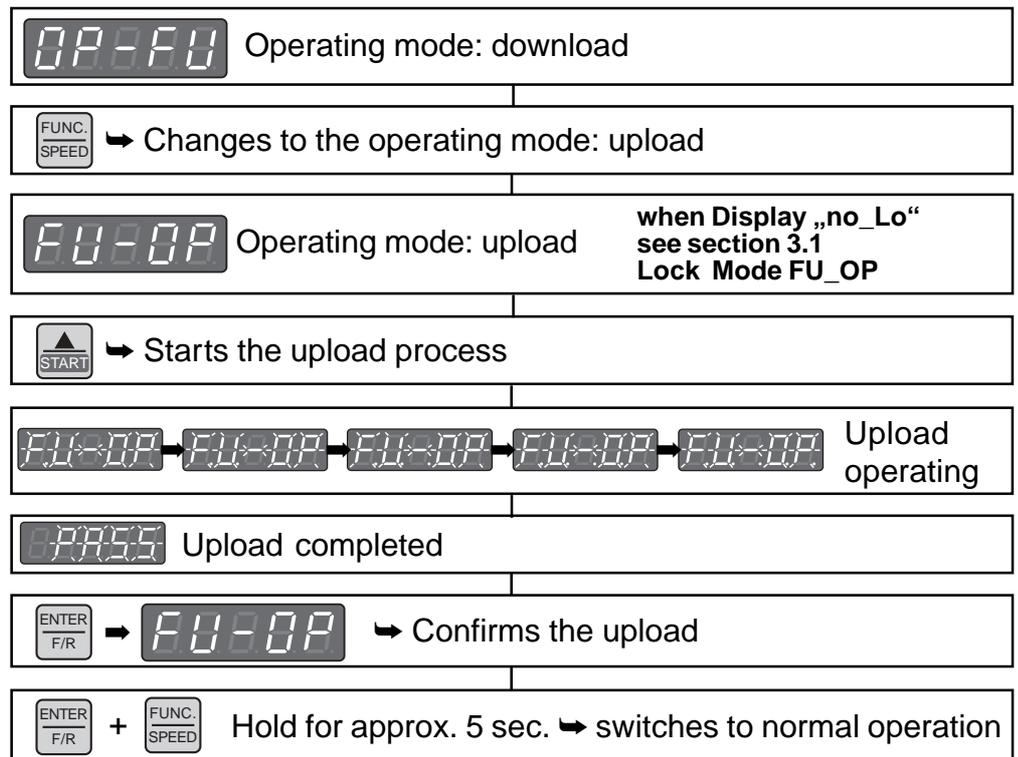| Insert Operator and switch on the unit |
| --- |

According to the baud rate of the inverter the display is shown 5 seconds

with 9600 Baud   with 19200 Baud

`8 CArd`   or   `8 CArd`

! also see   *3.2 Changing of the Baud Rate!*

Wait until display switches

$\boxed{\frac{ENTER}{F/R}}$ + $\boxed{\frac{FUNC.}{SPEED}}$ Hold for approx. 5 sec. ➥ changes operating mode

`OP-FU` Operation as Memory Operator

To avoid problems for further operations, please pay attention to the following error messages!

