AC DRIVES

AC15 AC20 Series

Application Note Clone Function

08.04.2024

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Non-warranty clause

We checked the contents of this publication for compliance with the associated hardware and software. We can, however, not exclude discrepancies and do therefore not accept any liability for the exact compliance. The information in this publication is regularly checked, necessary corrections will be part of the subsequent publications.

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1 Introduction

1.1 About this document

1.1.1 Definitions

In this documentation the product Variable Frequency Drives AC15 /AC20 is referred to as A15 or AC20.

The AC20 general purpose drive provides advanced Ethernet connectivity and Safe Torque Off for open or closed loop AC induction and PM motor control in applications up to 250HP/180kW.

The AC15 compact drive provides Ethernet connectivity and Safe Torque Off in a low cost, compact drive for simple open loop AC induction and Permanent Magnet motor control in applications up to 40HP/30kW.

1.1.2 Terms and abbreviations

AC20	AC20 general purpose drive
AC15	AC15 compact drive
Application	A customer specific use of Parker hardware and software

1.1.3 This revision

This revision replaces all previous revisions of this document. Parker has made every effort to ensure that this document is complete and accurate at the time of printing. In accordance with our policy of continuous product improvement, all data in this document is subject to change or correction without prior notice.

1.1.4 Scope

This document shows the clone feature of an AC20 drive. The prerequisite for this application note is a SD-Card and a AC20 drive. The aim of this application note is to demonstrate the correct way, how the drive configuration (application and parameters) is be saved to an SD card and subsequently loaded to the same or a different drive.
Before continuing with this application note, ensure the Start-up and Commissioning section from the hardware manual (see chapter 1.1.5) has been completed and is fully understood.
It is also helpful to have the DSElite software tool installed and the software manual has been readed with all information of all parameters the AC Drive has, when reading through this manual.

1.1.5 Related Documents

For more information about the AC drive, see the following related documents.

Reference number	Document	Description
1	DOC-0017-01_AC15_Quickstart_Frame1_EN DOC-0017-14_AC15_Quickstart_Frame2-5_EN DOC-0017-02_AC20_Quickstart_Frame2-5 DOC-0017-15_AC20_Quickstart_Frame6-10	AC15 / AC20 Quickstart manuals
2	DOC-0017-03-EN_AC15_Hardware_manual DOC-0017-04-EN_AC20_Hardware_manual	AC15 / AC20 Hardware manuals
3	DOC-0017-05-EN_AC15_Software_Reference DOC-0017-13-EN_AC20_Software_Reference	AC15 / AC20 Software manuals
4	DOC-0017-16-C_04-04-2023_AC15-AC20_Safety_Instructions	AC15-AC20 Safety Instructions

Table 1 References

2 Test components

2.1 AC20 Drive Data

Firmware version 1.1.3

2.2 µSD Memory Card

Commercially available µSD Memory Cards may be fitted to allow users to clone drive applications and archive files for duplication or copying to a replacement unit.

Note: The µSD card must be FAT32 formatted. This implies a 32GB limitation of MS Windows OS.
If a different type of µSD card is used, then a partition tool may be required.

2.3 SD Card installation

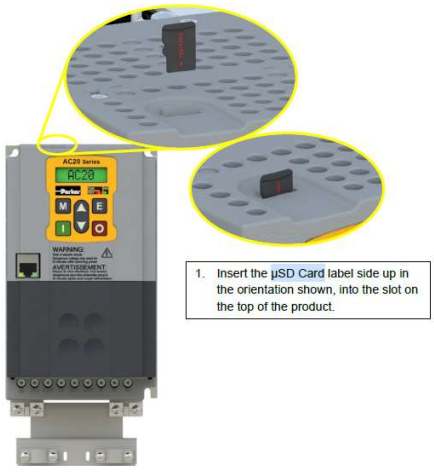
WARNING!

RISK OF DATA CORRUPTION

Do not remove the µSD card when reading or writing to the memory storage device. This could cause irreversible data corruption.

