NXP Lift
Software Change Note
APFIFF33

Application: APFIFF33
Application Name: STD NXP Lift application
Manual: DPD02005

Update Note 1: These application parameters are not kept backwards compatible if new features or improvements would be difficult to implement by doing so. Read this change note and chapter "Compatibility issues in parameters between versions" from manual before updating the application.

Update Note 2: It's recommended to use compare function for parameter changes when updating application, especially in cases when version number change is considerably high.
Application is constantly developed; this includes changing parameter default values, and if parameters are directly downloaded to drive improved default values may be lost.

APFIFF33V223

Replaced Application: APFIFF33V222
Used Firmware version: NXP4.86
System Software requirement: NXPV192
Released to field:
Used in production:
Changes in new application:

27.07.2017 VMYH

- Firmware updated NXP4.71 to NXP4.86
- Firmware library updated from VaconNx1C to VaconNx1D
- Added new monitoring values:
    - Current, Torque, DCVoltage, ShaftAngle, ShaftRounds, MCStatus, MotorRegulatorStatus, Ident.fail, StatusWord
- Fixed NCDrive PC tool indication
- IdentificationDonePulse removes PC RunRequest (SCControlWord.B0)

APFIFF33V222

Replaced Application: APFIFF33V221
Used Firmware version: NXP4.71
System Software requirement: NXPV186
Released to field:
Used in production:
Changes in new application:

09.06.2016 OlHe

- Added new parameter for making 230 V evacuation mode possible.

- Adjusted reset parameters of evacuation related faults to work with 230 V evacuation mode.

APFIFF33V221

Replaced Application: APFIFF33V220
Used Firmware version: NXP4.71
System Software requirement: NXPV186
Released to field:
Used in production:
Changes in new application:

26.11.2015 KeHä

- Added enable ange identific OL mode to P2.5.10.2 StartAngleIDMode
- Added EncoderChannel A and B to relay outputs
- Added EncoderSimulator POU
- Added parameters P2.4.8.8 pulsefactor and P2.4.8.9 invert encoder pulses
- Added new fault block F30

APFIFF33V220

Replaced Application: APFIFF33V219
Used Firmware version: NXP4.71
System Software requirement: NXPV186
Released to field:
Used in production:
Changes in new application:

13.8.2015 jaka

- Connected P2.5.10.14 ExtIdRef to application variable P_ExtIdRef (previously directly to FW var ExtIdRef)

- Parameters P_IdRefAtZeroSpeed, P_IdRefMaxFreq

- ExtIdRef calculation to POU ExtIdRef (called from _10ms)

19.8.2015 jaka

- Added logic for activating the ExtIDRef-based output phase supervision only after a start (POU ExtIdRef)

21.8.2015 jaka

- Added concealed parameter (ShowAdvancedPar) ForceMagnTime that can be used to extend magnetizing / dc brake time during start to the time that is defined with parameter Start Magn Time. Normally in CL dc brake time is set to zero after MC_FluxReady is high. By default, the new parameter is disabled.

Product: Vacon NXP

Application: APFIFF33

Application Name: NXP Lift Application

Manual: UD1041l

APFIFF33V219

Replaced application: **APFIFF33V217**

System software requirement: **NXP00002V186**

Used in production: **August 12, 2015**

Changes in new software version APFIFF33V219:

Changes:

1. New floor selection during trip improved. New floor can be selected if lift is able to stop to selected floor.
2. DTF ramp offset is now calculated in software. Calculated distance can be modified with parameter P_RampOffsetMultiplier.
3. Maximum speed on short trips can be modified with parameter P_SpeedMultiplier.

Parameter changes:

1. Removed parameter P_RampOffset
2. Added parameter P_RampOffsetMultiplier
3. Added parameter P_SpeedMultiplier

APFIFF33V216

Replaced application: **APFIFF33V215**

System software requirement: **NXP00002V186**

Used in production: **June 10, 2015**

Changes in new software version APFIFF33V216:

Changes:

1. Fixed panel start / stop command handling

APFIFF33V215

Replaced application: **APFIFF33V213**

System software requirement: **NXP00002V186**

Used in production:

Changes in new software version APFIFF33V215:

Changes:

1. Fixed motor contactor closing time (P2.4.7.1). In the previous version output to the motor was activated without the delay.

