# Avoiding Data Corruption Due To Random Power-off

The HMI unit stores various kinds of data in non-volatile storage devices. The data include data log, alarm log, operation log, recipes, schedules, non-volatile user data, and so on. The storage devices include built-in battery backed RAM, built-in flash disk, Micro SD card, and USB memory stick. Turning off the HMI unit while it is writing data to a storage device could fail the write operation. This results in data loss, ruined data integrity, and troublesome sectors in the storage device. In order to avoid the problem, the function button supports a new operation named "Stop Operation Safely". The operator can activate such a function button to stop the HMI operation before turning the power off and it guarantees that all operations with the non-volatile storage devices are safely completed. Although the chance of data corruption is rare, we still recommend you to use the method described here to make your product/project more reliable.

1. The following figure shows how to select the "Stop Operation Safely" operation for a function button.
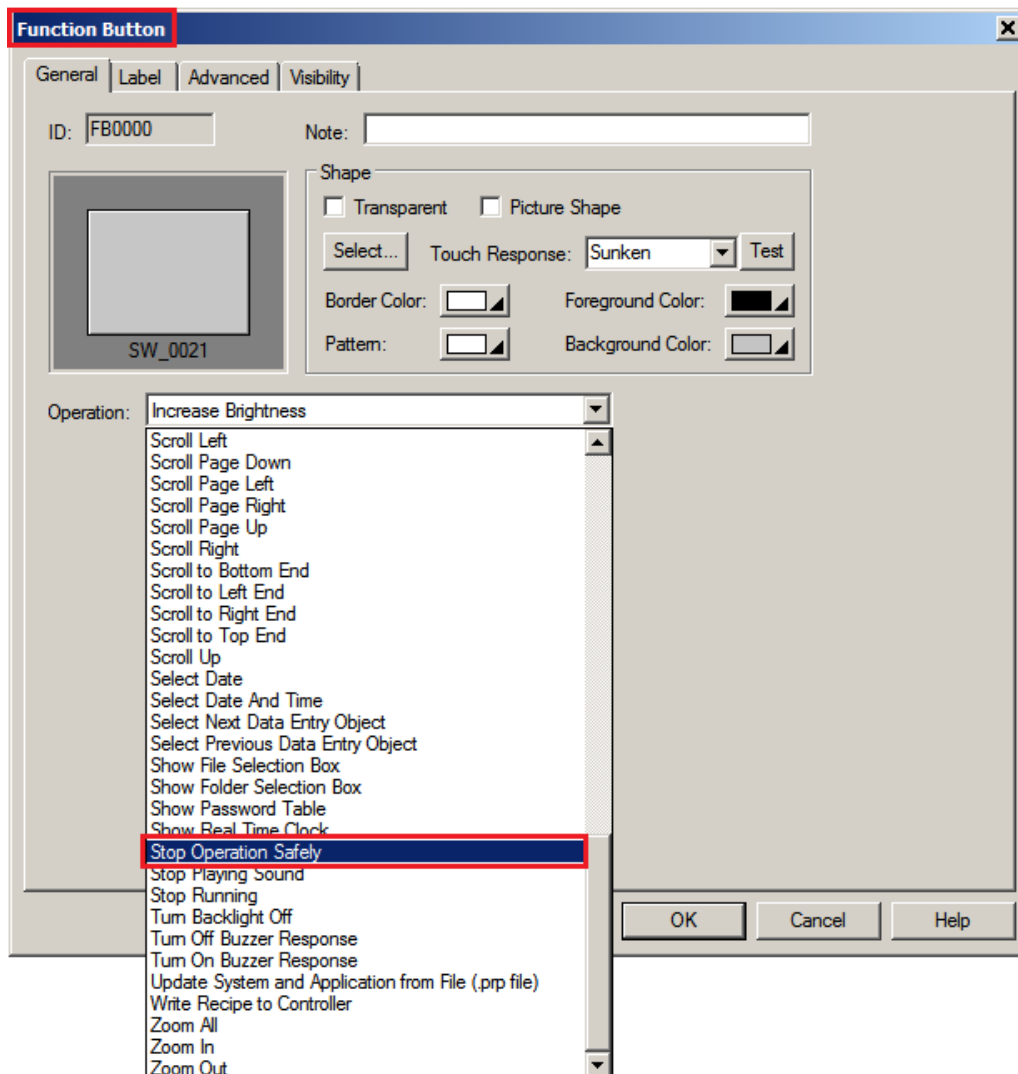
2. The HMI unit will display the following message when you press a "Stop Operation Safely" function button.
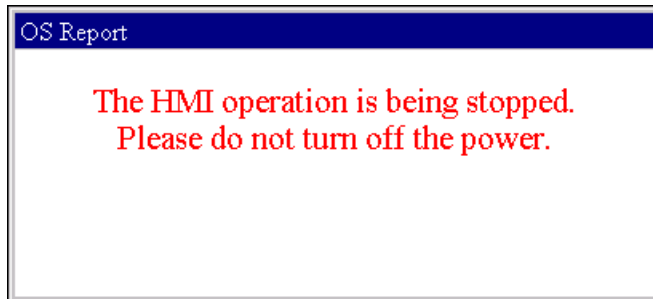
3. The HMI unit will display the following message when it stops the current application successfully.

