

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.

ARFIFF08V041

Replaced Application:	ARFIFF08V040
Used Firmware version:	NXP4.90
System Software requirement:	NXPV197
Released to field:	-
Used in production:	-
Changes in new application:	

- Reset daily counter when field ok first time in the stand alone unit

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 % lower 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.

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**
 - 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

ARFIF08V025

Replaced Application: ARFIF08V024

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

ARFIF08V024

Replaced Application:	ARFIF08V023
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

ARFIF08V023

Replaced Application: ARFIF08V019

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

ARFIF08V019

Replaced Application: ARFIF08V016

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

ARFIF08V016

Replaced Application: ARFIF08V015

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 CosPhi.
- 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

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
 - Disabled; Both curve and level will trip
 - Enabled; Voltage level will trip
 - Enabled; Curve will trip
 - 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, fixed 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

ARFIF08V011

Replaced Application: ARFIF08V009

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

ARFIF08V009

Replaced Application: ARFIF08V006

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

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: Standby/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)