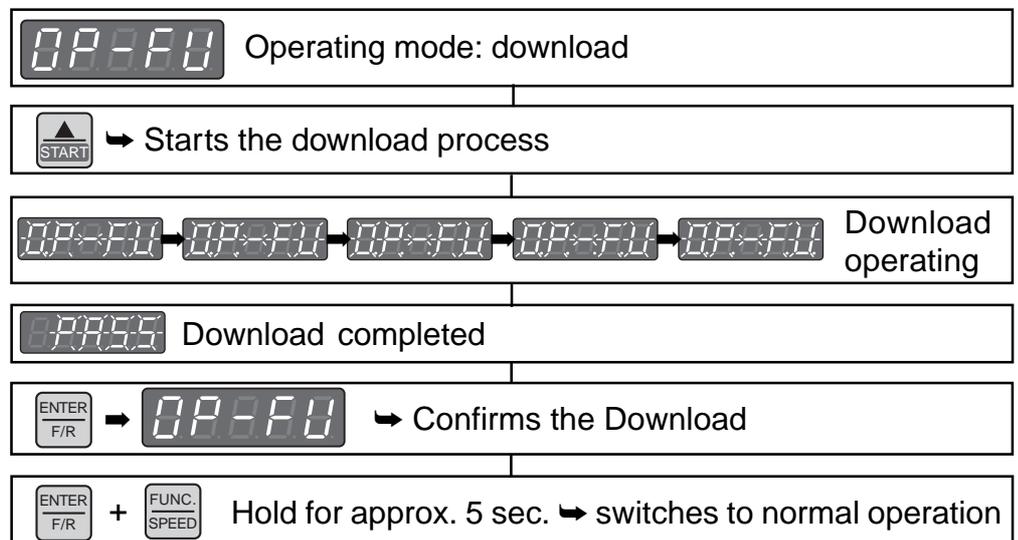| Error Message	Meaning
`no_Lo`	Display with locked Mode FU_OP. The Mode FU_OP (Upload) can be locked, to make sure that the data stored in the operator can not be overwritten. *see also section 3.1 Lock of the Mode FU_OP*
`no_FU`	Frequency inverter or servo controller was not recognized by the operator. Possible Cause: - Connection pin broken/missing - Baud rate of the inverter / Servo-controller not in accordance with the baud rate of the operator *see 3.2 Change of the baud rate*

! Further error messages see section 4 error messages!

2.2.1 Upload

`OP-FU`	Operating mode: download

[FUNC. SPEED]	➥ Changes to the operating mode: upload

`FU-OP`	Operating mode: upload	**when Display „no_Lo"** **see section 3.1** **Lock Mode FU_OP**

[▲ START]	➥ Starts the upload process

`FU-OP` → `FU-OP` → `FU-OP` → `FU-OP` → `FU-OP`	Upload operating

`PASS`	Upload completed

[ENTER F/R] ➥ `FU-OP`	➥ Confirms the upload

[ENTER F/R] + [FUNC. SPEED]	Hold for approx. 5 sec. ➥ switches to normal operation

2.2.2 Download

`OP-FU`	Operating mode: download

[▲ START]	➥ Starts the download process

`OP-FU` → `OP-FU` → `OP-FU` → `OP-FU` → `OP-FU`	Download operating

`PASS`	Download completed

[ENTER F/R] ➥ `OP-FU`	➥ Confirms the Download

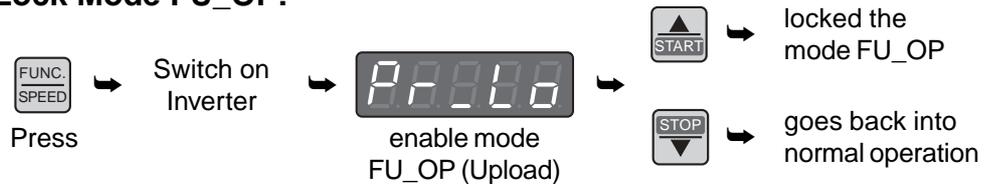|	
[ENTER F/R] + [FUNC. SPEED]	Hold for approx. 5 sec. ➥ switches to normal operation

2.2.3 Abort and Fault knowledgement

With the „Stop"-key a read- or write process can be interrupted. The error message Err.1 is displayed. With the „Enter"-key the error message is accepted and the operator changes into the selected operating mode. Data, transfered before interruption are written in the selected target unit. A parameter list, which is interrupted during the transfer to the operator or COMBICARD displays at transmission (e.g.: mode OP-FU) the error message Err.6, because the list does not include all parameters.
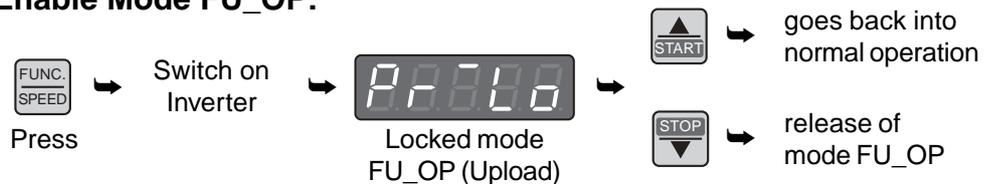
3. Special functions

