

iXC2 -Core

Firmware Version 1.190.5

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1. Overview

This Release Note describes the features of the iXC2-Core version 1.190.5, 1.190.4, 1.190.3, 1.190.2, 1.190.1.

2. Important

Consider the following before uploading new suite firmware or I/O Board firmware

1. Take backup of all the reports and logs.

3. Reference Document

1. Refer Modbus Map document version 1.33 for Firmware Suite release 1.190.5.

4. Release Notes

4.1. New Features

Version 1.190.5

1. MQTT Flag Status for Live Data Message

Earlier hardcoded 192 (Good Status) was being sent in the Flag Status of the Live data message. Now depending upon the conditions status will be sent with the published live data message. The status are Good (192), Bad (0) and Error (-1).

2. Updated Live Data Message

Depending upon the newly introduced Scan Factor parameter, more than 1 record of the same tag will be published in the live data message. Each dynamic tags will be scanned at the scan rate and records will be stored, once the number of records reaches the Scan factor, all the records for the concerned tags will be published simultaneously. Based on the live data publish size one or more tags data can be published in a single live data or it may take more than one live data message to publish the single tag data.

3. External Trigger for Live Data Message

Live data message can be published with external trigger. For the dynamic tags a set of parameters has been incorporated and if scanned data is available for the tags then user can externally trigger the live data message. All the scanned data for the tag will be published in the live data message. If no data is available i.e. tag is yet to be scanned or all the data has been already published then the trigger will be ignored and no data will be published.

Version 1.190.0

1. New Licensing Feature in Core

New Licensing mechanism has been integrated to the Core. Modules and ISaGRAF applications have to have a valid license, then only they can run. If no valid license is found, the “No License” status will be updated on the Web Interface for that particular module.

2. License Validation Mechanism in Wet Gas Detection and Black Oil Model Module

The Licensing mechanism has been added to the Wet gas Detection and Black Oil Model. When a valid license is there these two modules will calculate the output. In the absence of a license,

no calculation will be done and “No License” status will be updated for the module in the Web Interface.

3. Updated vMiConfig to update License to the iXC2 Board

The vMiConfig will be used to upgrade the License file to the iXC2 board. New License Management tab has been added to the existing vMiConfig to upload the License Information file from the board and once license is created, download the same to the iXC2 board.

4. New License Manager Module

A new License Manager module has been added. This module will be used to check whether a particular module has the proper Product Code and subsequently validating the licenses for the module. It will also be responsible for creating the License Info File and License Request file.

5. New Wet Gas Detection Module

The Wet Gas Detection Module is being added to the Core. This Module is responsible for calculating the Wet gas output based on a set of inputs.

6. Enable/Disable of Individual ISaGRAF Resources

ISaGRAF Resources can be enabled/disabled individually from both Modbus and Web Sever. Modbus Interface as well as Web Interface has been provided for this feature. This will help user to enable or disable a particular Resource without disturbing the other Resources.

4.2. Enhancement

Version 1.190.5

1. Default Gateway for LAN1/LAN2

Rather than having separate Gateways for LAN1 and LAN2, a default Gateway will be configured. User can select the port for which he wants to configure the default Gateway. The Web Interface has been modified to support the feature.

2. Modbus Support for Data Logger Parameters

Additional parameters like Common Log Interval, File Create Option and Disk Full Option can be configured from Modbus now. This is in addition to all Data Logger can be configured from Web Server. This will help the user to modify the parameter on fly without restarting the Data Logger.

4. MQTT Flag Status for Backfill Data Message

In the Backfill message the records will have the same status when they were backfilled. Earlier hardcoded 192(good) was being sent as the flag status.

Version 1.190.4

1. New Transfer Type Option for RTU and TCP Master

A new option “Read/Write” has been added to the RTU and TCP Master in addition to the existing “Scheduled Read” and “Scheduled Write”. This option will be helpful when other modules like MQTT Client or DNP3 writes to the iXC2 register mapping and same has to be forwarded to the mapped 3rd party devices.