2.3.1. Frames 2 – 5

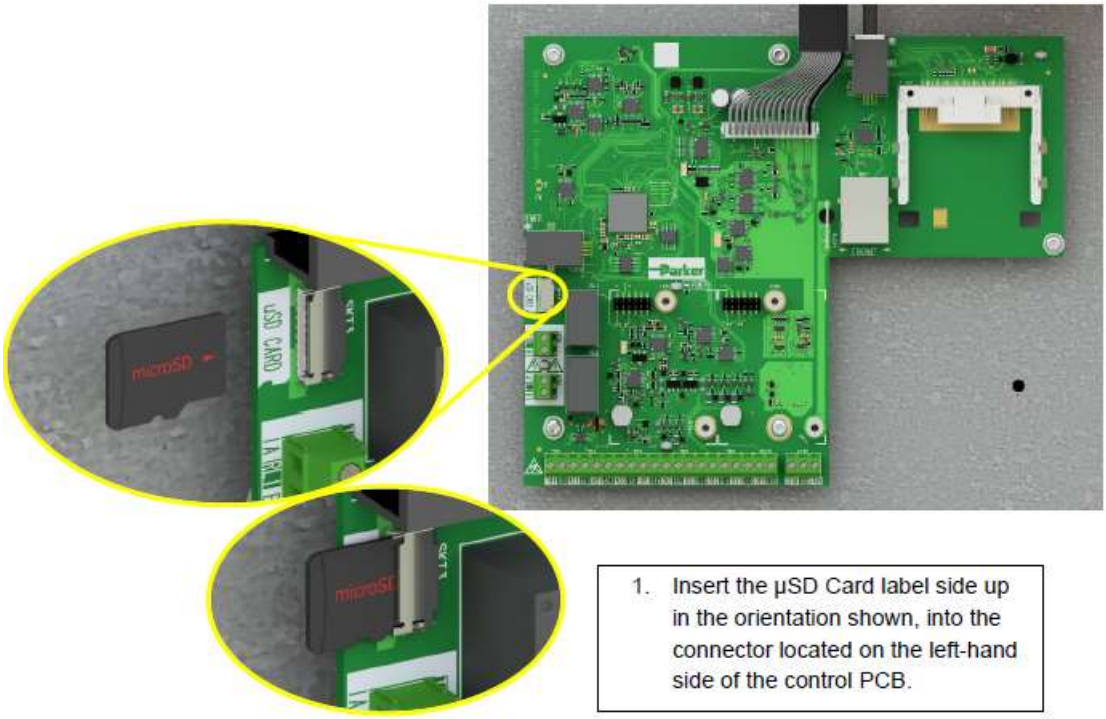
On Frames 2 – 5, it is inserted in a slot on the top of the product:



To remove the card, pull it up out of the slot.

2.3.2. Frames 6 – 10

On Frames 6 – 10, the lower terminal cover will need to be removed prior to µSD card installation in the control PCB.

