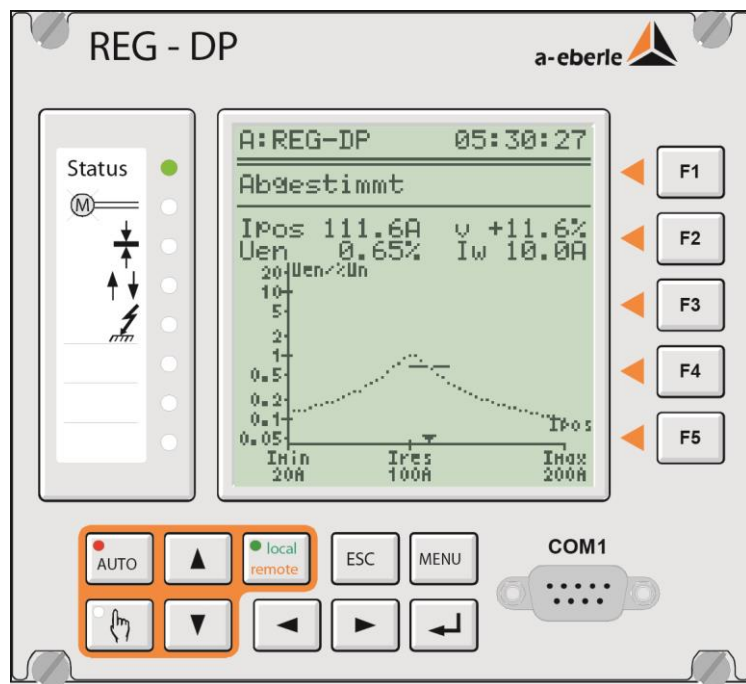




Petersen – Coil Regulator REG-DP(A)

Version information up to Firmware V 2.7.46



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1. General

1.1 Content

This document contains information according to every single released Firmware version of the Petersen-Coil Regulator REG-DP(A).

2. Change information

2.1 V2.7.46 from 04. August 2020

- First Firmware version that supports the new Multi-Frequency Current Injection MCI.
The following new menus/parameters have been added:
 - Feature MCI (Multi Current Injection) at Setup/System 3 configurable
 - New calibration steps „P2-calibration“ and „Zk-calibration“ at Setup/Initial operation/P-coils/calibration wizard 2 added
 - New Parameter „Nominal Voltage of P-coil“ and " Nominal Voltage of PAW" at Setup/Initial operation/P-coils/Data of P-coil/Coil-Nominal added
 - Measurement data of the MCI are displayed on the new page 8/8 in the Status-menu
- Following items are not (yet) supported by the firmware while using the MCI:
 - Mode 1 (using Binary IOs and potentiometer of MCI) is not supported yet
 - Binary IOs and LEDs of the MCI are not editable yet
 - Feature PP_NO_COMM (Parallel Operation "without communication") and feature CBR is not supported yet
 - Feature EOR and ENEL is not supported
 - By using the REG-DP with an MCI, no other COM3 expansion modules (ANA-D, BIN-D) can be used
 - Function "external coupling check" in the MS-Parallel program is not supported yet
 - Simulation of regulation with coil and net (Option - Simulation) with Current Injection (CIF, CI, HPCI and MCI) is not supported
- Small values for "Iext" (negative or even < 5A) are limited to =0A
- Permissible setting range of the parameters "Coil position in the limit switches" and the % values in the linearization table extended from [0 ... 100 %] to [-1.0 ... 100.5 %].
Up to now values of [-0.5 ... 100.5 %] were accepted.
- In case of an earth fault, the CI is now also aborted in MANUAL mode and switch-on is refused
- The HPCI displays no longer the measured values of Is and If at the last two lines on the IC-Display-Page; Previously only the formula symbols were suppressed

2.2 V2.6.11 from 20. May 2019

- RBAC extension "Panel-Roles" Attention: The Interface has been implemented, but not the function on the REG-DP menu.
- The RBAC condition is now displayed before time with a sign: '^' = Defaultrolle; '^'^ = normal role is logged in
- The RBAC-Blocking of the Bootloader-Selection with the commands SYSRESET = 0.1 / 0.2 / 0.9 was not available yet
- Role Based Access Control (RBAC) implemented; just like REG-D

