# Efka

# dc1500
# dc1550

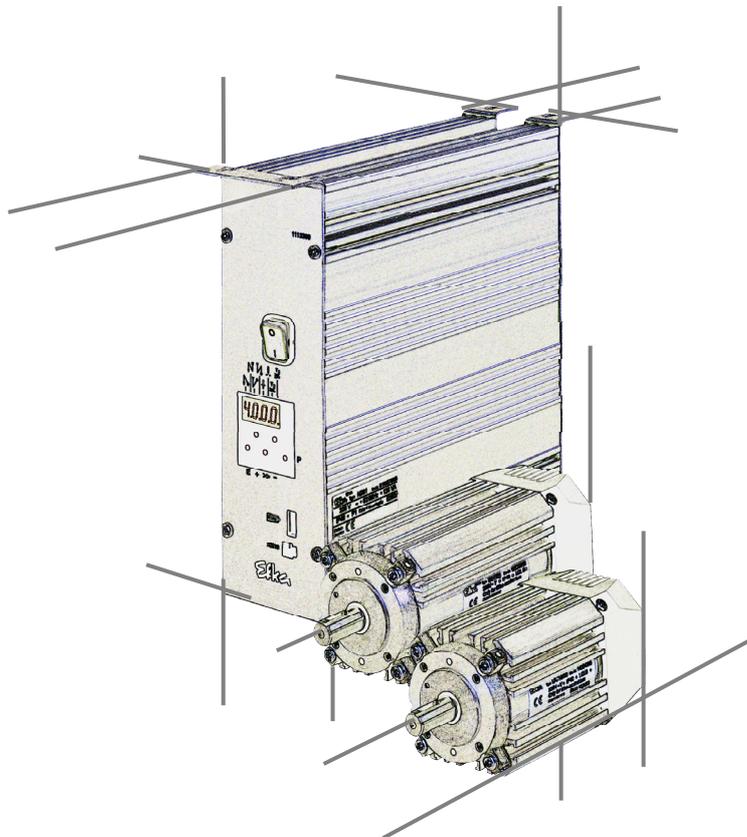**CONTROL**     **Series**     **221/321 + 222/322 + AB425S**



## Instruction Manual

- USB Memory Stick

No. 402325     English

**Important Notes**

The particulars used in various figures and tables, such as type, program number, speed, etc., serve as examples. They may differ from those in your display.

For current versions of the Instructions for Use and Lists of Parameters, necessary for operating EFKA drives in accordance with regulations, please refer to the EFKA web site **www.efka.net**, page **"Downloads"**.

On our web site you will also find the following supplementary instructions for this control:

- General instructions for use and programming
- Use with USB Memory Stick
- Use of the C200 compiler
- Adapter cords

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# 1 Range of Applications

This description applies to all EFKA control series 221 and 321 providing a suitable receptacle on the front side. Since illustrations in this description may differ slightly from those in the type-specific instruction manual, refer to the latter for more detailed information (e.g. position numbers).

# 2 Data Storage via USB Port

For easy storage of settings and programs a USB Memory Stick can be used. This way, sequences once established can be reused as desired and can be transferred to other function compatible EFKA controls.
Data can also be swapped out from Memory Stick to PC for storage expansion and/or convenient data management.

## 2.1 USB Port

A USB Memory Stick can be connected to port B20. The Stick can serve as a data memory for storing data from the control or loading data into it.
Data can also be transferred to and from a PC.
A direct connection between a PC and the control is not provided.

Any commercially available FAT formatted Memory Stick (USB 1.0 or 2.0) may be used, with the exception of the FAT32 format. The Memory Stick can be formatted on a PC. Connect the Memory Stick to a PC:
- Open the File Explorer.
- Right click on Memory Stick symbol (or on the drive designation used on your PC).
- Left click on »Formatting«.
  Select the FAT file system, start formatting.
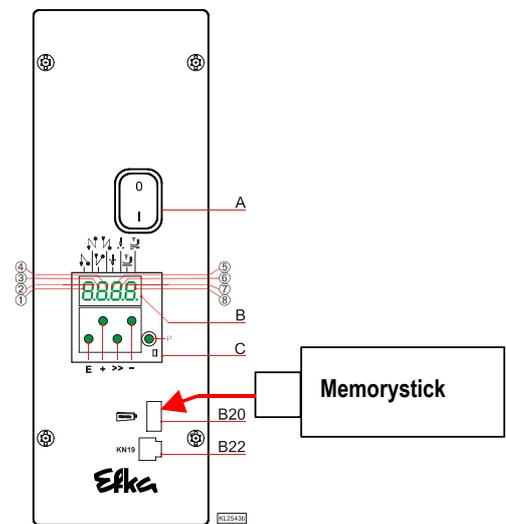
**The following data can be transferred from and/or to the Efka control:**

