SALES RELEASE NOTE

Inverter unit (INU) software
V 3.12.1.1 for ACS880-11/31/14/34 and
IGBT supply unit (ISU) Software
V 2.12.0.3 for ACS880-11/31 &
V 3.00.100.2 for ACS880-14/34

Scope of the release
Quality update and feature enhancement release for ACS880-11/31/14/34 active
front end drives

Marketing aspect
How do the customers benefit?
New functionality and improvements of existing features

Sales and marketing material and user documentation
Product note on DC voltage boost 3AXD50000691838 Rev C EN
DC voltage boost feature presentation

Availability
All new ACS880 regenerative and ultra-low harmonic products will be delivered with
ACS880-11/31/14/34 INU V 3.12.1.1
ACS880-11/31 ISU V 2.12.0.3
ACS880-14/34 ISU V 3.00.100.2
The new firmware versions for ISU has been available in IHMM from Feb 4th, 2021 and
the 3.12.1.1 for INU is now in IHMM and will be in production by April 20th, 2021.

Note:
Previous version
ACS880-11/31/14/34 INU V 3.11.0.1: Before February 2021 the version was 2.90.0.1
ACS880-11/31 ISU V 2.09.0.0
ACS880-14/34 ISU V 3.00.0.4:
New functionality/ major improvements

**DC voltage boost** feature is now available as part of this SW release; detailed usage instructions derating requirements are made available in supplement manual. ACS880-11, ACS880-31, ACS880-14, ACS880-34, ACS880-17, ACS880-37 drives product note on DC voltage boost (abb.com).

**New thermal model-based protection** for ACS880-11/31 ISU enables the regenerative and ultra low harmonic single drives to be used in such applications as DC voltage boost and common-DC (Note: Common DC support is not yet released). The thermal model protects the ISU from the overheat. Note, Thermal model already exist in ACS880-14/34 ISU.

New parameter **94.05 LSU external start command** added. It used to start the ISU independently from INU, which is a required behavior in common DC applications (Note: Common DC support is not yet released) and keep ISU running continuously for the grid sync as well to supply the DC sourced drives.

**Automatic activation of ISU INU communication**, INU-ISU communication is automatically enabled at boot. Bit 11 in HW Options Word 1(Parameter 95.20 in INU) is set and clearing this bit is prohibited.

Parameter **10.90 IO time level selection** added with possible selections *Fast* (500us) and *Normal* (2ms) to allow user to configure and optimize CPU load with demanding applications. Default time level can be changed to 2ms to reduce CPU load.

**Charge circuit fault supervision for ACS880-11/31 R8 frame** is monitoring the connection to the charging contactor of only R8 frame. In case the connection is missing, then drive will trip on a 5E1A ‘Charging circuit failure’ fault. This indicates that something is wrong with the wire harness between the control unit and the charging circuit board. Contact Drives Support drivessupport@abb.com to solve the issue.

ACS880-11/31 ISU SW updated to solve **rating ID mismatch fault** caused by the critical communication issue in data handling which resolves several ISU side ‘RatingID mismatch’ faults especially with R8 frame.

**Netlost actions** (fault and warning) are removed from the ACS880-11/31 ISU functionality to allow power loss ride through. Thus, there will not be any more netlost warning if the grid is lost. Parameter 6.36 LSU SW bit NET OK will indicate the status of network

ACS880-14/34 **ISU ‘CU battery’ warning** is disabled by default. The battery on ISU side is not needed for the real-time clock as clock source in these drives is INU. This will allow us to deliver new drives in coming days without battery on ISU control unit and reduce service efforts for customer as they need not access ISU control unit for battery replacement. Note, ACS880-11/31 drives are designed and already delivered without battery for ISU control unit.
Issues resolved in this SW version

- SW updated to not to throw Auxiliary fan warning A582 if parameter 31.44 Disable aux fan 2 supervision is "Yes"
- Issue resolved in ACS880-11/31, where Scalar flystart performed instead of Normal after mains ON
- ACS880-11/31 R6 short circuit mask time updated to avoid nuisance trips with some units.
- ACS880-14/34: LSU charge failed fault is not ignored, while LSU not ready run inhibit is up after power cycle
- ACS880-14/34-Drive is not able to start after Udc ref is set to 720V
- Zero value of LSU min power limit (30.148) causes high DC link voltage rise
- Smooth grid sync increases DC-link voltage when MCB feedback is missing. This bugfix includes several improvements to the main contactor control during the synchronization.
- Several improvements in DC link overvoltage fault, DC link undervoltage and DC voltage reference
- 0x5E18 Charging contactor fault when stopping drive in diode mode.
- ISU trips with Main contactor and Charging contactor fault if INU side start command toggles within 1s after previous command.
- ACS880-14/34: 0x7580 INU-LSU comm loss during power cycle with external 24V supply
- Grid sync fails during the fly start with R3 frame
- Erroneous Input Phase lost fault (3E00) in ISU side at grid sync
- Rising edge of start command is ignored if off1/2/3 bits are set on the same cycle
- Current values are frozen when ISU is faulted
- Line side unit faulted with Aux 0 when disconnecting mains.

Known issues

- The power loss ride through is not reliably working. The ACS880-11/31 drives will trip to ISU undervoltage fault if DC link voltage decreases by 150V, even when standby is enabled. The ACS880-14(R11)/34(R11) ISU will trip on 8E078 'Net lost fault' after 5s of the supply lost. Fault on ISU prevents the restart even when supply returns within allowed time.
- Auto restart (Standby) logic is not fully supported with ACS880-11/31 types.
- Regenerated power is limited too small value if overvoltage control is active on INU side with IGBT supply unit. Workaround: set 30.30 Overvoltage control = Disable (especially in case of ACS880-11)
- ACS880-11/31 ISU Firmware loading with Drive loader when loading ACS880-11/31 ISU firmware with Drive loader 2.4 or older, the FW versions in drive and loading packages show different values, thus warnings are shown. Loading however happens correctly if 94.02 panel communication is enabled.
- The behavior in case of single supply phase loss during the running is inconsistent. Drive may either trip on DC overvoltage or Overcurrent fault, or stop modulation by going into the netlost state

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**Compatibility**

- The default behavior of the ReadyRun status has been changed. According the new default behavior, these drives will be in ReadyRun state already when DC link voltage is high”. This way the behavior is now similar to -01 drives. Previously, in order to move to ReadyRun state, the LSU needed to be modulating. With the new parameter 94.04 'LSU status word profile', it is possible to switch back to old behavior for backwards compatibility purposes

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**FW version information**

For ACS880-11/31/14/34 INU SW update use
AINL6 v3.12.1.1 loading package for ZCU-12, FW version AINF6 v3.12.1.1

For ACS880-11/31 ISU SW update use
AISD8 v2.12.0.3 loading package for QCON-21, FW version AISK8 v2.12.0.3

For ACS880-14/34 ISU SW update use
AISL6 v3.00.100.2 loading package for ZCU-12/14, FW version AISF6 3.00.100.2