3.1 Lock Mode FU_OP

The mode FU_OP (Upload) can be locked, to make sure that the data stored in the operator can not be overwritten.The status is displayed by pressing the POWER-ON button and the „FUNC.-key" simultaneously.

Lock Mode FU_OP:

| FUNC. SPEED | ➡ | Switch on Inverter | ➡ | Pr_Lo | ➡ | ▲ START | ➡ | locked the mode FU_OP |
| Press | | | | enable mode FU_OP (Upload) | | STOP ▼ | ➡ | goes back into normal operation |

Enable Mode FU_OP:

| FUNC. SPEED | ➡ | Switch on Inverter | ➡ | $Pr\bar{\_}Lo$ | ➡ | ▲ START | ➡ | goes back into normal operation |
| Press | | | | Locked mode FU_OP (Upload) | | STOP ▼ | ➡ | release of mode FU_OP |

3.2 Changing of the Baud Rate

To adjust the baud rate of the operator to the baud rate at FU, the operator can operate with 9600 baud or with 19200 baud. The actual adjusted baud rate is displayed by pressing the POWER-ON button and the „START-key" simultaneously.
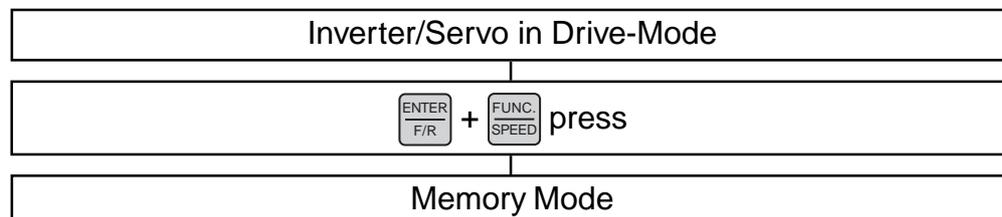
Increase Baud Rate:

| ▲ START | ➡ | Switch on Inverter | ➡ | $br. \; 9.6$ | ➡ | ▲ START | ➡ | increase baud rate to 19200 baud |
| Press | | | | 9600 Baud | | STOP ▼ | ➡ | goes back into normal operation |

Decrease Baud rate:

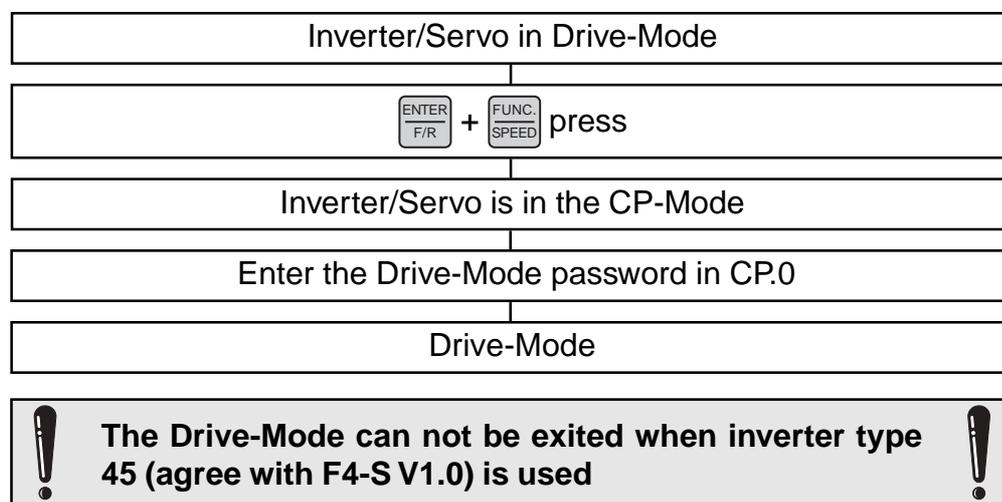| ▲ START | ➡ | Switch on Inverter | ➡ | $br.19.2$ | ➡ | ▲ START | ➡ | goes back into normal operation |
| Press | | | | 19200 Baud | | STOP ▼ | ➡ | decrease baud rate to 9600 baud |