2. Two additional parameters in the vMPID Function Block

Two new parameters “Dead band” and “Bias” have been added to the vMPID FB. These parameters will enhance the functionality of the PID block by removing the jitter in the output due to dead band and maintain a constant output even though no input is applied because of the bias.

3. New System Applications tab in the Web Interface

A new branch System Applications is added to the Web Server which will hold all system related modules like Black Oil Model, ISaGRAF, Data Logger, Modbus Data Copier and Wet gas detection. All the web pages will be available always irrespective of whether the module is running or not.

4. New Target Definition File

New TDB file iXC2-110 have been added for the ISaGRAF applications. The vMPID block with two additional parameters is now functional in this TDB.

Version 1.190.2

1. New Target Definition File

New TDB file iXC2-109 have been added for the ISaGRAF applications. The vMPID block is now functional in this TDB.

Version 1.190.0

3. Auto-detection of Gzip Message in MQTT Clients

MQTT Clients can auto detect the compressed GZip messages now. Irrespective of the Compression Status in the vMiConfig, if MQTT client receives a compressed message it will decompress it. The response message governed by the Compression Status flag though.

4. Change in the Scaling Factor, Offset and Correction Factor in MQTT Clients

If both the scaling Factor and Offset parameters are missing for a tag in the Modbus Write-back Request, then default values will not be assigned to them and they will be written to the Register mapping file with the corresponding dynamic Configuration tag parameters. If either one of them is missing then default value will be assigned, they will be compared with the corresponding dynamic configuration tag parameters. If they match value will be written otherwise response will be sent with proper error message. Same for the Correction Factor for the four DATETIME data types.

5. BOOL Data Type Support for HR and IR in MQTT Clients

MQTT Client will support now BOOL data type in HR and IR. Each mapped HR or IR can store 16 BOOL type status bits and MQTT will be able to write the individual bits separately. A new parameter has been provided in the Dynamic Configuration file for each tag to support this feature.

6. Upgraded ISaGRAF Core

The ISaGRAF core has been upgraded for the new Validate License FB and the individual enable/disable of ISaGRAF Resources.

7. New iXC2-107 TDB file

New Target Definition file iXC2-107 has been incorporated to Core. The Validate License FB has been added to it.

8. Modbus Support for Data Logger Parameter

Log Interval Parameter can be configured from Modbus now. This is in addition to all Data Logger can be configured from Web Server. This will help the user to modify the parameter on fly without restarting the Data Logger.

4.3. Fixes

Version 1.190.5

1. **CORRECTED:** Anomaly in RTU Master. For transfer type "Scheduled Write" and "Read/Write" Single coil write was not working.

Version 1.190.4

1. **CORRECTED:** Anomaly related to RTU Master and TCP Master where Short to Float data type was not working.
2. **CORRECTED:** Anomaly related to RTU Master and TCP Master where the Serial Link Status and other status parameter data are not reset to 0 even though the ID is removed.

Version 1.190.3

1. **CORRECTED:** Anomaly related to EtherNet/IP where if the device needing startup parameters was not there it would never move over to the next device to send a forward open.

Version 1.190.2

1. **CORRECTED:** Anomaly in Wet Gas Detection. Nan values were being displayed on the Web Server if negative values were provided to the real-time inputs.
2. **CORRECTED:** Anomaly related to vMPID Function Block in ISaGRAF where the description for the Direction parameter was incorrect.

Version 1.190.1

1. **CORRECTED:** Anomaly in Wet Gas Detection. Algorithm A was not producing correct output.
2. **CORRECTED:** Anomaly related to vMPID Function Block in ISaGRAF which was not working.

Version 1.190.0

1. **CORRECTED:** Anomaly in Datalogger. When latest suite 8.219.11 was uploaded on the running suite of 8.217.6 with Retain Configuration, Data logger was not logging any data points.
2. **CORRECTED:** Anomaly related to Report by Exception in MQTT Client. Proper timestamp was not getting updated when a MQTT message was being sent because of RBE.

4.4. Known Issues

None