AC30 V1.19.2 Customer Release Notes

V1.19.2 Release Package

<table>
<thead>
<tr>
<th>AC30V Firmware</th>
<th>Version 1.19.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDQ Release</td>
<td>Version 3.11.49.1</td>
</tr>
<tr>
<td>PDD Package Update</td>
<td>Version 3.11.49.1</td>
</tr>
<tr>
<td>Drive Manual</td>
<td>HA503711U003 Issue 4</td>
</tr>
</tbody>
</table>

Option Manuals

- Profibus DP-V1: HA501837U001 Issue 1
- CANopen: HA501841U001 Issue 1
- PROFINET IO: HA501838U001 Issue 1
- EtherNet IP: HA501842U001 Issue 3
- RS485 / Modbus RTU: HA501839U001 Issue 4
- EtherCat: HA501938U001 Issue 1
- GPIO: HA501836U001 Issue 3
- Resolver: HA503540U001 Issue 1
- Pulse Encoder: HA502217U001 Issue 2

Profibus Option GSD: See web site(1)
Profinet Option GSD: See web site(1)
CAN Open Option EDS: See web site(1)
Ethernet IP Option EDS: See web site(1)
EtherCat Option ESI: See web site(1)

(1) The electronic data sheets for the communication options can be downloaded from the Parker Hannifin Corporation web site using the link http://ph.parker.com/us/en/ac-variable-frequency-drives-kw-rated-ac30-series

Alternatively, navigate to http://www.parker.com
- Select “Motors, Drives and Controllers” under the products menu
- Click on “Drives and Inverters”
- Click on “AC Drives and Accessories”
- Click on “AC Drives”
- Click on “AC30 Series”
- Click on “Product Support”
**Latest Release**

**VERSION 1.19.2**

**New Features**
- Added support for new stack rating, 45 A, 400 V in a frame F package.
- Modbus connections are preserved through a restore to defaults.

**Bugs Fixed**
- The resolver trip strategy is more sensitive and reliable.
- The clone status is clearer when there is an SD Card fault.

**Known Limitations**
- The DC Injection braking is not tuned for the larger stacks, (frame K and above)
- Trips: Line Contactor: Not usable
- Persistent data is not usable in the application, (use retain data).
- An IM auto-tune may fail if it is preceded by a PMAC autotune, without a power off.

**New Parameters**

<table>
<thead>
<tr>
<th>PNO</th>
<th>Name</th>
<th>Path</th>
<th>Default</th>
<th>Range</th>
<th>Units</th>
<th>WQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0113</td>
<td>Force Fan On</td>
<td>Parameters::Motor Control::Fan Control</td>
<td>FALSE</td>
<td>FALSE / TRUE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Changed Parameters**

The following parameters have been modified since version x.18.2

<table>
<thead>
<tr>
<th>PNO</th>
<th>Name</th>
<th>Path</th>
<th>Type</th>
<th>Default</th>
<th>Range</th>
<th>Units</th>
<th>WQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0543</td>
<td>Power Stack Fitted</td>
<td>Parameters::Device Manager::Drive info</td>
<td>USINT (enum)</td>
<td>0:NONE 1:3.5 A 400 V 2:4.5 A 400 V 29:700 A 400 V 30:790 A 400 V 31:45.0 A 400 V</td>
<td>NEVER</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0987</td>
<td>Power Stack Required</td>
<td>Parameters::Device Manager::Drive info</td>
<td>USINT (enum)</td>
<td>As PNO 543</td>
<td></td>
<td>NEVER</td>
<td></td>
</tr>
<tr>
<td>1543</td>
<td>Clone Status</td>
<td>Setup::Clone Parameters::Device Manager::Clone</td>
<td>USINT (enum)</td>
<td>0:IDLE 1:SAVING 2:RESTORING 15:PNET SECTION MISSING 16:CARD FAULT</td>
<td>NEVER</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Previous release summary**

