FAG SmartCheck Release Notes



May 29, 2017

All changes of the previous releases are included in the latest version.

Important information:

- The FAG SmartWeb software running on FAG SmartCheck devices with a firmware version 1.4.27 or prior contains code that cannot be processed by current web browsers any more. They will only display the status page of FAG SmartWeb with all elements empty and disabled. This affects the display on FAG SmartWeb only and not the operation of the device itself. Also operations with the FAG SmartUtility are not affected. There is no workaround and the solution is to perform a firmware update of the FAG SmartCheck to the current version.
- Due to hardware requirements, the new version of the firmware will only work with FAG SmartCheck with a serial number greater than F43D80000090. Please contact our support for further information, if the serial number of your device is below.
- To update the FAG SmartCheck firmware, use always the latest version of FAG SmartUtility (Light).
- Caution! Don't disconnect the power supply or the Ethernet connection to the FAG SmartCheck during firmware update! Otherwise, the process can not be completed and the device is no longer functioning properly.
- Because of bugs in the javascript engine of Microsofts Internet Exporer version 9, the usage of this browser for FAG SmartWeb is possible, but very slow. We recommend updating to the current IE11.

Version 1.12.10

Bug fixes:

[6828] Changing the register order for external outputs did't work under certian conditions. This bug has been fixed.

Version 1.12.2

New features:

[6771] Added Japanese translation to FAG SmartWeb.
[6772] The links between chararcteristic values and external device output registers can now be edited by the user. It is now also possible to select all or no characteristic value when selecting the values used for external output registers.

Improvements:

[6806] The characteristic of the 2kHz lowpass has been improved. It has a higher attenuation over a wide range, although the stopband starts at a slightly higher frequency. This could have some impact on the following characteristic values in the base of default measurement job: RMS broad band demodulation and periodic value demodulation.

Bug fixes:

[6790] Changing the name of the SmartCheck via FAG SmartUtility or via FAG SmartWeb was reverted sometimes after a reboot, especially but not only when the new name contained a space. Now the changed name is stored correctly and will remain even after a reboot.

[6787] When the integrated signal was very small, i.e. when after the integration the amplitudes were very small, this signal could contain a significant offset. This resulted in a wrong ISO10816 or condition guard value. A change in the algorithm now prevents to offset.

[6723] When using DHCP, reboot to the maintenance system (e.g. for firmware update or boot to maintenance system) could fail if the PC also has configured the 192.168.0.* network. This has been corrected.

[6642] The link between registers and characteristic values for measurement triggers and conditions could change after export and import via FAG SmartUtility, i.e. a characteristic value could use a different register to write to. Now this link will never change during im- and export.

[6205] On some occasions, there could appear peaks in the demodulation time signal, which were caused by a calculation glitch. This has been corrected.

Version 1.10.2

Bug fixes:

[6369] When in the "Save settings for time signals" section on page 3 of the configuration wizard the interval is set to "Never", no time signals will be saved at all. Even in the case of an alarm change no time signal is saved. This was misleadingly stated wrong in the tool tip before and is now corrected.

[6027] If a user has created other users, they are also deleted when their creator is deleted. The same applies if the deleted user has not created the user himself, but the user group to which they belong. In this case, both the user group and all users were deleted. This has been corrected.

[6026] When a user who has edited an input channel (e.g., vibration sensor) is deleted, the created input channel disappears irretrievably from the SmartCheck. This has been corrected.

[6024] When a user was deleted, all measurement tasks created or edited by this user wre also delete without any warning. Now a warning is shown.

Version 1.10.0

New features:

[2215] New "Machine is running" measurement condition: With this measurement condition you can detect if the relevant machine is running or not. This measurement condition is by default assigned to the basic measurement configuration present on the device and all new created measurement configurations. In the factory default setting, the fulfilment of this measurement condition is based on vibration signals. Edit the measurement condition so that it meets the requirements of your machine (e.g. the engine speed is usually a better criterion for determining whether the machine is running).

[3755] New template "Tracked frequency bands": In this template for measurement jobs, you can define speed-dependent frequency bands.

Improvements:

[5083] By using the learning mode for the ISO 10816 in the firmware version 1.4.27 the alarm limits could be set higher than the defined limits in the ISO norm (for example ISO class I with 4,5 mm/s). Downloading such a configuration with FAG SmartUility 1.6, the alarm limits will be reset to the standard norm values. In the firmwware version 1.6 it isn't possible to set the alarm limit to a higher value as defined in the ISO 10816 machine classes. This has been changed in a way that the alarm limits are now free, as the standard values of the norm are just recommendations and not limits.