Parameters……………..Memory Stick ←→ Control
Seam Patterns…………Memory Stick ←→ Control
Array Data *………….....Memory Stick ←→ Control
Compiler Program **......Memory Stick → Control
Control Software ***........Memory Stick ←→ Control

*     *Array data is compiler data.*
**    *Compiler programs are copy-protected and can therefore not be read out from the control!*
***   *Control flash memory software can be programmed and/or read out via USB socket.*

Data is filed on the Memory Stick. The maximum number of filename characters (letters or digits) is 8.

Example:      XXXXXXXX.YYY
              |              |__    Y = Filename extension
              |_____       X = Filename

              XXXXXXXX.PAR…….. = Parameter file
              XXXXXXXX.PAY…….. = Array file
              XXXXXXXX.PTI……… = Seam pattern file ( Teach In )
              XXXXXXXX.PRG…….. = Compiler file
              XXXXXXXX.HEX…….. = Control software file (FLASH)

For PC file management, short filenames should be used if possible (≤ 8 characters).
If a filename consists of more than 8 characters, it will be cut to 7 characters, and the character „ ~" is added on the display.
Example: **Maschine3547.PAR** will be displayed as **Maschin~.PAR**.

The control automatically specifies a filename for data copied from control to Memory Stick.
The first two digits specify the file type, digits 3+4 the file number.

File type
↓
**0100**DATA.PAR……..**01** = Parameter file
**0200**DATA.PTI………**02** = Seam pattern file
**0300**DATA.PAY……..**03** = Array file
**0400**DATA.HEX……..**04** = Control software file
  ↑
  File number

The above representation is especially useful with control operation instead of Variocontrol operation, because it makes it easier to read file type and number on the 4-digit display.

If there is not yet a numbered file on the Memory Stick, the control automatically creates file number 00. If there is a numbered file on the Stick, the next higher number will be used.
Any other file number available on the Stick can also be selected using  key + / -, but in this case the file number will be overwritten, and any previous file content is lost.
The control can manage a maximum of 99 Memory Stick files. When this max. number is exceeded, the error message »*A500 = Max. number of files (99) on MemoryStick exceeded*« will be issued.

On principle, filenames can be freely specified and/or overwritten on the PC, as long as the 3-digit filename extension is maintained. When downloading files into the control, complete filenames can be shown on the V850 display, whereas shorter filenames (digits, see above) are to be preferred if using the control display.

**Important note:**

The control does not identify files saved in folders. It can only identify files that are saved directly on the Memory Stick!

## 2.2   USB Parameters

**The following parameters are available for reading out, storing, comparing or deleting data:**

| Parameter | Parameter Settings |
|---|---|
| | Parameter Settings |
| 510 | Transfer from control to Memory Stick |
| 511 | Transfer from Memory Stick to control |
| 512 | Comparison between control and Memory Stick |
| 513 | Delete file from Memory Stick |
| | Array Data (Compiler Programming) |
| 514 | Transfer from control to Memory Stick |
| 515 | Transfer from Memory Stick to control |
| 516 | Comparison between control and Memory Stick |
| 517 | Delete file from Memory Stick |
| | Seam Pattern (Teach In ) |
| 518 | Transfer from control to Memory Stick |
| 519 | Transfer from Memory Stick to control |
| 520 | Comparison between control and Memory Stick |
| 521 | Delete file from Memory Stick |
| | Compiler Program |
| 523 | Transfer from Memory Stick to control |
| | Control Software (Software Update / Flash Memory) |
| 526 | Transfer from control to Memory Stick |
| 527 | Transfer from Memory Stick to control |
| 528 | Comparison between control and Memory Stick |
| 529 | Delete file from Memory Stick |

## 2.3 Storing Data on the Memory Stick

**When connecting the Memory Stick to the control, the following message appears on the display:**

| | |
|---|---|
| Control: | Usb |
| V810: | USb On |
| V820: | USb dEtEct |
| V850: | USB DETECT |

A code number does not have to be inputted; the control is automatically available for programming via Memory Stick. The parameter number may be inputted immediately.

