| Test case: Homing test rigid gantry | | | |
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| Objectives: Verify correct behavior of HOMING in various opmodes | | | |
| Equipment:  Drives: CDHD2, DDHD EC  Gantry type: Rigid | | | |
| # | Step Description | Expected Result | Results |
| 1 | Save the values for:  HOMETYPE (0x6098), HOMESPEED1 (0x6099 sub1), HOMESPEED2 (0x6099 sub2), HOMEACC (0x609A),  HOMEOFFSET (0x607C), GANTRYCMDTYPE (0x2200 sub2) for both axis | The parameters must be save correctly. | Pass 🞐 Fail 🞐  FW version:  Remarks: |
| 2 | 2.1. Configure system of two axis to gantry mode: GANTRYMODE ½ (Check gantry communication).  Set GANTRYCMDTYPE 1, HOMETYPE 35 for the both axis.  2.2. Change position of the gantry and read values:  MFB, GANTRYPRNRPFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  2.3. Perform homing procedure. Read values of gantry feedbacks: MFB, GANTRYPRNRPFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis.  2.4. Enable the gantry, move the gantry after homing and perform homing procedure again in Enable state. | 2.1. Configuration must be executed without any error.  2.2. The value of commands should be different from zero.  2.3. The gantry should be in Enable state and homing procedure should be finished successfully. The values of feedback commands should be zero (acceptable tolerance) and homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded”.  2.4. The gantry should move property – w/o any faults. Homing procedure should be finished successfully as in previous step. | Pass 🗹 Fail 🞐  FW version:  2.15.0a9.0.32  Remarks:  **Homing type**  **35 in en/dis** |
| 3 | 3.1. Set GANTRYCMDTYPE 2, HOMEOFFSET **X** , HOMEOFSTMOVE 1 for both axis, HOMETYPE **18**, HOMEACC, HOMESPEED1 100[mm/s], HOMESPEED2=25[mm/s] Limit switch DI for Master/Diff axis.  3.2. Change position of the gantry and read values:  MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  3.3. Enable the gantry and perform homing procedure. Read values of gantry feedbacks: MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis.  3.4. Perform movement after homing. | 3.1. Configuration must be executed without any error.  3.2. The value of commands should be different from zero.  3.3. The gantry should be in Enable state and homing procedure should be by Positive LS change motion direction and end homing after dis-activation LS move to zero according value HOMEOFFSET.  The values of GANTRYMSTRPFB should be zero for Master and Diff (with acceptable tolerance) axis, (MFB-GANTRYPRTNRMFB) = HOMEOFFSET. Homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded” for both axis.  3.4. The movement should be executed by configuration. | Pass 🗹 Fail 🞐  FW version:  2.15.0a9.0.44  Remarks:  **Homing by PLS (type 18)**  **Cmdtype->2**  **Homeoffset** |
| 4 | 4.1. Set GANTRYCMDTYPE 1, HOMEOFFSET **X** , HOMEOFSTMOVE 1 for both axis, HOMETYPE **17**, HOMEACC, HOMESPEED1 50[mm/s], HOMESPEED2=40[mm/s] Limit switch DI for Master/Diff axis.  4.2. Change position of the gantry and read values:  MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  4.3. Enable the gantry and perform homing procedure. Read values of gantry feedbacks: MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis.  4.4. Perform movement after homing. | 4.1. Configuration must be executed without any error.  4.2. The value of commands should be different from zero.  4.3. The gantry should be in Enable state and homing procedure should be by Negative LS change motion direction and end homing after dis-activation LS move to zero according value HOMEOFFSET.  The values of MFB should be zero for Master and GANTRYPRTNRMFB zero for Diff (with acceptable tolerance) axis, GANTRYMSTRPFB = HOMEOFFSET/2. Homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded” for both axis.  4.4. The movement should be executed by configuration. | Pass 🗹 Fail 🞐  FW version:  2.15.0a9.0.32  Remarks:  **Homing by NLS (type 17)**  **Cmdtype->1**  **Homeoffset** |