[5242] The behaviour of triggered measurement had an unclear description in the user manual. A triggered measurement will not be disrupted by another trigger. The documentation is now more precise.

[5537] Now the time signals are displayed with the rotational speed value (if any) in the FAG SmartWeb and FAG SmartUtility Viewer software.

Known bugs:

[6077] If an external controller is not accessible during a measurement (e.g. due to network failures), the measurement cannot be interrupted until an internal timeout is reached. During that time communication attempts will fail from the FAG SmartUtility software.

Bug fixes:

[6114] In some cases the alarm status could drop to "no alarm" even when the setting for reset alarms was set to "manually". This issue is fixed.
[5955] The unit group 'Count' is not available any more, because this unit group is not supported by the PLC.
[3978] If a trigger or measurement condition was removed from a measurement job it was not possible to add the same trigger or measurement condition again to that measurement job. This is now possible.
[4443] It was possible to select an existing output configuration as the characteristic value of a new output configuration. When trying to save it, this led to a rejection of the new output configuration without notification. It is not possible anymore to select an output configuration as characteristic value for another output configuration.
[4855] The numerical result of a characteristic value used in an alarm formula must not be used for an external output. This now impossible to configure.
[4907] If individual characteristic values were added as external outputs for a Mitsubishi PLC, it could happen that the assignment of characteristic values to the PLC register was not correct. This issue is fixed.
[4978] The setting for the ISO 10816 alarm levels will now allow values that exceed the recommendations of the ISO 10816 norm. Prior to this change it could happen, that it was not possible to change the machine classes when in doing so the alarm limits would be higher than the recommendation of the norm.
[4979] It was not possible to change the machine classes when the alarm limits were higher than the recommendation of the norm. This issue is fixed.
[5146] If the kinematic frequencies of a bearing are changed and this is used in a measuremnt configuration the frequency bands of a dependent characteristic value for this bearing weren't changed. This has been corrected. If a bearing which is in use is changed the depending characteristic values are chaged as well.
[5153] It was possible to start a download even when for the selected time range no data was recorded. This issue is fixed.
[5356] Using characteristic values from trigger and/or measurment conditions that were used for an external output will not yield any data if the trigger or measurement condition is not used in another measurement configuration. This results in an external output channel that never has a value. For that reason its is not possible any longer to use characteristic values from trigger and measurement conditions in an external output configuration.
[5489] The alarm level showing that a measuement condition is not valid at the moment were misleadingly transfered to the device level. Now the alarm level of measurement conditions is not transfered to the device level any more.
[5514] The rotational speed signal from a PLC was not displayed correctly on the status area. This issue is fixed.
[5834] It was not possible to rename an analogue input when it was associated with a trigger or measurement condition. This issue is fixed.
[5900] It was possible to define a rotational speed value of '0.0 Hz', which led to an error. This issue is fixed.
[5923] It was not possible to change an existing configuration for user defined frequency bands by adding or removing one or more frequency bands. This issue is fixed.
[6085] The number of measurement values for trigger and measurement conditions could be set to '1' even for characteristic values of peak-to-peak and crest-factor, which is not correct as the result is always '0' (peak-to-peak, crest-factor). This has been corrected and the minimum number that can be entered in these cases is now '2'.
[6160] The lower alarm limit for 'signal always geater than' for an ISO 10816 characteristic value was accidently always set to '0' when changing a measuring configuration. This issue is fixed.

Version 1.6.30

Bug fixes:

[5973] In rare cases, the Ethernet link was down and the FAG SmartCheck device was no longer accessible over the network, so that a manual restart was necessary. This issue is fixed.

Version 1.6.20

New features:

[5329] Added French translation to FAG SmartWeb.

Improvements:

[5498] An output associated with the condition guard was updated every 30 seconds or upon a state change of the alarm. This has been changed. The output is updated every second. The trend however is still updated every 30 seconds.

Bug fixes:

[5536] Using external inputs of a PLC with the type WORD yields wrong values compared to inputs of type INTEGER. This has been corrected.

[5538] Under certain circumstances it occurred that measured values from the vibration channel were abnormally high. This error has been fixed.

Version 1.6.12

New features:

[5117] The supported ESR (Extended Support Release) for Mozilla Firefox has been raised from version 24 to version 31.

Usability improvements:

[2794] Switching the language of the FAG SmartWeb software reordered under some conditions the registers used for sending information to the Mitsubishi PLC, because the variable names are ordered alphabetically. Now the names of the variables are not changed after they have been created, even in case of a language change.