Storing data (including parameters) on the Memory Stick will be explained in the following.

### 2.3.1 Programming on the Control

| | | |
|---|---|---|
| P | Press the P key. The first PARAMETER number is displayed. ➔ | .0.0.0. |
| | Select parameter 510. ➔ | .5.1.0. |
| E | Press the E key. PUL_ is displayed. ➔ | PUL_ |
| >> | Press the shift key. File type and number are displayed. ➔ | 0 1 0 0 |
| + - | Press the plus / minus key to select an existing filename. | |

or

| | | |
|---|---|---|
| E | Press the E key. Parameter data is written to the Memory Stick in file 0100DATA.PAR. ➔ | W r i t |
| | At the end of the writing process, READY will be displayed. | R d Y |

### 2.3.2 Programming on the V810

| | | |
|---|---|---|
| P | Press the P key. The first PARAMETER number is displayed. ➔ | F – 0 0 0 |
| | Select parameter 510. ➔ | F – 5 1 0 |
| E | Press the E key. A request for pressing the shift key is displayed. ➔ | [ ° ] |
| >> | Press the shift key. File type and number are displayed. ➔ | 0 1 0 0 |
| + - | A different existing filename may be selected using the plus / minus key. | |

or

| | | |
|---|---|---|
| E | Press the E key. Parameter data is written to the Memory Stick in file 0100DATA.PAR. ➔ | W r i t e |
| | At the end of the writing process, READY will be displayed. | R e a d Y |

### 2.3.3  Programming on the V820

| P | Press the P key.<br>The first PARAMETER number is displayed. ➜ | **F 000** |

| | Select parameter 510. ➜ | **F 510** |

| E | Press the E key.<br>A request for pressing the F2 key is displayed. ➜ | **F 510      PUL [ ° ]** |

| F2 | Press the F2 key.<br>File type and number are displayed. ➜ | **0100    dAtA PAr** |

| + | - | A different existing filename may be selected using the plus / minus key. |

or

| E | Press the E key.<br>Parameter data is written to the Memory Stick in file 0100DATA.PAR. ➜ | **Writ    E    dAtA** |

| | At the end of the writing process, READY will be displayed. ➜ | **rEAdY** |

### 2.3.4  Programming on the V850

| P | Press the P key.<br>The first PARAMETER number is displayed. ➜ | **F 000** |

| | Select parameter 510. ➜ | **F 510 Upload ..** |

| E | Press the E key.<br>A request for pressing the F2 key is displayed. ➜ | **F 510        0    F2** |

| F2 | Press the F2 key.<br>File type and number are displayed. ➜ | **0100DATA.PAR** |

| + | - | A different existing filename may be selected using the plus / minus key. |

or

| E | Press the E key.<br>Parameter data is written to the Memory Stick in file 0100DATA.PAR. ➜ | **WRITE DATA** |

| | At the end of the writing process, READY will be displayed. ➜ | **READY** |

## 2.4 Reading Data from the Memory Stick into the Control

Reading data into the control will be explained in the following.

### 2.4.1 Programming on the Control

| P | Press the P key.<br>The first PARAMETER number is displayed. ➔ | .0.0.0. |

| | Select parameter 511. ➔ | .5.1.1. |

| E | Press the E key.<br>PdL_ is displayed. ➔ | PdL_ |

| >> | Press the shift key.<br>In case no file is found on the Memory Stick, ➔<br>there will be an error display | A501 |

| | or<br>file type and number are displayed. ➔ | 0 1 0 0 |

| + | - | A different existing filename may be selected<br>using the plus / minus key. |

