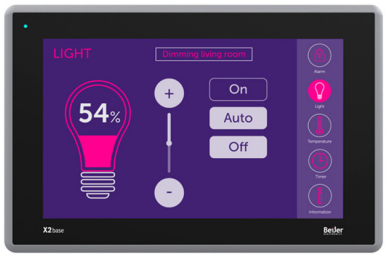



# Beijer ELECTRONICS MAEN360 Best Practice Database On SD Card Or Flash Memory Instructions



**MAEN360 Best Practice Database On SD Card Or Flash Memory Instructions**

Contents



## Foreword

This document contains information about one or more Beijer Electronics products and may include a description of or a reference to one or more standards that may be generally relevant to the Beijer Electronics products. The presence of any such description of a standard or reference to a standard is not a representation that all of the Beijer Electronics products referenced in this document support all of the features of the described or referenced standard. In order to determine the specific features supported by a particular Beijer Electronics product, the reader hould consult the product specifications for the particular Beijer Electronics product.
Theinformationinthisdocumentissubject to change without notice and should not be construed as a commitment by Beijer Electronics. Beijer Electronics assumes no responsibility for any errors that may appear in this document.
Products described or referenced in this document are designed to be connected, and to communicate information and data via a secure network. It is the sole responsibility of the system/product owner to provide and continuously ensure a secure connection between the product and the system network and/or any other networks

that may be connected.
For information and updates, see **https://www.beijerelectronics.com.**

## Introduction

This document provides recommendations for how to setup and use the X2 HMI panel in the best way to reduce unnecessary wear on the flash memory.

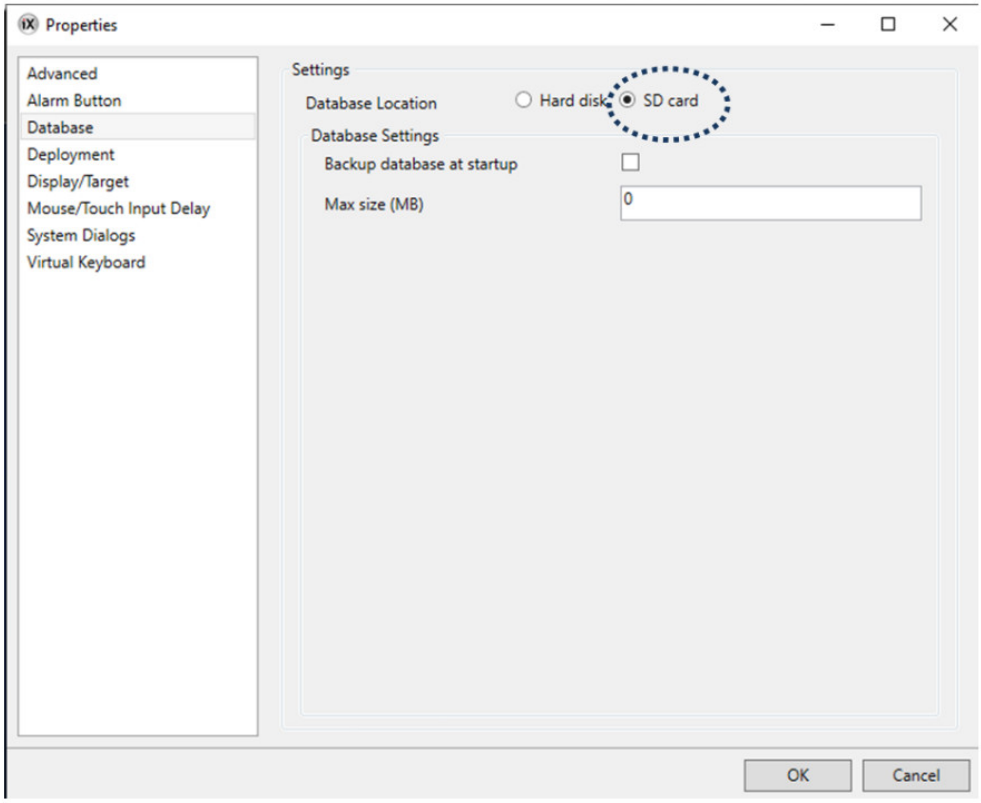
## Recommendations

**2.1 General**
Beijer Electronics recommends using SD/SDHC card instead of the built-in fash memory when data logging is performed.
The capability to use external SD/SDHC card for data logging on X2 HMI panels was introduced in iX Developer 2.40 SP5. Since extensive writing to the flash memory can cause wear problems and possibly premature failures, the alternative towritetoanexchangeableSD/SDHCcardwill potentially lengthen the lifetime of the panel. An SD/SDHC card is easy to replace compared to a built-in memory.
In addition, the size of the SD/SDHC card is normally much larger than the built in flash memory which is much more convenient.
**2.2 Recommendations for SD/SDHC card**