Improvements:

[5257] Via a slow network connection, the data download could fail. The timeouts have been increased which should prevent this error.

Bug fixes:

[3030] When changing the bearing in the configuration assistent, the fixed bearing race setting is used incorrectly under certain conditions. This has been corrected.

[3098] Following a firmware update, it was not possible to change the settings of the digital input. This has been corrected.

[3168] Using wildcards in the bearing search dialogue didn't work and has been fixed.

[4300] In an environment with strong electromagnetic fields, the current output could be reset to 0mA for some time until the following measurement. This has been corrected.

[5089] In some cases the analog output signal has a value of 0mA instead of 4mA (in the 4-20mA mode) when the FAG SmartCheck was connected to a PLC. This has been fixed.

[5118] "The position of characteristic values (for example Peak-Peak) at the handover to a Mitsubishi controler were different depending on the language setting. This could lead to store the same characteristic values in different register on the controler. Now the mapping of the characteristic values to the controlers register is identical for each language."

[5124] Due to a bug in the firmware, changing the FAG SmartChecks name using FAG SmartUtility was not possible. This has been corrected.

[5290] Due to a change in MIcrosofts Internet Explorer 11, the download of the Mitsubishi register file didn't work anymore. This issue has been fixed.

Version 1.6.10

New features:

[4293] The user can now select whether to send the characteristics values alarm status, the absolute value or both to a mitsubishi plc.

[4876] Added base configuration as new measurement job template, which is identical to the default configuration minus crest factor, Wellhausen counter and periodic value.

Improvements:

[4875] Improved the learning mode by learning longer (i.e. 1000 values by default) and by using highest values as default algorithm.

[4877] A characteristic value will always be green during learning mode.

Bug fixes:

[2364] External alarm configurations / external outputs could not be created when using SmartWeb in Chinese. This has been corrected.

[4621] After changing the IP address, FAG SmartWeb would still show the old address. Now the new address is shown.

[4799] Due to changes between internet explorer 10 and 11, SmartWeb did not work with IE11. This has been corrected.

[4867] A Firmwareupdate from version 1.4.27 to version 1.6.x was not possible when the user management was activited. This has been corrected.

[4904] Removing a single characteristic value from an external alarm configuration / external outputs was not possible, the SmartWeb always returned to the previous setting. This bug has been corrected.

[4956] Due to memory leaks viewing a lot of trends will become very slow in any browser. This has been corrected.

Known bugs:

[5083] By using the learning mode for the ISO 10816 in the firmware Version 1.4.27 the alarm limits could be set higher than the defined limits in the ISO norm (for example ISO class I 4,5mm/s). Downloading such a configuration with FAG SmartUility 1.6, the alarm limits will be reseted to the standard norm values. In the firmwware version 1.6 it isn't possible to get higher alarm limit as defined in the ISO 10816.

Version 1.6.6

New features:

[968] In the configuration menu for the outputs the user now has the option to test the output by pressing a a test button, which outputs a voltage or current on the selected output.

[1639] When creating measurement triggers and conditions, the user can now select which of the following characteristic values should be used: RMS, DC, peak, peak-to–peak and crest factor.

[1703] The sampling rate of the digital speed signal has been reduced to 1280 samples per second, which is identical to that used for an analog speed input.

[1719] Until now, speed values always has to be greater than or equal to zero. Now also negative speed values are allowed, for example when the sign of the speed is used as a direction indicator. It is also possible to trigger on negative speed values or use them as measurement condition.

[1720] Until now, additional channels in measurement jobs were always calculated as RMS, preventing negative values. Now these are calculated in DC. With this for example negative speeds (e.g. for changing direction) become possible.

[1753] Added trend for measurement triggers and condition which enable the user to check when e.g. conditions are valid or not, so it becomes clear why measurements take place or not.

[1920] Measurement conditions were only checked before and after the measurement. Now the measurement conditions are checked permanently during a measurement.

[2600] In the configuration wizard the user can now define time conditions which have to be valid for the measurement job to run.

[2724] The number of samples of the vibration measurements are now as long as defined by the number of spectrum lines. All others (additional channels, speed signal and the signals used for the alarm map) are as long as the longest vibration measurement.

[2885] With the new template user defined frequency bands" the user could set frequency bands (set signal to integration) from 2Hz - 1kHz for applications where the alarm levels of the ISO 10816 value are not sufficient.

[3034] Changed status LED blinking settings (see device manual).

[3111] In the configuration wizard, the user can now select the template user defined frequency bands.

