PowerXL

DC1 Firmware

Release Note for drivesConnect

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Content

1 V2.01 Change Notification – 07.09.2017

Existing Version 2.00 (DC1)
New Version 2.01 (DC1), production starting serial#60709901001

Management Summary

We updated the firmware of DC1 for your convenience. The use of existing parameter sets can generally be continued. The following updates will improve handling and functionality of the drive.

1. **Functionality**

   1.1. **PI control function enhancement** (/extended)

   P-43 (Default 0, Range 0-3, PNU 2123)

0	Direct, wake from 0%
1	Inverse, wake from 0%
2	Direct, wake from 100%
3	Inverse, wake from 100%

   New options 2 and 3 allow wake up with PI output set to 100%.

   1.2. **Lower maximum current limit (/extended)**

   P-63 (Default 0.1, Range 0-175%)

   P-63 can now be set to 0. When set to 0, the current limit will be internally fixed at 150% of drive rated current regardless of P-08. This allows smaller motors to have more than 150% instant overload capability.

   1.3. **Advanced set-up protection** (/new)

   For instantaneous output over current (O-I, hO-I) and motor thermal overload (it.trp), a time delay will protect the drive from damage. Delay times can be found below. In any case, the trips should result in an investigation and rectifying of the trip cause.

Trip#	Delay before reset possible
1	2 seconds
2	4 seconds
3	8 seconds
4	16 seconds
5	32 seconds
Subsequent	63 seconds

1.4. Improved Control Software   (/new)

Enhancement of motor control and improved reaction times for improved efficiency and motor handling.

2. Enhanced CANopen Communication Baud Rate (/extended)

P-50 (Default 2, Range 0-5, PNU 3302)

Two new option have been added in P-50 for new CANopen communication baud rate selection:

P-50 = 4 gives 50kbps

P-50 = 5 gives 20kbps

New version DrivesConnect software is needed in order to display these two new options correctly.

2 V2.02 Change Notification – 08.01.2019

Existing Version 2.01 (DC1)
New Version 2.02 (DC1)

Management Summary

We updated the firmware of DC1 for your convenience. The use of existing parameter sets can generally be continued. The following updates will improve handling and functionality of the drive.

1. **Functionality**

   1.1. **Add new Modbus comms parity parameter P-56**

   A new parameter P-56 (SWD index 3224) has been added in this software release.

   This parameter is used to select Modbus communication data parity format.

   There are 4 options available:

   0: No Parity, 1 Stop Bit (N-1), this is default option

   1: No Parity, 2 Stop Bits (N-2)

   2: Odd Parity, 1 Stop Bit (O-1)

   3: Even Parity, 1 Stop Bit (E-1)

   1.2. **Add parameter set description change support**

   Drive parameter set description (drive description) can now be changed without downloading complete parameter set in this software release

   1.3. **P-51 default value changed**

   Thermal overload retention in P-51 is enabled by default.

   1.4. **For S1 and S2 230V drives, check Vdc as well to detect mains loss**

   For current firmware, only L1 voltage is used to detect mains loss, but in some application, L1 voltage drops slower than DC voltage. For new firmware, L1 and Vdc will be checked at the same time to detect mains loss depending on which is quicker.

   1.5. **Increasing trip reset delay only when drive is running**

   If O-I and h O-I trip at the same time, the trip reset delay will be double, this change will stop this behaviour.

   1.6. **Reduced ixt trip level when working at low speed as per EN 61800-5-1:2017**

   ixt trip level is reduced by 5% when actual speed drops below 10% of motor rated speed in order to meet the latest EN 61800-5-1:2017 standard

   requirements (i.e. integration to trip level should be faster at low speed).

   1.7. **Added delay on resetting brake overcurrent trip**

   The same reset delay that exists for OI and h O-I trips has been added for the brake chopper HW overcurrent trip (OI-Br).