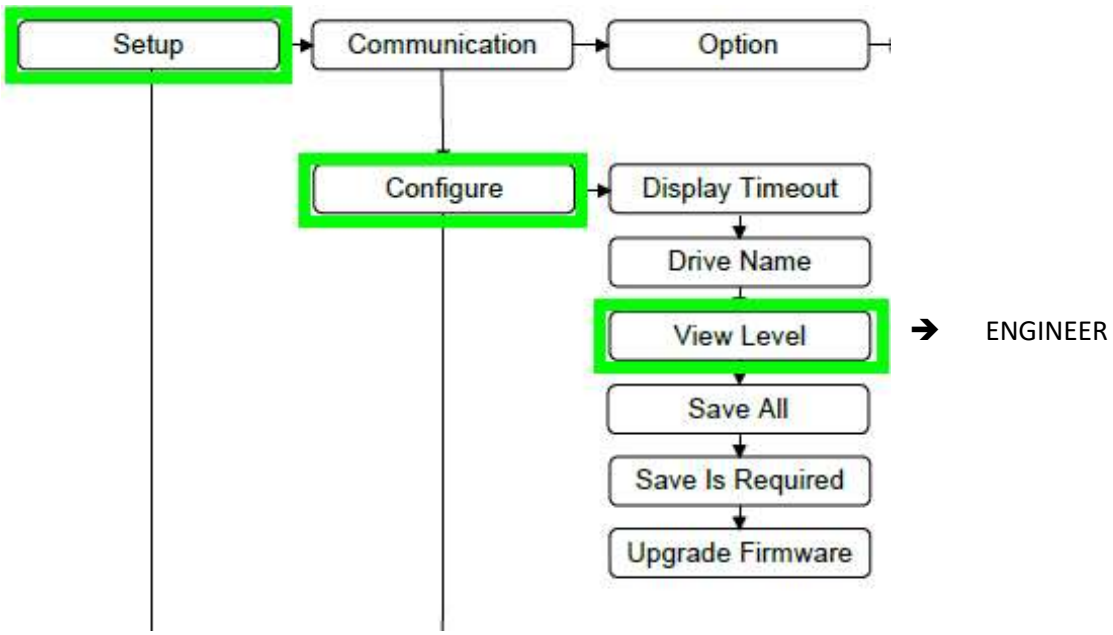


1. Insert the µSD Card label side up in the orientation shown, into the connector located on the left-hand side of the control PCB.

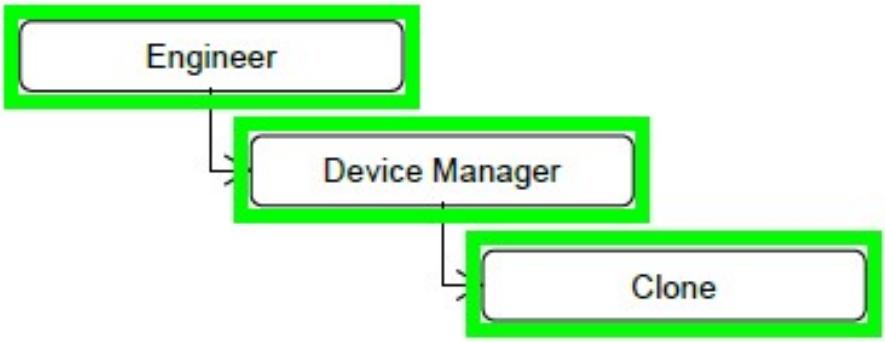
To remove the card, pull it up out of the slot.

3. Clone Function

Before using the CLONE FUNCTION, it is necessary to set the Keypad View Level to ENGINEER.



In the ENGINEER View navigate via Device Manager to the Clone menu



3.1. Save to SD Card

1st Define the **Clone Filename** for your application data.

i.e., “clone test”

Important note!

When saving a file with the same filename as an existing file on the SD card, the existing file will be overwritten!
To prevent this, use a PC to set the read-only attribute of the existing file.
If you try to save with a filename existing as read-only file on the SD Card, the Clone Status shows **FAILED-READY** after the Clone Start.
The Clone LastResult shows the **FILE NOT OPENED** message!

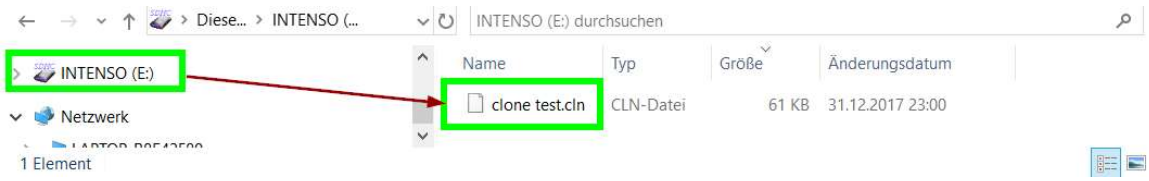
2nd To Save the Drive data to the SD Card select the **Clone Direction “SAVE TO FILE”**

3rd Set the **Clone Start** parameter to **TRUE**.

The clone saving process will take between 3 – 15 seconds depending on the type of SD card used.

The cloning process will only start if the parameter **Clone Status** is **READY**.
During the process the **Clone Status** indicates the Status **SAVING**.
Once the cloning has completed the parameter **Clone Status** will be **DONE- READY**.
The **Clone LastResult** shows the Status **CLONE DONE.**
The **Clone Start** parameter automatically is set back to **FALSE**.

Verifying the file on the SD Card shows **clone test.cln.**



3.2. Restore from SD Card

3.2.1 Restore mode FULL

1st Define the **Clone Filename** existing on your SD Card with the application data.

i.e., “clone test”.

2nd To Load the Drive data from the SD Card select the **Clone Direction “LOAD FROM FILE”.**

3rd select **Restore Mode FULL** for a complete copy of the saved file.