[3146] Several changes when using the learning mode:

- After the learning has finished, learning is deactivated in the configuration, i.e. it must be reactivated in the configuration wizard before a new learning can be started. The learned values are written to the configuration so that they are visible on the configuration page of FAG SmartWeb and on the alarm page of the configuration wizard.
- Alarm limits can be changed regardless of the learning mode state or settings.
- When using the alarm map, changing the alarm limits in the configuration wizard only changes the limits for fields which have not yet completed learning. Learned values can only be changed via the new change alarm limits wizard.

[3386] When at least one characteristic value is learning, this is now shown in FAG SmartWeb with a lamp symbol instead of a blinking alarm symbol.

[3388] When using the default configuration, the ISO 10816 characteristic value now doesn't start the learning mode automatically.

[3424] The smallest possible frequency window tolerance, which can be set in the expert settings of the configuration wizard, has been reduced from 3% to 0.1%.

[3466] Until now, the default alarm levels are stored in the configuration. Now the learned alarm values are stored, which makes it possible to restore a configration including the learned alarm values using the FAG SmartUtility.

[3759] The alarm counter can now also be set to any value between 1 and 5 (previously only 1 and 5).

[4364] The external inputs (i.e. values read from a Mitsubishi-SPS) can now also be used for the alarm map.

Usability improvements:

[371] The maximum speed in the configuration assistant could be enterred higher than the selected input allows. Now the value is checked against the input range.

[1034] In the measurement data section the trend is now updated periodically, so new values appear without reloading the page.

[1224] When changing the ISO machine class in the default configuration, the alarm limits are changed accordingly.

[2297] The threshold(s) for measurement triggers and conditions are now validated in SmartWeb, preventing the user from entering an illegal value.

[2353] The user can now delete measurement data in the SmartWeb.

[2655] When a system reset occurs because of an error, the configuration of the device is restored, only the measured data is lost.

[2792] Alarm limits can now be changed, using a graphical tool in the area measurement data.

[2879] FAG SmartWeb now automatically sets the language to the language of the browser, provided that the language is available.

[2903] When a system starts with a empty database (i.e. without measurement data) and without NTP or backup battery, the clock is set to the release date of the firmware.

[3245] The displayed limits for the maximum speed value in the configuration assistant were always 0-3000RPM. Now the input range for the selected speed input is shown.

[3437] FAG SmartWeb now automatically reloads the device configuration when FAG SmartUtility sends a new configuration.

Improvements:

[ ] Handling of signals and filters has been improved, which results in a faster response when using FAG SmartWeb.

[2741] The learning mode now doesn't start automatically after the first boot of the device. The user has to press the teach key.

[3112] Trigger events could not interrupt a running measurement job. Now a trigger event will interrupt a running measurement (as long as this measurement is NOT started by a trigger), so a triggered measurement will start very quickly.

[3597] To prevent unintentional keystrikes, a key lock has been implemented. To enable the keys for two minutes, first press the reset and then the teach key. After that, the key led will blink for a brief moment.

[3598] Due to slow processing in the Internet Explorer, all time signals and spektra were cut-off at 2048 values. The correct number of samples is shown in brackets in IE. Other browsers show the complete signals.

[3688] All prealarm levels are now enterred as absolute values instead of percentages. This prevent a lot of confusion when using signals which are partly or completely negative.

[3761] When using the digital input as speed input, the number of pulses per revolution can now be up to 10,000 (was 250).

[3946] In the default configuration, the ISO machine class has been changed from class I to class II.

Bug fixes:

[568] The integration of vibration signals (i.e. when the accelleration signal is converted to velocity or displacement signal) had a high attenuation below 20Hz. Now the integrator has been improved and lower attenuation at lower frequencies.

[1463] Temperature values were calculated as RMS values, which rectified negative temperatures. These were then shown incorrectly on the status page and prevented the use of negative thresholds for triggers and conditions. Now the temperature value is calculated as DC value and can become negative.

[1577] Until now the icon in front of a time signal in the section "measurement data" showed a main alarm (red icon), when a characteristic value had an error, e.g. when the speed signal was zero. Now this is shown with a special icon.

[1650] Integration of the vibration signal to velocity or displacement could not be selected in the live view. Now the velocity and displacement units can be selected and the integrated signal is shown.

[1664] On some devices, the analog alarm output would show "no alarm" by outputting the maximum value. This has been corrected.

[1725] When a trend started with error values (e.g. when the speed signal was missing), the alarm limits were not shown correcty.Now the alarm limits are shown correctly even when the trend values have an error.