**VERSION 1.18.2**

**New Features**
- Allow the Under-voltage trip to be reset when the run signal is false.
- SSI support for custom web pages.
- TCP support for connection to PDD and PDQ configuration tools, (works with VPNs).
- Support a customised alert message from the application.
- Support Time-Of-Day data type in dual parameter display.
- Switching frequency limited to 10kHz in PMAC sensor-less vector control mode, (was 12kHz).
- Maximum switching frequency for frames H, K, L and M increased to 9 kHz

**Bugs Fixed**
- Corrected operation of the GKP wizard when the drive is running.

**Known Limitations**
- The DC Injection braking is not tuned for the larger stacks, (frame K and above)
- Trips: Line Contactor: Not usable
- Persistent data is not usable in the application, (use retain data as a work around).
- An IM auto-tune may fail if it is preceded by a PMAC autotune, without a power off.

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<tr>
<td>1213</td>
<td>Actual Position</td>
<td>Monitor::Motor and Drive::Parameters::Motor Control::Feedbacks</td>
<td>x.x</td>
<td>-180.0 to 180.0</td>
<td>deg</td>
<td>NEVER</td>
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<tbody>
<tr>
<td>0976</td>
<td>Nominal Supply</td>
<td>Parameters::Device Manager::Drive info</td>
<td>0</td>
<td>0.50 Hz</td>
<td></td>
<td>STOPPED</td>
</tr>
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**VERSION 1.18.1**

**New Features**
- Allow the Under-voltage trip to be reset when the run signal is false.
- SSI support for custom web pages.
- TCP support for connection to PDD and PDQ configuration tools, (works with VPNs).
- Support a customised alert message from the application.
- Support Time-Of-Day data type in dual parameter display.
- Switching frequency limited to 10kHz in PMAC sensor-less vector control mode, (was 12kHz).

**Bugs Fixed**
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VERSION 1.17.2

New Features

- The Black Box recorder is now enabled on the AC30V with an SD Card inserted.
- Trip and warning to indicate that the application is over-running.
- Stall trip warning triggered at 50% of trip time, (was 10% of trip time).
- Direct analog output from control loops to indicate torque.
- Automatic adjustment of speed loop update rate with faster switching frequencies.
- Ability to extend the list of parameters recorded by the data logger. Configured via the application.
- Ability to selectively prevent trip warnings appearing on the GKP.
- Log files now saved to a sub-folder on the SD Card.
- Automatic calculation of motor pole pairs for induction motors.
- Expanded some word parameter on the GKP to show as individual named bits.

Bugs Fixed

- Loading a clone file into a drive with no application is now permitted.
- 12 and 14-bit resolver gave truncated speed value.

Known Limitations

- The DC Injection braking is not tuned for the larger stacks, (frame K and above)
- Trips: Line Contactor: Not usable
- Persistent data is not usable in the application, (use retain data as a work around).
- An IM auto-tune may fail if it is preceded by a PMAC autotune, without a power off.