or

| E | Press the E key. ➔<br>A request for confirmation is displayed. | PU-E |

| E | Press the E key within 1 second. ➔<br>File 0100 is read in. | rEAd |

| | At the end of the writing process, READY ➔<br>will be displayed. | R d Y |

### 2.4.2 Programming on the V810

| P | Press the P key.<br>The first PARAMETER number is displayed. ➔ | F −   0 0 0 |

| | Select parameter 511. ➔ | F −   5 1 1 |

| E | Press the E key.<br>A request for pressing the shift key is ➔<br>displayed. | [ ° ] |

| >> | Press the shift key.<br>In case no file is found on the Memory Stick, ➔<br>there will be an error display | noFiLE |

| | or<br>file type and number are displayed. ➔ | 0 1 0 0 |

| + | - | A different existing filename may be selected<br>using the plus / minus key. |

or

| E | Press the E key. ➔<br>A request for confirmation is displayed. | PUSh-E |

| E | Confirm within 1 second using the E key.<br>File 0100 is read in. → | **rEAd** |
| | At the end of the reading process, READY →<br>will be displayed | **rEAdY** |

### 2.4.3  Programming on the V820

| P | Press the P key.<br>The first PARAMETER number is displayed. → | **F 000** |
| | Select parameter 511.                     → | **F 511** |
| E | Press the E key.<br>A request for pressing the F2 key is    →<br>displayed. | **F 511      PdL [ ° ]** |
| F2 | Confirm using the F2 key.<br>In case no file is found on the Memory Stick, →<br>there will be an error display | **no FiLE** |
| | or<br>file type and number are displayed.       → | **0100    dAtA PAr** |
| + | - | A different existing filename may be selected<br>using the plus / minus key. |
| or |
| E | Press the E key.                            →<br>A request for confirmation is displayed. | **rEAd      PrESS E** |
| E | Confirm within 1 second using the E key.    →<br>File 0100 is read in. | **rEAd        dAtA** |
| | At the end of the reading process, READY    →<br>will be displayed. | **rEAdY** |

### 2.4.4  Programming on the V850

| P | Press the P key.<br>The first PARAMETER number is displayed. → | **F 000** |
| | Select parameter 511.                      → | **F 511 Download p..** |
| E | Press the E key.<br>A request for pressing the F2 key is     →<br>displayed. | **F 511        0   F2** |
| F2 | Press the F2 key.<br>File type and number are displayed.     → | **0100DATA.PAR** |
| + | - | A different existing filename may be selected<br>using the plus / minus key. |
| or |
| E | Press the E key.                            →<br>A request for confirmation is displayed. | **READ        PRESS E** |

| | | |
|---|---|---|
| **E** | Confirm within 1 second using the E key. File 0100 is read in. ➔ | READ DATA |
| | At the end of the reading process, READY will be displayed. ➔ | **READY** |

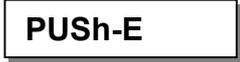## 2.5 Comparison of Memory Stick and Control Data

The comparison of control and Memory Stick data will be explained in the following. The procedure applies to any kind of data.
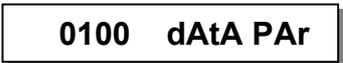
### 2.5.1 Programming on the Control

| | | |
|---|---|---|
| **P** | Press the P key. The first PARAMETER number is displayed. ➔ | **. 0.0.0.** |
| | Select parameter 512. ➔ | **. 5.1.2.** |
| **E** | Press the E key. PcP_ is displayed. ➔ | **PcP_** |
| **>>** | Press the shift key. In case no file is found on the Memory Stick, there will be an error display ➔ | **A501** |
| | or file type and number are displayed. ➔ | **0 1 0 0** |
| **+** **-** or | A different existing filename may be selected using the plus / minus key. | |
| **E** | Press the E key. A request for confirmation is displayed. ➔ | **PU-E** |
| **E** | Confirm within 1 second using the E key. File 0100 is read in. ➔ | **rEAd** |
| | At the end of the reading process, if the data is equal, READY will be displayed. ➔ | **R d Y** |
| | At the end of the reading process, if the data is not equal, A503 will be displayed. ➔ | **A503** |