[1777] An interruption during sending of a new configuration by the FAG SmartUtility could delete the active configuration on the device without having the new configuration. This has been corrected.

[1789] When editing the default configuration after changing the language of FAG SmartWeb, the name of the default configuration and the temperature value were not translated into the changed language. This has now been corrected.

[1797] When the FAG SmartCheck is set do DHCP, but not DHCP-server is found, the DHCP-field in the SmartUtility is not activated for this device. This has been corrected.

[1821] Removing additional channels in the configuration wizard could lead to deleting the entire measurement job. This has been corrected.

[1878] Changing the name of a channel used as additional characteristic value removed this value from a measurement configuration. This has been corrected.

[2102] Sometimes the trend in the measurement data section showed no or too few values, when the last measurement was older than 2 weeks. This has been corrected.

[2244] When a device used DHCP and the network connection was lost, it droped back to the default IP address and didn't restart the DHCP client. Now loosing the network connection doesn't change the IP address nor the DHCP settings.

[2248] Added a check which prevent the creation of two external devices with the same IP address and port number.

[2310] When viewing the status page, the live value for a channel with a negative scaling factor was wrong. This has been corrected.

[2523] For time signals, the user can now choose not to save time signals at all. In case of an alarm change saving of time signals is obligatory.

[2601] When using a time or measurement trigger in combination with measurement conditions, then the system would wait for the condition to become valid after the trigger event. This means, that the measurement would start some time after the trigger event, i.e. when the condition become valid. Now the condition is checked at the time of the trigger event. When valid, the measurement job is started. When not, the trigger event is ignored and the system will wait for the next trigger event.

[3297] When the system clock is changed to a time in the past, the outputs were not changed until the original time has been reached. Now the outputs are changed even when the system time is changed.

[3316] If the SmartCheck remains in the delivery staus (regarding IP settings), then the connection between FAG SmartWeb and FAG SmartCheck occasionally breaks down. This has been corrected.

[3356] After a communication problem with a Mitsubishi SPS, the status flag in the SPS is never changed to OK after the communication resumes.
[4095] Alarm levels for the ISO10816 value could be set higher then allowed by the standard, but ignored by the firmware. Now the user receives an error, when the alarm levels are set too high.
[4322] In some conditions, a measurement using a measurement condition on the digital input ran all the time, regardless of the state of the digital input. Now the state is evaluated correctly.
[4341] The state of the outputs was set after the first measurement. When this measurement used a trigger or condition, this could be a long time. Now the output is always initialized to its zero-state (e.g. 4mA for a 4-20mA-output) after a configuration change.

Known bugs:

[3100] Time triggers and time conditions always use standard time, daylight saving is ignored.
[3586] When the digital output is burdened with a current greater than the specified limit of 1A, the output could be switched off. After some time, the output should be reset and can be used normally. Because of an error, the reset doesn't work, so the device has to be switched off and on again for the digital output to operate normally again.

Version 1.4.27

New features:

[3192] Added Spanish translation to FAG SmartWeb.
[3398] Improved self monitioring capabilities of the firmware ensuring a restart of the firmware in case of a software error.

Improvements:

[3516] To prevent unintentional keystrokes, a key lock has been implemented. To enable the keys for two minutes, first press the reset and then the teach key. After that, the key led will flash for a brief moment.

Bug fixes:

[1772] When editing the default measurement job in any language other than German, the name was changed to the German one ("Standardmessaufgabe"). This has been corrected.
[2966] Under certain conditions the system would stop storing data until the next reboot. This has been corrected.
[3485] Google Chrome couldn't show measuring graphs as of version 25. This has been corrected. Be ware: Google Chrome will work, but is not officially supported nor tested!
[3491] Entering numbers in FAG SmartWeb didn't work anymore as of Firefox version 20. This has been corrected.
[3496] A bug that prevented the use of both outputs with the same characteristic value as source (only one of the outputs was updated) was fixed. Now both outputs can be used with the same source characteristic value.
[3589] When using measurement conditions, it could happed that over time no more measurements could be done and live view and live characteristic values didn't work anymore. A reset of the device, changing a configuration or reading data with the FAG SmartUtility would return the device to normal operation. Now the measurement conditions can be used without limitations.
[3592] Under certain rare conditions the system could switch into a state in which the device didn't react to anything. This has been corrected.
[3192] Added Spanish translation to FAG SmartWeb.
[3398] Improved self monitioring capabilities of the firmware ensuring a restart of the firmware in case of a software error.