Parameter changes:

1. New parameter P2.8.2.8 OutPhFaultDelay
2. New parameter P2.8.2.9 OutPhFaultCurLim

APFIFF33V213

Replaced application: **APFIFF33V211**

System software requirement: **NXP00002V186**

Used in production:

Changes in new software version APFIFF33V213:

Changes:

1. After evacuation, evacuation control mode is changed back to normal control mode after the drive has stopped modulation

APFIFF33V211

Replaced application: **APFIFF33V208**

System software requirement: **NXP00002V186**

Used in production:

Changes in new software version APFIFF33V111:

Changes:

1. Removed control place change by pressing buttons 3s
2. Shaft speed error only when motor running
3. Only checks flux in closed loop when brake is opened. Now brake can be opened during DC-current in open loop.
4. Separated brake closing and emergency stop delays
5. Delayed DIN1 and DIN2 signals to IO start logic
6. Evacuation faults F60 and F62 are reset when DC voltage over 500V

Parameter changes:

4. Separated AI1 and AI2 parameters
5. Added Custom min and Custom max parameters to AI1 and AI2 groups
6. Added parameters Ton delay DIN1 and Ton delay DIN2
7. Moved rollback parameters from PMSM settings to closed loop group
8. Added slip frequency calculation. Max frequency brake closed (OL) uses this value.
9. P2.3.1.3 FreqLimitOpen_OL initial value 100 -> 0
10. P2.3.1.4 BrakeOpenDelay_OL initial value 10 -> 0
11. P2.3.1.7 MaxFreqBrakeClose_OL initial value 400 -> 200 (2Hz)
12. P2.3.1-2.8 BrakeReact Time initial value 5 -> 30 (300ms)
13. P2.3.2.3 FreqLimitOpen_CL initial value 1 -> 0
14. P2.3.2.9 OHz TimeAtStart_CL initial value 400 -> 800
15. P2.3.2.12 SmoothStartFreq _CL initial value 2 -> 0
16. P2.3.3.2 ExtBrake SuperV1 initial value 1 -> 0
17. P2.3.3.3 ExtBrake SuperV2 initial value 1 -> 0
18. P2.3.4.2 ExtBrakeSupepInv Added ID
19. P2.5.9.18 RollBack Ctrl initial value 0 -> 1 (rollback can be also used in async motors)
20. P2.5.9.20 RollBack Ctrl PreTorq initial value 200 -> 1
21. P2.6.2.12 Speed Sel Input3 initial value 16 -> 15
22. P2.6.2.13 AngleIDRepeat max value 1 -> 89
23. PMSM parameters
    a. Speed control gains 15 -> 10
    b. Brake opening current in CL 5% on motor nominal current -> 0
    c. Brake opening delay in CL 0 -> 30 (300ms)

APFIFF33V208

Replaced application: **APFIFF33V207**

System software requirement: **NXP00002V170**

Used in production:

Changes in new software version APFIFF33V208:

Changes:

1. Logic to fulfill the certification for uncontrolled car movement (EN 81-1:1998+A3:2009)
2. Changed text of fault F55
3. Added fault F91

Parameter changes:

1. Added P2.3.3.4 "ExtBrake Superv2"
2. Added P2.3.3.5 "F55 Spv at Start"
3. Added B3.10 "Reset Brake Spv F"
4. Increased the default value of P2.3.3.3 ExtBreakSupVTime to 2,00 s
5. Default value of P2.3.4.2 "ExtBrkSupInversion" changed to work inverted. When system is stopped, brake switches are closed and 24 V are feeding the digital inputs that are supervising the state.
6. Changed default value of P2.3.4.3 "F55 at Start" to 0/Disable. With that value the Brake Supervision Fault is just appearing when stopping at floor, not during the ride.

APFIFF33V207

Replaced application: **APFIFF33V204**

System software requirement: **NXP00002V170**

Used in production:

Changes in new software version APFIFF33V207:

Parameter changes:

1. P 2.5.17.20 ExtIdRef parameter for PMSM fine tuning
2. P 2.5.17.12 Rollback control wake up limit initialized to value 3.00 (three encoder pulses)
3. P 2.7.10 RO1 Function initialized to value 0 (None) (was 2 = Run) for safety reason
    a. Typical value is 1 (Ready) and then safety circuit can be wired through NO contacts
4. P 2.5.17.7 SpdCtrl Ti Start removed
5. P 2.5.17.8 SpdCtrlStartDel removed

APFIFF33V204

Replaced application: **APFIFF33V111**

System software requirement: **NXP00002V170**

Used in production:

Changes in new software version APFIFF33V204:

Changes:

1. Added Stabilators parameter group
2. TorqueStabDamp initialized to 980 in case of PM-motor (default 800)
3. Added OPT-BE support (Type ID: 16965) to startup delay for Endat encoder
4. Analogue inputs to digital inputs: all digital TTF inputs can be connected to analogue input. Switching level is 50%, no hysteresis area.
5. Added TorqueReference feed in from analogue input
6. Permanent magnet motor features:
    a. Speed controller gain to 15
    b. Rollback control activation
    c. Brake opening current in CL to 5% on motor nominal current
    d. In case of OPT-BB, BE or AK encoder interpolation is activated automatically
    e. ShaftSpeedFaultResponse set to 2
    f. SlipAdjust changed

Parameter changes:

1. P 2.3.1.3 (Open loop Mechanical brake frequency limit open) default value changed from 1,0 Hz to 0,1 Hz
2. P 2.5.2 U/f Optimization set to zero (Torque boost off) after successful U/f curve identification (P 2.5.12 Identification 1 or 2)
3. P 2.8.4.2 ShaftSpeed Fault response initialized to Fault in case of PMSM (was: No response)
4. P 2.5.18.12 Added rollback control pretorque parameter
5. Added selections for AI1 and AI2 (to be able to use also preselected AI levels e.g. Slot0.1-9)

APFIFF33V111

Replaced application: **APFIFF33V110**

System software requirement: **NXP00002V170**

Used in production: **April 4, 2008**

Changes in new software version APFIFF33V111:

Correction for Permanent magnet motors when incremental encoder is used.

1. Added selection of correct software modulator mode and Angle identification when OPT-AE or OPT-AK Encoder board is used together with PM-motors.

APFIFF33V110

Replaced application: **APFIFF33V108**

System software requirement: **NXP00002V170**

Used in production: **April 20, 2007**

Changes in software version APFIFF33V110:

New parameters for permanent magnet motors:

1. P2.5.18.9 AngleIdentMode PM motor angle identification mode selection
2. P2.5.18.10 Rollback Ctrl parameter to activate Rollback controller
3. P2.5.18.11 Rollback Gain parameter to set Rollback Controller gain
4. P2.5.18.12 Rollback WUP parameter to set Rollback Controller wake up level

APFIFF33V108

Replaced application: **APFIFF33V105**

System software requirement: **NXP00002V164**

Used in production: **August 23, 2006**

Changes in software version APFIFF33V105:

1. Blocked start of drive in 3s if PM-motor with Endat encoder is used.
2. Software changed to not change speed parameters during download. In previous version there could be problems with scaling (Hz/Speed in m/s) of uneven values like 0,02 m/s when downloading parameters from NcDrive.
3. Field weakening point (P2.5.4) minimum setting changed to 5 Hz
4. Added Start magnetizing time (P2.3.2.15) and current (P2.3.2.16) for closed loop to speed up start. Then a higher magnetizing current is allowed at start.
5. Initial values for DC brake current I_H*0.7. Start magnetizing current set to motor nominal current when nominal current is set.
6. Rotor Flux ready required (CL) for brake open enable
7. Moved Speed Control Ti Start (P2.5.18.7) and Start delay (P2.5.18.8) to PM motor parameter group and these are only used for PM-motor (Then it is possible to use lower integration time at startup for rollback compensation)
8. Faster response to digital inputs and references.
    a. **NOTE: If an already commissioned lift drive is updated with this software version the stop distance may change due to the faster response time. In that case new calibration is needed.**
9. Support added for dial-up modem connected to internal RS-232 and OPT-D3 RS-232.
10. New value V1.23, Motor calculated temperature in percent of motor nominal temperature.

APFIFF33V105

Replaced application: **APFIFF33V104**

System software requirement: **NXP00002V164**

Used in production: **March 31, 2006**

Changes in software version APFIFF33V105 (First official version, based on Standard Lift application ASFIFF08V204):

1. P2.3.2.8 Mechanical brake reaction time added to mechanical brake closed loop group.
2. Motor contactor control added (between FC and motor).
3. Support for permanent magnet synchronous motors added. Minimum settings for P2.1.2, P2.1.3 and P2.5.4 changed to fit PM motors with a low nominal frequency/RPM.
4. FluxCurrent Kp and FluxCurrent Ti moved to PM-motor parameter group G2.5.18
5. Identified parameters by automatic motor identification to new parameter group
6. Added P2.11.12 Speed Control Ti and P2.11.13 Speed Control Start delay to allow different Ti (faster) a certain time from start until the mechanical brake has opened (better rollback compensation for PM-motors)
7. Added separate DCbrake Current and Dc brake time at start in Evacuation. (P2.10.11, P2.10.12)
8. Allows 50% over speed only if control place is I/O and digital control is used. (when P2.2.2 is set to 0,1 or 2)