After changing of the baud rate the display of the operator goes into normal operation.

3.3 Drive-Mode in the Memory-Operator

To switch an inverter/servo with Memory-Operator into the memory mode do the following:

| Inverter/Servo in Drive-Mode |
| ENTER F/R + FUNC. SPEED press |
| Memory Mode |

To return to the Drive-Mode, do the following:

| Inverter/Servo in Drive-Mode |
| ENTER F/R + FUNC. SPEED press |
| Inverter/Servo is in the CP-Mode |
| Enter the Drive-Mode password in CP.0 |
| Drive-Mode |

The Drive-Mode can not be exited when inverter type 45 (agree with F4-S V1.0) is used

3.4 Software Date

If the STOP-key is pressed when the programmer is switched on, the software date of the memory operator is shown.

Day Month Year

4. Error Messages

Display	Description	Cause / Remedy
no_FU	Frequency inverter or servo controller was not recognized by the operator	Connection pin broken/missing; Baud rate not correct adjusted; Operator or controller defective
no_Lo	Upload unpossible - Data of the inverter cannot be load in the operator	Mode FU_OP (UPLOAD) is locked. (see 3.1)
Err.01	Selected operation canceled by user.	"STOP" -key was pressed while display was flashing
Err.02	During an active operation (e.g. download) the connected inverter or servo is no longer recognized by the operator.	Connection pin broken or missing, transmission interrupted, frequency inverter/servo controller is switched off.
Err.05	Memory capacity is not sufficient to read in parameters. (In mode FU-OP)	Unit is not suited for data transmission with the memory operator.
Err.06	Parameters have not been saved completely in the operator memory (RAM).	During download into memory and errors message occurred (Err.1....5). Thus, not all parameters could be saved.
Err.08	The connected inverter's address does not correspond to the inverter address saved in the memory.	- Clear error message by pressing the 'ENTER'-key → inverter's address will not be changed - By pressing the 'START'-key →the error is cleared and the addresses in the memory operator are downloaded.
Err.10	Download to the inverter was stopped (With Mode OP_FU)	The inverter was not in state „noP" during writing parameter Fr.01 → open control release and start „download" again.
45-46 **(Beispiel)**	Saved (e.g. type 45) and connected (e.g. type 46) inverter do not correspond. All type numbers can be displayed (In mode OP_FU)	- Clear message by pressing the 'ENTER' -key → download is stopped. - Clear message by pressing the 'START'-key → download continues. This function is used e.g. to change inverter-software-versions, to transfer old download lists onto the new software.

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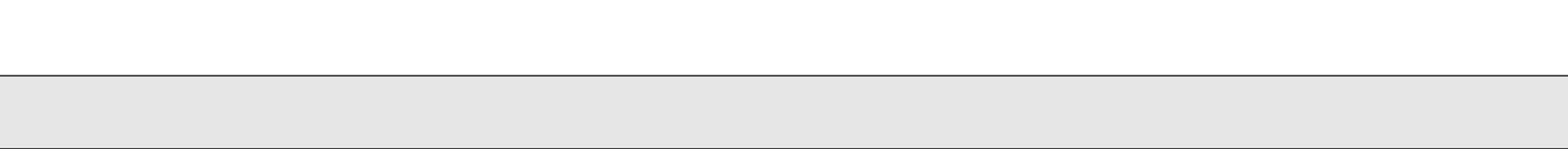
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