4. You can configure the HMI unit to check if the operator performed the safe stop successfully for the last power-off. The check occurs when the HMI starts running the application every time. The following figure shows how to enable the check of safe stop.
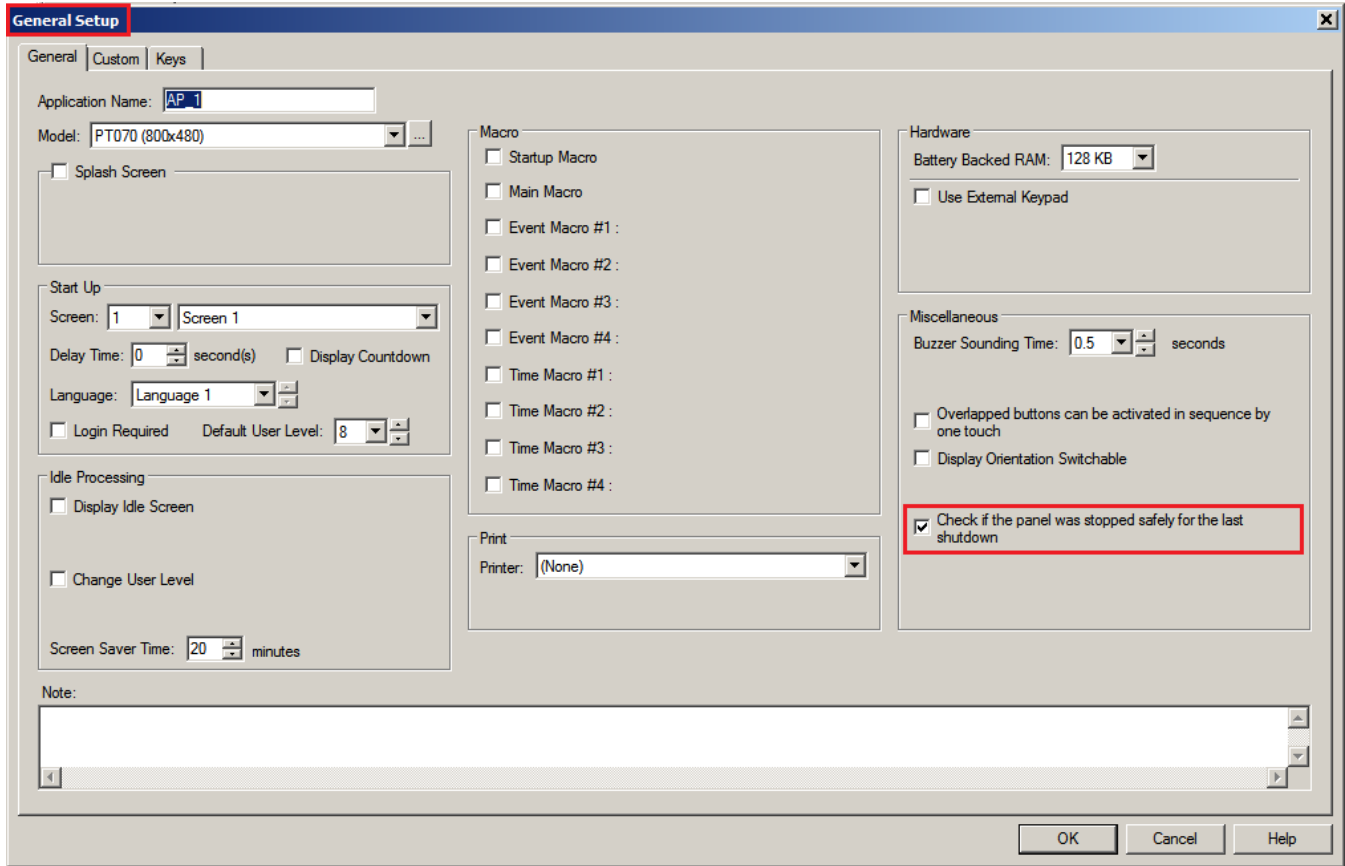
5. The HMI unit will display the following message when it detects that the operator did not perform the safe stop successfully for the last power-off.
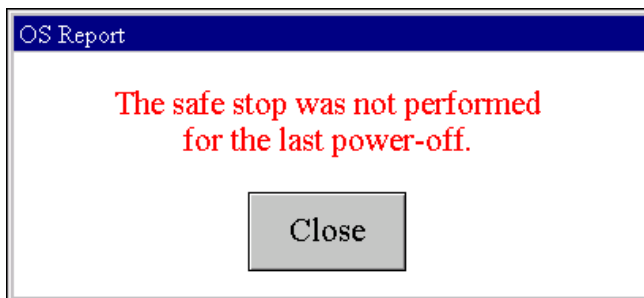
6. The software will display the following warning message when compiling a panel application if the application requires the check of safe stop but the software found no "Stop Operation Safely" function button in any of the application's screens.