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</tr>
</thead>
<tbody>
<tr>
<td>0115</td>
<td>Show Warnings 1 - 32</td>
<td>Parameters::Trips::Trips Status</td>
<td>FFFFFFFF</td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>0116</td>
<td>Show Warnings 33 - 64</td>
<td>Parameters::Trips::Trips Status</td>
<td>FFFFFFFF</td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>0747</td>
<td>Enable 33 - 64.49 APPLICATION</td>
<td>Parameters::Trips::Trips Status</td>
<td>TRUE</td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>0749</td>
<td>Enable 33 - 64.51 CPU USAGE</td>
<td>Parameters::Trips::Trips Status</td>
<td>TRUE</td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>0815</td>
<td>AR Trip Mask 2.51 CPU USAGE</td>
<td>Same as PNO 796</td>
<td>TRUE</td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1214</td>
<td>Automatic Pole Pairs</td>
<td>Parameters::Motor Control::Motor Nameplate</td>
<td>TRUE</td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1829</td>
<td>Copy to SD Card</td>
<td>Parameters::Trips::Black Box Recorder</td>
<td>FALSE</td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1830</td>
<td>Black Box PNOs</td>
<td>Parameters::Trips::Black Box Recorder</td>
<td></td>
<td></td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1831</td>
<td>Black Box PNOs[0]</td>
<td>Parameters::Trips::Black Box Recorder</td>
<td>0829</td>
<td>0000 to 2149</td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1832</td>
<td>Black Box PNOs[1]</td>
<td>Parameters::Trips::Black Box Recorder</td>
<td>0514</td>
<td>0000 to 2149</td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1833</td>
<td>Black Box PNOs[2]</td>
<td>Parameters::Trips::Black Box Recorder</td>
<td>1022</td>
<td>0000 to 2149</td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1834</td>
<td>Black Box PNOs[3]</td>
<td>Parameters::Trips::Black Box Recorder</td>
<td>0393</td>
<td>0000 to 2149</td>
<td></td>
<td>ALWAYS</td>
</tr>
<tr>
<td>1852</td>
<td>Copy Status</td>
<td>Parameters::Trips::Black Box Recorder</td>
<td></td>
<td>0:IDLE:1-ACTIVE:2-DISABLED</td>
<td>NEVER</td>
<td></td>
</tr>
</tbody>
</table>

VERSION 1.17.1

- Version withdrawn.
**VERSION 1.16.3**

**New Features**
- Change the warning level for Inverse Time trip from 5% to 50%.

**Bugs Fixed**
- Analog output glitches, (temporary high output volts). Seen when demand is reducing.
- Autotune for IM: If the autotune changes the encoder direction, the corresponding parameter is not saved correctly when using an encoder input other than the pulse encoder option board 7004-04.
- The fourth line on the GKP welcome page is not shown if the IP address is invalid. This is a fault when using custom text.
- Improve Peer to Peer warning and trip - warning was too sensitive and trip not reactive enough.
- Data flash module incorrectly reporting timeout, causing some parameters not to be saved.

**VERSION 1.16.1**

Version 1.16.1 introduces the following new features

**New Features**
- Support for cloning between drives of different rating.
- Configurable inversion of digital inputs and outputs.
- Control of PMAC motors using pulse encoder feedback.
- Configuration lock parameter to prevent accidental deletion of the configuration
- Basic support for time zones and daylight saving
- Parameter backup to save known good parameter set, (ie: before an auto-tune test).

**Bugs Fixed**
- Corrected comparison level for 4-20mA input break detect

**VERSION 1.15.2**

**New Features**
- Support for frames L, M and N.
- Support for customised language translations for both standard and custom parameters with translation files stored on the SD Card.
- Data Logger added to AC30V
- Resolver feedback option added to AC30V
- Change to defaults setting, option to automatically set default parameters when moving control modules between stacks.
- Support for latest CoDeSys compiler, (tested with compiler 3.5.11.20).
- Keypad key press information available to the application.
- Configuration parameters can now be set from the application.
- Simple selection of parameter shown following power up.
- Customised Welcome page on the GKP.
- Control of the GKP LEDs from the application.
- Password to allow read-only access to the drive from the built-in Web page.

**Bugs Fixed**
- Restore defaults from within the GKP wizard can cause a race.
**VERSION 1.15.1**

**New Features**
- Support for frames L, M and N.
- Support for customised language translations for both standard and custom parameters with translation files stored on the SD Card.
- Data Logger added to AC30V
- Resolver feedback option added to AC30V
- Change to defaults setting, option to automatically set default parameters when moving control modules between stacks.
- Support for latest CoDeSys compiler, (tested with compiler 3.5.11.20).
- Keypad key press information available to the application.
- Configuration parameters can now be set from the application.
- Simple selection of parameter shown following power up.
- Customised Welcome page on the GKP.
- Control of the GKP LEDs from the application.
- Password to allow read-only access to the drive from the built-in Web page.