### 2.5.2 Programming on the V810

| | | |
|---|---|---|
| **P** | Press the P key. The first PARAMETER number is displayed. ➔ | **F – 0 0 0** |
| | Select parameter 512. ➔ | **F – 5 1 2** |
| **E** | Press the E key. | **[ ° ]** |

|  | A request for pressing the shift key is displayed. ➔ |  |
|---|---|---|
| **>>** | Press the shift key.<br>In case no file is found on the Memory Stick, ➔<br>there will be an error display | **noFiLE** |
|  | or<br>file type and number are displayed. ➔ | **0 1 0 0** |
| **+** **-** | A different existing filename may be selected using the plus / minus key. |  |
| or |  |  |
| **E** | Press the E key. ➔<br>A request for confirmation is displayed. | **PUSh-E** |
| **E** | Confirm within 1 second using the E key. ➔<br>File 0100 is compared to control data. | **rEAd** |
|  | At the end of the reading process, if the ➔<br>data is equal, READY will be displayed. | **rEAdY** |
|  | At the end of the reading process, if the<br>data is not equal, NOT EQ will be displayed. ➔ | **Not   EQ** |

## 2.5.3  Programming on the V820

|  |  |  |
|---|---|---|
| **P** | Press the P key.<br>The first PARAMETER number is displayed. ➔ | **F  000** |
|  | Select parameter 512. ➔ | **F  512** |
| **E** | Press the E key.<br>A request for pressing the F2 key is ➔<br>displayed. | **F  512        PcP  [ ° ]** |
| **F2** | Press the F2 key.<br>In case no file is found on the Memory Stick, ➔<br>there will be an error display | **no FiLE** |
|  | or<br>file type and number are displayed. ➔ | **0100    dAtA PAr** |
| **+** **-** | A different existing filename may be selected using the plus / minus key. |  |
| or |  |  |
| **E** | Press the E key. ➔<br>A request for confirmation is displayed. | **cMP        PrESS E** |
| **E** | Confirm within 1 second using the E key. ➔<br>File 0100 is compared to control data. | **rEAd          dAtA** |
|  | At the end of the reading process, if the ➔<br>data is equal, READY will be displayed. | **rEAdY** |
|  | At the end of the reading process, if the ➔<br>data is not equal, "Not Equal" will be displayed. | **not         EQUAL** |

### 2.5.4  Programming on the V850

| P | Press the P key.<br>The first PARAMETER number is displayed. ➜ | **F  000** |

| | Select parameter 512. ➜ | **F  512 Compare p…** |

| E | Press the E key.<br>A request for pressing the F2 key is<br>displayed. ➜ | **F  512        0    F2** |

| F2 | Press the F2 key.<br>File type and number are displayed. ➜ | **0100DATA.PAR** |

| + | - | A different existing filename may be selected<br>using the plus / minus key. |

or

| E | Press the E key. ➜<br>A request for confirmation is displayed. | **COMPARE PRESS E** |

| E | Confirm within 1 second using the E key. ➜<br>File 0100 is compared to control data. | READ  DATA |

| | At the end of the reading process, if the ➜<br>data is equal, READY will be displayed. | **READY** |

| | At the end of the reading process, if the ➜<br>data is <u>not</u> equal, "Data Not Equal" will<br>be displayed. | **DATA NOT EQUAL** |

## 2.6  Data Deletion from Memory Stick

Data deletion (including parameter data) from Memory Stick is explained in the following.

### 2.6.1  Programming on the Control

| P | Press the P key.<br>The first PARAMETER number is displayed. ➜ | **. 0.0.0.** |

| | Select parameter 513. ➜ | **. 5.1.3.** |

| E | Press the E key.<br>PdE_ is displayed. ➜ | **PdE_** |

| >> | Press the shift key.<br>In case no file is found on the Memory Stick, ➜<br>there will be an error display | **A501** |

| | or<br>file type and number are displayed. ➜ | **0 1 0 0** |

| + | - | A different existing filename may be selected<br>using the plus / minus key. |

or

| E | Press the E key. ➜<br>A request for confirmation is displayed. | **PU-E** |

| E | Confirm within 1 second using the E key. At the end of the deletion process, READY will be displayed. | ➔ | R d Y |