3 V2.03 Change Notification – 18.06.2019

Existing Version 2.02 (DC1)
New Version 2.03 (DC1)

Management Summary

We updated the firmware of DC1 for your convenience. The use of existing parameter sets can generally be continued. The following updates will improve handling and functionality of the drive.

1. **Functionality**

    1.1. **Fix CanOpen hearbeat message missing ocassionally**

    In previous release, the heartbeat message generated by drive can occasionally missing one cycle from its normal interval that set by user in Object 0x1017h. This issue has now been fixed.

    1.2. **Bugfix on standby mode**

    Drive does not enter in standby when minimum speed is >= 50Hzlf when the drive is running to zero after a standby delay time has expired and the speed reference changes again above the standby speed, then the drive should not enter in standby mode and ramp up again.

    1.3. **P-13 to 2, only spin start on trip**

    When set P-13 to 2, only spin start on trip.

    Does not apply to single phase Output drives.

    In the current release, when setting P-13 to 2, drive will spin start in all cases. In this new release, when setting P-13 to 2, drive will only spin start on trip.

    1.4. **DC injection braking**

    DC1 will trip O-I or h O-I when DC injection braking speed is larger than 0 and braking current is 100%.

    Does not apply to single phase Output drives

4 V2.04 Change Notification – 15.03.2021

Existing Version 2.03 (DC1)
New Version 2.04 (DC1)

Management Summary

We updated the firmware of DC1 for your convenience. The use of existing parameter sets can generally be continued. The following updates will improve handling and functionality of the drive.

1. **Add IP66 Switch Control Logic Parameter P-69 and P-70**
   P-69 Local control Logic 1

   This parameter is used to configure the digital input 1 function, and there are 5 options available:

   0 = T2 **OR** FWD switch, 1 = T2 only, 2 = T2 **OR** FWD switch **OR** REV switch, 3 = T2 **AND** (FWD switch **OR** REV switch), 4 = T2 **AND** FWD switch

   P-70 Local control Logic 2

   This parameter is used to configure the digital input 2 function, and there are 3 options available:

   0 = T3 **OR** REV switch, 1 = T3, 2 = T3 **AND** REV switch

   Please note that the switch settings from the previous firmware version will not be transferred to this new version using parameter copy function. So user needs to set switch function using these two new parameters afterwards (if non-default switch settings were used in older version).

   These two parameters can be accessed via communication channel (e.g Modbus) for both IP20 and IP66 drives, however they are only visible on the LED display for IP66 drives that have switches fitted. For standard IP20 drive or new IP66 drive without switch, these two parameters will be hidden from LED display.

2. **Add P-57 and P-58 Ethernet Cyber Security**
   We now add two cyber security related parameters for Ethernet based plug-in Module:

   P-57 Cyber security option:

   Range 0 to 7. Default value 0 (all function disabled)
   Option definition:

   0000b: All services disabled off

   xxx1b: Webserver enable

   xx1xb: TFTP/FTP server enable

   x1xxb: Reserved (Diagnostic interface enable)

   P-58 Cyber security reset time:

   Range 0 to 60min. default is 10min

   If set to 0, then cyber security settings will not change. Otherwise, the cyber security option in P-57 will be reset to 0 after time delay defined by P-58.

3. **(PS) Support new DCCT for IP66 FS2**
   New DCCTs GO 10-SME and GO 20-SME on IP66 S2 drives will be supported, the hardware ID will be 8 for drive with new DCCTs.

4. **Bug fix: the trip requests from IO firmware will be ignored when power off and restores when drive is U-Volt.**
   In the previous firmware, drive will trip when receiving the trip request from IO firmware (such as E-Trip), in this case, if removing the power supply and restoring the power when drive is in U-Volt trip, IO trip requests will be ignored.

5. **Change control of overload accumulator**
   In the previous firmware, drive will speed up the overload accumulation when output current is larger than 150% of motor rated current in industrial mode, and 110% in other modes.

   In the new firmware, drive will speed up the overload accumulation when output current is larger than 150% of drive rated current in industrial mode. In fan and pump mode, there is no change.

   This change can make drive trips overload slower.

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