- Always use Industrial Grade SD/SDHC cards.
- Use SD card with memory transfer rate x32/4.8 MB/s or higher (Speed Class 6orhigher).
- Avoid filling the SD/SDHC card above 90% as it may affect performance.
- Make sure to format the SD/SDHC card with FAT/FAT32, not NTFS.

**Note:**
These recommendations are valid for HMI panels with an SD/SDHC card slot; X2 pro, X2 control, X2marine, X2 extreme and X2 basev2 HP. Valid for both SD/SDHC card and micro SD/SDHC card.
**2.3 Set Up Instructions**
To set up the SD/SDHC card database in iX Developer:

- Go to Project/Settings. Select Database and select SD Card in the dialogue.
- Click on the OK Button to confirm the new settings.




Switching from flash to SD /SDHC card (or vice versa) in an existing application, will trigger an automatic copying of the database once the project is transferred to the panel. This will be started immediately after the project transfer has taken place and hence a somewhat slower project start-up time can be noticed. Itisadvisabletodoabackupofthedatabasein case something happens during the database copy operation.
If during runtime of the panel, the SD/ SDHC card is removed and the chosen location for the database is the “SD card” then the panel will close the application and attempting to reboot until either an SD/ SDHC card is reinserted into the panel, or a project is downloaded to the panel with the location set to “Hard disk”. Please note that if any scripting has been done towards the database, then these scripts need to be manually adapted to work with the new location (flash or SD/SDHC card).
If Audit Trail is enabled for the project and if the database is stored in SD/ SDHC card, the transfer client will not provide the option to keep/remove audit trail in an existing project. It will always keep the audit trail database. If the user wants to clear the audit trail database for the same project, the SD/ SDHC card needs to be inserted into a PC and manually delete the audit trail database file.

**2.4 General advice for writing to Flash**

In case there are no SD/SDHC card slot on the panel or if there are other reasons why an SD/SDHC card cannot be used, then the advice below will reduce the risk of premature wear out and improve the lifetime of the built-in flash memory. Remember that a non-working flash memory stops the panel from operating:

- Do not log values with higher accuracy than needed. For example, avoid logging of floating point values.
- Reduce high fluctuating values by using the hysteresis functionality in the connected controller.
- Collect values with high fluctuating values in the same logger and do not mix with stable values. Collect slow changing values in other loggers.
- Do not log with higher refresh rate than needed.
- Disable logging completely when information is not needed, for example when the machine is not running.
- Use the default setting “Log changes only” in the property setting of the Data logger.
- Keep the log size to a minimum, as few rows as needed.
- Avoid extensive file writing when controlling storage via script.

**2.5 Check Status of Flash Memory**

It is possible to retrieve information from the flash about the current wear status.
The following System Tags can be used for that purpose:

| System Tag | Description |
|---|---|
| Flash Memory Life Time Used | The usage of the device lifetime (in percent). |
| Flash Memory EOL Info | Information about the flash memory end of life. The thr ee possible values are Normal, Warning – Consumed 80% of reserved block and Urgent. |

Order no: MAEN360
Copyright © 2022-11 Beijer Electronics AB. All rights reserved.
The information in this document is subject to changewithoutnoticeandisprovidedasavailableatthe time of printing. Beijer Electronics AB reserves the right to change any information without updating this publication. Beijer Electronics AB assumes no responsibility for any errors that may appear in this document.

**Head office**
**Beijer Electronics AB**
**Box 426**
**20124Malmö,Sweden**
**+46 40 358600**
**www.beijerelectronics.com**

## Documents / Resources

| | |
|---|---|
|  | Beijer ELECTRONICS MAEN360 Best Practice Database On SD Card Or Flash Memory [pdf] Instructions<br>MAEN360 Best Practice Database On SD Card Or Flash Memory, MAEN360, Best Practice Database On SD Card Or Flash Memory, Database On SD Card Or Flash Memory, Card Or Flash Memory |

## References

- Beijer Electronics
- Beijer Electronics
- Beijer Electronics

Manuals+,