2.3 V2.6.05 from 23. July 2018

- Parameter "HPCI-Pulsing-Cycles": Setting range extended from [1..999] to [1..9999]; Default value is changed from 15 to 10, to bring it into line with the default value of the CCI
- new parameter (and REG-L command) are implemented, to set the Une via REG-L:
 - REG-L command "espVoRegL" set value Une via REG-L. The command should be sent several times per second if the Une changes significantly and may need to be repeated cyclically (see timeout) if Une does not change. In case of timeout: Error message and selectable behaviour.
 - Parameter "Une via REG-L active" (espVoSet): activates the function
 - Parameter "Une Scaling" (espVoSetSc): determine the scaling of espVoRegL: secondary or primary value
 - Parameter "Une Timeout" (espVoSetTO): determines, whether and when a timeout-error is triggered, if the "espVoRegL" does not arrive cyclically
 - Parameter "Une manual by Timeout" (espVoSet2H): determine the behaviour by timeout: changes to MANUAL-Mode or blocked in AUTO-Mode if necessary
- new parameter (and REG-L command) are implemented, to set the Coil-Position via REG-L (extended the function of V 2.5.00)
 - REG-L command "espIposRegL" set the Coil-Position via REG-L. The command should be sent several times per second if the position changes significantly and may need to be repeated cyclically (see timeout) if the position does not change. In case of timeout: Error message and selectable behaviour.
 - Parameter "Ipos via REG-L active" (espIposSet): activates the function
 - Parameter "Ipos Scaling" (espIposSetSc): determine the scaling of espIposRegL: as Ipos in [A] or Rproz (Resistor position) in [%]
 - Parameter "Ipos Timeout" (espIposSetTO): determines, whether and when a timeout-error is triggered, if the "espVoRegL" does not arrive cyclically
 - Parameter "Ipos manual by Timeout" (espVoSet2H): determine the behaviour by timeout: changes to MANUAL-Mode or blocked in AUTO-Mode if necessary
- The resistance control has aborted the last possible impulse before the over temperature; the error existed from 2.6.02.
- The REG-DP run via Reset, if the COM interface was request for the documentation of espClaPuls, espHPCIPTM or all esp* commands. The error was in the help file since V 2.5.00 (espClaPuls) or 2.6.00 (espHPCIPTM)
- The REG-DP reported cyclically/endlessly to the EOR-DM when the DP changed from tuned to search delay and thus cyclically triggered the PIL-procedure at the DM, which in turn caused a cyclical "external CI" in the DP. The error also caused that the search delay restarted. Since the message to the DM is delayed by 10 s, the error only occurred if the triggering delay was parameterized greater than 10 s. This means that the controller was stuck in the delay until a "cyclical search" rescued it from the endless loop. The error occurred because the DP "ext.CI" changed from "Tuned" to the state "Shutter Lag" again. (the error was present from 2.4.00). From now on, the EOR-DM is only informed once and the shutter lag in the REG-DP continues to run during "ext.CI".
While switching off the "ext.CI" the system will wait until the CI has switched off before leaving the SM. This avoids e.g. the short "Shutter Lag" at the return to "Tuned".

2.4 V2.6.04 from 13. September 2017

- The log book event "ProvisionalCurve" (Interim result) is activated during FW-Updates to version $\geq 2.6.04$
- New LogbookEvents "SearchRetry", "CI-Measurments " and "Uref" implemented. All these events are activated after the FW-Update. During the event "SearchRetry" the reason of the Search retry is coded in the additional data. For the event "Uref" the REG-L command "espDebugFlags" is added, to register an event "Uref tracing" also.
- During the search process the values "Ires" and "v" are replaced by "???" at the HPCI-Pulsing-Display, resp. when an earth fault is happened during the search process. Until now the state of the values "Ires" and "v" changed to "?", as soon as the state "Tuned" has been left (already in case of earth fault or manual).
- While starting the HPCI-Pulse-Sequence "Tune - Pulse - Reposition" via manual (F2 key in the pulse display) was not repositioned, if the sequence had never been executed automatically before. Also even the pulse was pulsed automatically without (!) detuning because there was no valid search result available.
- Parameter/function "Locking" for Umin was not executed. Error existed since FW V2.4.00
- Upgrade of the behaviour from check "external coupling".
- The log book events "Master", "Debug", "StatusError", "I_Coil", "Slave" could not be suppressed by the corresponding parameters in "Event-Filter System".
- From now on the CI-Frequency of the "external CI" will be reported to the EOR-DM

2.5 V2.6.03 from 20. April 2016

- bugfix: Description (value range, default value, special case, if =0) of the parameter "Umin - New search up to x min" (espSrcht) corrected/supplemented in the menu ("[1..1999]" => "[0 ... 1999] 0 = inactive"), in the REG-L online help and in the WinEDC

2.6 V2.6.02 from 21. March 2016

- new HPCI: the coil is not positioned before pulsing during an earth fault if a resonance curve search was just running before the earth fault or the last valid resonance point "Ires" was outside the adjustment range of the coil.
- new HPCI: the pulse on earth fault is aborted without moving back the coil if feeders are switched which are monitored via the earth fault position correction mode (BEF 32..35:BEF_PosKorr1..4)
- The parallel regulation (in both modes) will be disabled in case of a Regulator-blocking. I.e. a blocking has the same effect as switching off the PP by parameterization or BIF "29:Coupling".
- R-Control: The range of the parameter "Max temperature" is now limited from [0..999] to [50..999]. Until now the firmware set the minimum to 41.
- HPCI: Default value of the parameters "Detuning when pulsing" changed from +20A to +5A.
- HPCI: Default value of the parameters "Cycle" changed from 10 to 15.

2.7 V2.6.01 from 03. February 2016

- Default value of the parameters "Delay search" changed from 10s to 120s
- Bugfix: double "AA" as unit for Imin, Ires and Imax in the Resonance-Curve-Display; the error occurred when the value needed exactly 4 digits (including decimal point); error has always existed!

2.8 V 2.6.00 from 25. January 2016

- Language "Finnish" updated
- new BOFs: 89:CI_Status, 90:CI_SearchBlock, 91:CI_PulsBlock implemented
- NEW: Power control for search with CI implemented: only for HPCI
- new: The CCI-Controller V3.1.00 send together with the search results now also the actually used current (power control!) at the REG-DP
- It is displayed with the CI-Measurement-Results on the CI display page (only for HPCI). The desired set value is still displayed before the first results.