**Bugs Fixed**
- Restore defaults from within the GKP wizard can cause a race.

**VERSION 1.13.6**

**New Features**
- There are no new features in 1.13.6

**Bugs Fixed**
- The drive may fail to stop if the stop command is issued during flycatching.

**VERSION 1.13.5**

Version 1.13.5 is a bug fix release

**New Features**
- None

**Bugs Fixed**
- Improved support for newer SD Cards.

**VERSION 1.13.1**

Version 1.13.1 is a bug fix release

**New Features**
- The use of the soft right key may be configured.
- HTTP CORS, (Cross Origin Resource Sharing) enabled.

**Bugs Fixed**
- After many parameter changes, (over 1 million), the parameter save may stop working. The workaround to this without upgrading to 1.13 is to run the GKP setup wizard twice, changing at least one parameter each time. Version 1.13 fixes this issue.
VERSION 1.12.4
Version 1.12.4 is identical to version 1.12.3 with the following change

New Features
• No new features

Bugs Fixed
• Clear spurious Stack Over Current trip on power up.

VERSION 1.12.3

New Features
• Allow the motor inverse time duration to be set.
• Limit switching frequency to 8kHz with random pattern, 12kHz fixed.

Bugs Fixed
• Modified pre-charge relay timing following a trip
• Corrected the operation of the stall trip in VHız mode

VERSION 1.12.2

New Features
• No new features

Bugs Fixed
• Corrected Setup::Motor Control::Control and Type menu

VERSION 1.12.1

New Features
• Sharing of dynamic brake load in a system
• Improved trip warnings based on trip measurement, not simply a reduced delay.
• Configuration of auto-save feature when changing parameters using the GKP or web page.
• Ability to view all parameters when in Engineering view level.

Bugs Fixed
• Improvements to SD card support
• Scope feature improved to reduce or eliminate gaps in capture.
• Various minor faults.

VERSION 1.11

Version 1.11 is not for general release.

VERSION 1.10.1

New Features
• Support for Frame K stacks
• Improved auto tune.
• Application block to read data from SD card.
• Application block to write data to SD card.

Bugs Fixed
• Various minor faults

VERSION 1.9

Version 1.9 is not for general release.
**VERSION 1.8**

**New Features**
- Ramp hold feature to avoid over-voltage trips
- Power loss ride through feature
- Support for new Frame J stacks, (up to 260A).
- Support for new Frame G stacks with internal cooling fan.
- Added ability to prevent change of view level

**Bugs Fixed**
- Parameter 0408::Electrical Rotor Frequency displays zero when in Volts Hertz control mode,
- Wiring to the PID in the PROCESS PID application is incorrect, resulting in zero PID error, (fault introduced in version 1.7.1)
- Corrected over-current glitch seen with larger motors during auto-tune
- Corrected Frame G potential runtime error seen at start-up if drive run in random PWM mode.
- Various minor faults fixed

**VERSION 1.7**

**New Features**
- The GKP setup wizard is now reached via the soft left key, (list icon), from the GKP welcome page.
- The View level and Language are now reached via the soft left key, (list icon), from the GKP welcome page.
- Added support for customised menu structure
- Added live data update on the web page
- Added trip status to the web page
- User defined mapping for Modbus TCP base communications, (16 parameters).
- Increased space for Retain data in the application, (data saved through a power off / on).
- Output modulation frequency limited to 590Hz.

**Bugs Fixed**
- Fix to issue where cooling fans and pre-charge relay do not turn on, (or off).

**VERSION 1.6**

**New Features**
- Support for frame H.
- DC Link feedback calibration.

**Bugs Fixed**
- Auto restart mode and Fireman mode do not operate optimally in vector control mode if auto restart delay is set to 0s (or a period shorter than needed by the estimators to establish correct position)
- The feedback values such as DC Link are not quenched when running just from 24V.
- Improved rotor time constant measurement
- BSD socket layer for Ethernet updated
- The autotune could sometimes fail to complete if the maximum speed was high and if the windage or friction was too great. This has been corrected.
- Corrected a fault that prevented peer-to-peer communications working
- Add a minimum delay before displaying trip warnings to avoid nuisance displays
- Pre-charge relay open/close delay times not implemented