PG Software Change Note ARFIFF08

Application: ARFIFF08
Application Name: Power Generation application
Manual:

Note 1: When updating application it's not recommended to use NCDrive parameter download function. Instead upload parameters from the unit and make compare to old parameter file. Application is constantly developed; this includes changing parameter default values, and if parameters are directly downloaded to drive improved default values will be lost.

Note 2: Grid Code functionality requires license regardless of the unit size.

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ARFIFF08V040

Replaced Application: ARFIFF08V038
Used Firmware version: NXP4.90
System Software requirement: NXPV197
Released to field: -
Used in production: -
Changes in new application:

- Activate AD conversion startshift

- Added ID numbers

- Changed names of the FB words

ARFIFF08V038

Replaced Application: ARFIFF08V037
Used Firmware version: NXP4.90
System Software requirement: NXPV197
Released to field: -
Used in production: -
Changes in new application:

- ActiveRefFormat format source to text

- Fixed grid code parameter tree

ARFIFF08V037

Replaced Application: ARFIFF08V032
Used Firmware version: NXP4.90
System Software requirement: NXPV197
Released to field: -
Used in production: -
Changes in new application:

- Line Voltages Low 3 and High 3, with a power limit

- Line frequencies Low 3 and High 3

- If Lock Out Values are not given, internally used 1 % lover or higher value for locking out from function starting point.

- Gen power reference can be selected to be voltage compensated

- Added linear voltage mode for Power Lock In Lock Out reactive injection.

- Added High filtered voltage for Power Lock In Lock Out linear reactive current reference.

- Added Lock Out function to 10 min average voltage monitoring.

- High Frequency Power limit has now second delay that can be used to limit power increase higher than original power was when frequency limit was exceeded.

- 10 min average trip logic moved to 5 ms time level.

- Added delay parameter for 10 min average voltage monitoring for tripping.

- Added 10MinAveTripAct digital output

- Added B14 to Line State, indicating when 10 min average value is above set limit.

- Over voltage and under voltage reactive references are separated from common parameters.

- Line Voltage default tripping delay changed to 50 ms.

- Line Frequency default tripping delay changed to 50 ms.

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ARFIFF08V032

Replaced Application: ARFIFF08V030
Used Firmware version: NXP4.90
System Software requirement: NXPV197
Released to field: -
Used in production: -
Changes in new application:

- Power quick standby delay max 10s
- Reconnection time stop default 2s

- Reactive reference with power lock without giving correct Lock Out Voltage was resulting in abnormal behavior, fixed

- Voltage compensation added to all Grid Code reactive reference that are not used in zero voltage dips

- Minimum voltage compensation limited to 50 % voltage

- If Grid Code is activated and OPT-D7 is not installed drive will trip to Grid Code fault A15.

- Power limits from Grid Code disabled if Grid Code not running

ARFIFF08V030

Replaced Application: ARFIFF08V027
Used Firmware version: NXP4.90
System Software requirement: NXPV197
Released to field: -
Used in production: -
Changes in new application:

- ID numbers updated to different area for NCDrive.
- Added value DC link voltage without calibration
- Added power lim voltage mode
- More points for Iq Cos Phii reference.

ARFIFF08V027

Replaced Application: ARFIFF08V025
Used Firmware version: NXP4.90
System Software requirement: NXPV197
Released to field: -
Used in production: -
Changes in new application:

- Minor Combability issue

    o CosPhii mode parameter added.

- Added Max Cos Phii Ref based on active current.

- Added 10-minute average high voltage trip function.

- Added FRT Enable where both limits can be active at the same time.

- Added Stop Power ramp also for input power limit.

- Added voltage compensation for low and high voltage power limits.

- Low frequency power limit improvements.

- Only test purpose: Deactivated standby levels when levels are negatives

- Added quick stop after grid code trip

- Added FieldOK to status word

ARFIFF08V025

Replaced Application: ARFIFF08V024
Used Firmware version: NXP4.90
System Software requirement: NXPV195
Released to field: -
Used in production: -
Changes in new application:

- Grid Code; Restarting was not working when setting voltage limits were set to zero (disabled), fixed

- Grid Code; Added Q(U) Reactive Power control

ARFIFF08V024

Replaced Application: ARFIFF08V023
Used Firmware version: NXP4.90
System Software requirement: NXPV195
Released to field: -
Used in production: -
Changes in new application:

- Added value Mindex

- Removed LineVoltage value group

- Added MPPT value group

- Grid Code; Reconnection power ramp up rate default to 20 %/s

- Grid Code; Normal operation power ramp up rate 50 %/s

- High Frequency Power Limit dead time removed

- High Frequency power limit defined by Slope %/Hz

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ARFIFF08V023

Replaced Application: ARFIFF08V019
Used Firmware version: NXP4.90
System Software requirement: NXPV195
Released to field: -
Used in production: -
Changes in new application:

- Unfreeze DC ref during FRT when PID active

- Motoring power limit to 10

- Freqref is updated if Grid nom freq is changed

- Changed regencapsize values and limits

ARFIFF08V019

Replaced Application: ARFIFF08V016
Used Firmware version: NXP4.90
System Software requirement: NXPV195
Released to field: -
Used in production: -
Changes in new application:

- Added protection to all related grid code

- Fixed DC reference when reference from NC drive

- Added Gen Power Ref to Power PID

- Activated double sampling

- Disabled all harmonic compensation

- Changed Ref Handling parameter group

    - Moved Manual DC activation and Manual DC ref

- Voltage function for cap size

- Changed many default values

- Phase voltage min and max values from line voltages

ARFIFF08V016

Replaced Application: ARFIFF08V015
Used Firmware version: NXP4.90
System Software requirement: NXPV195
Released to field: -
Used in production: -
Changes in new application:

- High Freq Power limit is not limited to values when frequency higher than the high frequency corner.

  - Output limited to 0,5 % minimum.

- Changed grid code parameter group to same place than in Grid converter application

- Added PI power control

- Ramp down function removed. The function was already implemented

ARFIFF08V015

Replaced Application: ARFIFF08V014
Used Firmware version: NXP4.90
System Software requirement: NXPV195
Released to field: -
Used in production: -
Changes in new application:

- Changed Datalogger default signals

- Minimum and maximum of individual main voltages are also monitored for Grid Code trip.

- FRT active status to Line State B13

- Added 35 ms filtering to monitored frequency for Grid Code functionality.

- Power Follower hysteresis decreased to 3 %.

- RegenCapSize compensation increase when negative power and negative CosPhii.

- Minimum reconnection time set to 1100 ms.

- Added Ramp function for power reference function.

- Ramp Down function for power when stop command is given.

- Power increase function added for low frequency.

- Anti-Islanding delayed 500 ms when started.

- Gen power lim did not work when grid code active

- Data size of the crypted library was too small

- Added offset parameters for Grid Code monitored voltage.
    - Offset for Stop state
    - Offset for Run state

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ARFIFF08V014

Replaced Application: ARFIFF08V0011
Used Firmware version: NXP4.90
System Software requirement: NXPV195
Released to field: -
Used in production: -
Changes in new application:

- Changed P2.5.1.1 PwrStandbyLevel default 1,5% -> 4,0%

- Power Ramp Rate is freezer during LVRT.

- Power Lock Low Voltage Reactive injection was stopping injection before reaching Lock Out Voltage Level, fixed.

- Power Lock High Voltage Reactive injection was stopping before reaching Lock Out Voltage Level, Fixed.

- Added Lock Out Power parameter for High Voltage reactive injection for linear injection.

- FRT Enable has now selection

    o Disabled; Both curve and level will trip

    o Enabled; Voltage level will trip

    o Enabled; Curve will trip

    o Enabled; Neither will trip

- Power Follower hysteresis is also included in High Frequency Power limit trigger.
- *Power limit that is given by Grid Code function block is no longer voltage compensated*
- If FRT function is used drive will use G2.17.9 Volt. Dip Time for stopping the modulation
- Two Phase trip time was using three phase voltages for trip time calculation, fixed
- Over Voltage reactive slope format was wrong, fixed #,# -> #,##
- Power Follower hysteresis increased from 2 % to 5 %.
- On reconnection Grid Converter limits has priority for 400 ms, sixed to follow Grid Code limit when Grid Code functionality is active.
- Certain specific setting was giving reactive current while Reactive Current Injection was not active, fixed.

- Added AFE Options 3 parameter
- Tripping to Frequency Change Rate was not making reconnection, fixed

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ARFIFF08V011

Replaced Application: ARFIFF08V009
Used Firmware version: NXP4.83
System Software requirement: NXPV192
Released to field: -
Used in production: -
Changes in new application:

- Added parameter ID 2323 to activate symmetrical current injection

- Added power increase rate limiter to grid code function
    - Added parameter PowerRampUp ID 2324

- Added high voltage power limit to grid code function

    - Added parameters LogInVoltage ID 2325, LogOutVoltage ID 2326 and Limit Slope ID 2327

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ARFIFF08V009

Replaced Application: ARFIFF08V006
Used Firmware version: NXP4.83
System Software requirement: NXPV192
Released to field: -
Used in production: -
Changes in new application:

- Removed parameter CounterRstDC(SA) (ID 1963)

- Changed power unit state trigger instead of DC voltage level to reset daily energy/runtime counter

- Added status word (ID 43) to monitor

- Removed main contactor edit lock for R02

- Afeoptions 2 B3 is possibility to activate with FRT

- Changed fieldbus heartbeat bit to 1s

- Cleaned code

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ARFIFF08V006

Replaced Application: ARFIFF08V004
Used Firmware version: NXP4.83
System Software requirement: NXPV192
Released to field: -
Used in production: -
Changes in new application:

- Bugfix: Run command should switch off if main contactor is not active

- Bugfix: Standy/quickstandby mode is not checked correctly in the photovoltaic field test

- Check power unit state before grid code license fault

- Check power unit state before license calculator

- B1 is possibility to activate from Afeoptions 2

- Afeoptions1 default value from 0 to 32 (B5 active)