| 5 | 5.1. Set GANTRYCMDTYPE 2, HOMEOFFSET **X** , HOMEOFSTMOVE 0 for both axis, HOMETYPE **20**, HOMEACC, HOMESPEED1 100[mm/s], HOMESPEED2=20[mm/s] Home switch DI for Master/Diff axis.  5.2. Change position of the gantry and read values:  MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  5.3. Enable the gantry and perform homing procedure. Read values of gantry feedbacks: MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis.  5.4. Perform movement after homing. | 5.1. Configuration must be executed without any error.  5.2. The value of commands should be different from zero.  5.3. The gantry should be in Enable state and homing procedure should be by HS change motion direction and end homing after dis-activation HS move to HOMEOFFSET.  The values of GANTRYMSTRPFB should be equal to HOMEOFFSET for Master and Diff (with acceptable tolerance) axis, (MFB-GANTRYPRTNRMFB) = HOMEOFFSET. Homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded” for both axis.  5.4. The movement should be executed by configuration. | Pass 🗹 Fail 🞐  FW version:  2.15.0a9.0.32  Remarks:  **Homing by Home Switch (type 20)**  **Cmdtype->2**  **Homeoffset** |
| 6 | 6.1. Set HOMEOFFSET to 0 and HOMETYPE **23**, HOMEACC, HOMESPEED1 100[mm/s], HOMESPEED2=20[mm/s] HS, LS DI for Master/Diff axis.  6.2. Change position of the gantry and read values:  MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  6.3. Enable the gantry and perform homing procedure by each scenario. Read values of gantry feedbacks: MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis. | 6.1. Configuration must be executed without any error.  6.2. The gantry should be in Enable state and homing procedure should be by HS depend on polarity scenario, by PLS and then triggered HS.  The values of GANTRYMSTRPFB and (MFB + GANTRYPRTNRMFB) should be equal to zero for both axis. Homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded” for both axis. | Pass 🗹 Fail 🞐  FW version:  2.15.0a9.0.44  Remarks:  **Hometype 23** |
| 7 | 7.1. Set GANTRYCMDTYPE 1 and HOMETYPE **-126,** HOMEIHARDSTOP **X** for Master axis.  7.2. Change position of the gantry and read values:  MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  7.3. Enable the gantry and perform homing procedure. Read values of gantry feedbacks: MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis. | 7.1. Configuration must be executed without any error.  7.2. The gantry should be in Enable state and homing procedure should be triggered by HOMEIHARDSTOP.  The values of MFB for Master and GANTRYPRTNRMFB for Diff axis should be zero. Homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded” for both axis. | Pass 🞐 Fail ⌧  FW version:  Remarks:  **Hometype -126 Hard Stop** |
| 8 | 8.1. Set GANTRYCMDTYPE 2 and HOMETYPE **2** for Master axis.  8.2. Change position of the gantry and read values:  MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  8.3. Enable the gantry and perform homing procedure. Read values of gantry feedbacks: MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis. | 8.1. Configuration must be executed without any error.  8.2. The gantry should be in Enable state and homing procedure should be by triggered by PLS, reverse direction and find an Index.  The values of GANTRYMSTRPFB and (MFB + GANTRYPRTNRMFB) should be equal to zero for both axis. Homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded” for both axis. | Pass 🞐 Fail 🞐  FW version:  Remarks:  **Hometype 2**  **PLS + Inx** |
| 9 | 9.1. Set HOMETYPE **33** for Master axis.  9.2. Change position of the gantry and read values:  MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB.  9.3. Enable the gantry and perform homing procedure. Read values of gantry feedbacks: MFB, GANTRYPRNRMFB, GANTRYMSTRPFB, GANTRYDIFFPFB and homing status: HOMESTATE, HOMECMDST for both axis. | 9.1. Configuration must be executed without any error.  9.2. The gantry should be in Enable state and homing procedure should be by Index.  The values of GANTRYMSTRPFB and (MFB + GANTRYPRTNRMFB) should be equal to zero for both axis. Homing status should be: HOMESTATE=19, HOMECMDST: “Homing Succeeded” for both axis. | Pass 🞐 Fail 🞐  FW version:  Remarks:  **Hometype 33**  **Inx** |
| 10 |  |  | Pass 🞐 Fail 🞐  FW version:  Remarks: |
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