## 2.6.2 Programming on the V810

| P | Press the P key. The first PARAMETER number is displayed. ➔ | | F – 0 0 0 |

| | Select parameter 513. | ➔ | F – 5 1 3 |

| E | Press the E key. A request for pressing the shift key is displayed. | ➔ | [ ° ] |

| >> | Press the shift key. In case no file is found on the Memory Stick, there will be an error display | ➔ | noFiLE |

| | or file type and number are displayed. | ➔ | 0 1 0 0 |

| + | - | A different existing filename may be selected using the plus / minus key. |

or

| E | Press the E key. A request for confirmation is displayed. | ➔ | PUSh-E |

| E | Confirm within 1 second using the E key. At the end of the deletion process, READY will be displayed. | ➔ | rEAdY |

## 2.6.3 Programming on the V820

| P | Press the P key. The first PARAMETER number is displayed. ➔ | | F 000 |

| | Select parameter 513. | ➔ | F 513 |

| E | Press the E key. A request for pressing the F2 key is displayed. | ➔ | F 513     PdE [ ° ] |

| F2 | Press the F2 key. In case no file is found on the Memory Stick, there will be an error display | ➔ | no FiLE |

| | or file type and number are displayed. | ➔ | 0100   dAtA PAr |

| + | - | A different existing filename may be selected using the plus / minus key. |

or

| E | Press the E key. A request for confirmation is displayed. | ➔ | del  PrESS E  dAtA |

| E | Confirm within 1 second using the E key. At the end of the deletion process, READY will be displayed. | ➔ | rEAdY |

### 2.6.4 Programming on the V850

| P | Press the P key.<br>The first PARAMETER number is displayed. ➔ | ➔ | F 000 |
|---|---|---|---|

Select parameter 513. ➔ **F 512 Delete Par..**

| E | Press the E key.<br>A request for pressing the F2 key is displayed. | ➔ | F 512 0 F2 |
|---|---|---|---|

| F2 | Press the F2 key.<br>File type and number are displayed. | ➔ | 0100DATA.PAR |
|---|---|---|---|

| + | - | A different existing filename may be selected using the plus / minus key. |
|---|---|---|

or

| E | Press the E key.<br>A request for confirmation is displayed. | ➔ | DELETE PRESS E |
|---|---|---|---|

| E | Confirm within 1 second using the E key.<br>At the end of the deletion process, READY will be displayed. | ➔ | READ DATA |
|---|---|---|---|

### 2.7 Parameter Data Editing on the Memory Stick

Parameter data is stored on the Memory Stick as a text file and can therefore be varied or extended using a text editor on the PC. Comments can be added. The file is stored in the following format:

```
[EFKA FILEINFO=00000001]
F290=5        ** MIN=0       MAX=44        *  Trimming mode
F291=5        ** MIN=0       MAX=19        *  Selection of V810 slide-in strip
•
•
•
F799=0        ** MIN=0       MAX=65535        *

***** Do not change the sequence of parameter ******
*
* File created by:
* CONTROL-TYP:   AB221A
* PRGNR: 5130D
* DATE: Jun 30 2005
* TIME: 09:49:41
```

The first line „ [EFKA FILEINFO=00000001] „ must not be changed! The parameter values may be changed.

When reading the file into the control, any text to the right of an " * " will be ignored. This way, the user can input

any comment whatsoever into the file.

**Efka**

FRANKL & KIRCHNER GMBH & CO KG
**SCHEFFELSTRASSE 73 – 68723 SCHWETZINGEN – GERMANY**
**TEL.: +49-6202-2020 – FAX: +49-6202-202115**
**E-MAIL: info@efka.net – www.efka.net**

**Efka**

**OF AMERICA INC.**
**3715 NORTHCREST ROAD – SUITE 10 – ATLANTA – GEORGIA 30340**
**PHONE: +1 (770) 457-7006 – FAX: +1 (770) 458-3899 – E-MAIL: efkaus@bellsouth.net**

**Efka**

**ELECTRONIC MOTORS SINGAPORE PTE. LTD.**
**67, AYER RAJAH CRESCENT 05-03 – SINGAPORE 139950**
**PHONE: +65-67772459 – FAX: +65-67771048 – E-MAIL: efkams@efka.net**

**1(1)-110308 (402325 EN)**