Warning

The option of "Check if the panel was stopped safely for the last shutdown" is selected for the panel application but the application does not have a "Stop Operation Safely" function button in any of its screens. As the operator will not be able to perform the safe stop, the panel will always report the failure of safe stop when power-on.

To avoid seeing the warning message again, you can:
1) De-select the option of "Check if the panel was stopped safely for the last shutdown" in the General Setup dialog box, or
2) Place a function button that performs "Stop Operation Safely" in a proper screen.

Important Note:
To avoid the possible data corruption and system crash later-on due to random power-off, it is recommended that you provide a function button that performs "Stop Operation Safely" for the operator to press before turning off the panel and secure the data. This is because turning off the panel while it is writing data to a non-volatile storage device could damage those data and the data integrity in the storage.

OK

7. The software will display the following warning message when compiling a panel application if the application will save data to battery backed RAM but the software found no "Stop Operation Safely" function button in any of the application's screens. If you do not want to see the message again for the current application, click the No button in the message box. Note that the message will only display for the applications that were created with V2.0.4.11 or later.

Warning

The panel application will save data to the battery backed RAM but the software found no "Stop Operation Safely" function button in any of the application's screens to avoid data corruption due to random power-off.

Important Note:
To avoid the possible data corruption and system crash later-on due to random power-off, it is recommended that you provide a function button that performs "Stop Operation Safely" for the operator to press before turning off the panel and secure the data. This is because turning off the panel while it is writing data to a non-volatile storage device could damage those data and the data integrity in the storage.

If you do not want this warning message to show again for the application. please click the No button.

Yes   No   Cancel