4th Set the **Clone Start** parameter to **TRUE**.

Note: During the clone loading process the MMI screen or LEDs may blink momentarily

Once the cloning has completed the parameter **Clone Status** will be **DONE- READY**.
The **Clone LastResult** shows the Status **CLONE DONE**.

3.2.2 Restore mode PARTIAL

If **PARTIAL** is chosen, then the user has the choice of what to restore.

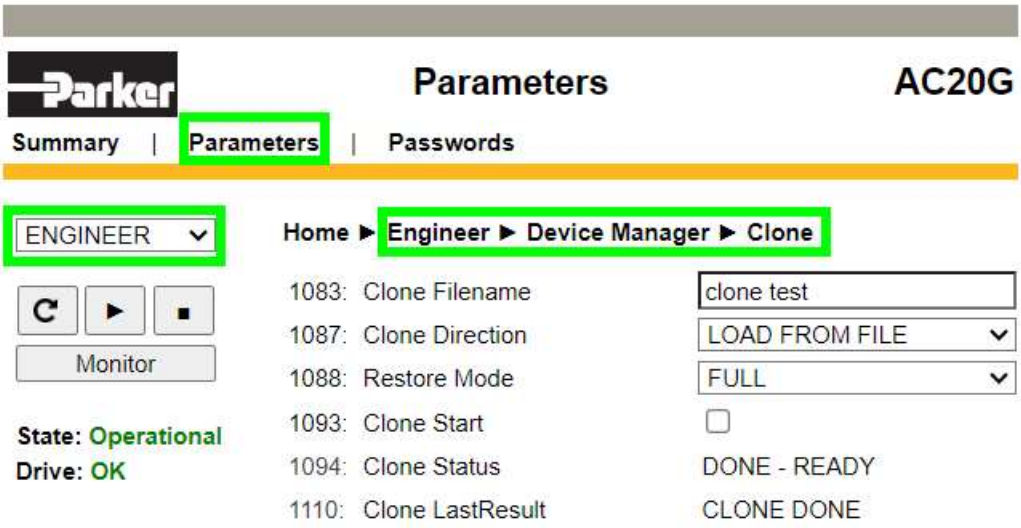
The following clone parameter groups apply:

- **Stack Parameters**
- **Motor Parameters**
- **Configuration**

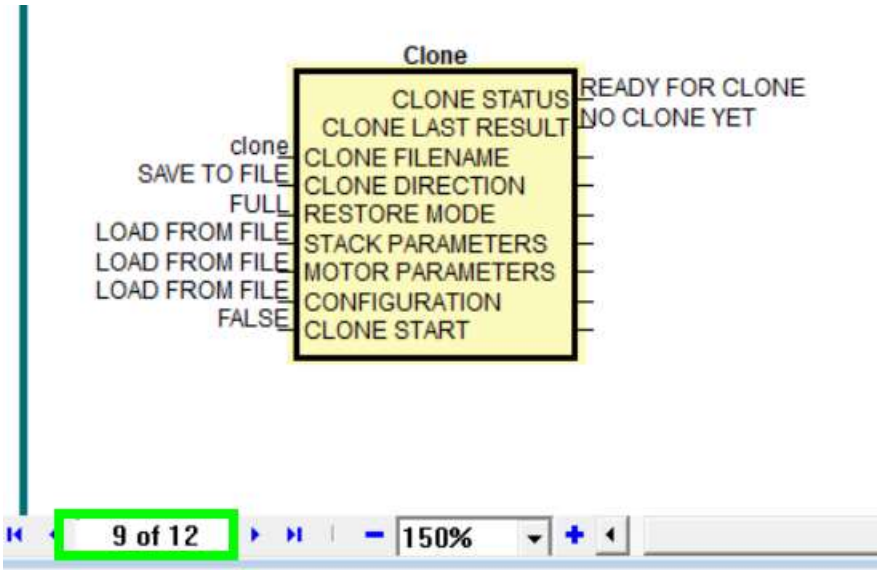
For every clone parameter group, you get three possibilities:

- **LOAD FROM FILE**
- **SET TO DEFAULT**
- **LEAVE CURRENT**

4. Clone Menu in the Web Server



5. Clone Function Block in DSE Lite



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