Checklist for malfunctions / error events
Control unit type ECOTAP® VPD®
Basic & Control Pro

Technical Instruction VPD_6708537_04_en.docx
Replacing VPD_6708537_03_en.docx

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NOTICE

Safety, hazard and other information included in the MR operating instructions for control unit type ECOTAP® VPD® must be observed!
Safety information for work performed on electrical systems must be observed!
All work must be carried out by sufficiently qualified personnel!

The causes for a malfunction of the ECOTAP® VPD® control unit can be very diverse. Just one missing piece of information may prevent clear identification of the error cause. Therefore, please fill in this checklist as completely as possible.

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General information

Serial number OLTC:_____ Serial number control unit: _____

Operator: _____ Date: _____

Contact person: _____

E-Mail address: _____ Phone number: _____

Facility

Substation: _____

Address: _____

Commissioning date transformer: _____

Control unit data

Current number of operations of on-load tap-changer (operations counter on display):_____

Event(s) currently shown on display (E X, for example E4): _____

Are events currently pending on control unit?

☐ Yes ☐ No

Please note the whole Error memory:

(<AVR MANUAL>, <MENUE>

<UP> until E1 is displayed

<AVR MANUAL> event code(s)

<AVR MANUNAL> number of operations

<AVR MANUAL> E2, etc)

Error-Memory	Event code(s) (EX.Y, for example E4.1)	Number of operations:
E1		
E2		
E3		
E4		
E5		
E6		
E7		
E8		
E9		
E10		

Continued on next page

Please note the whole Error memory:

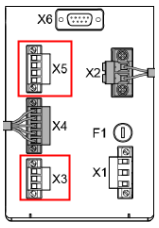
Error-Memory	Event code(s) (EX.Y)	Number of operations:
E11		
E12		
E13		
E14		
E15		
E16		
E17		
E18		
E19		
E20		

Control unit data – continued

Are terminals X3 and X5 in use? (Is a cable connected?)

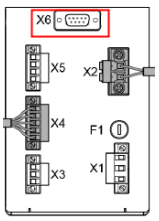
X3: Yes ☐ No ☐

X5: Yes ☐ No ☐



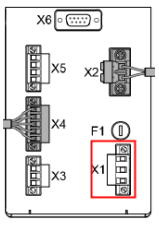
Is the control unit connected via Modbus using interface X6?

☐ Yes ☐ No



Which voltage is present on terminals X1? Which voltage is shown on the display?

X1: _____V / Display: _____V



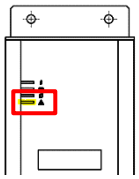
*Which **temperature** is measured next to the terminals X1?*

_____

*Read and note Function **F2**: Remaining life of the energy accumulator:*

_____

*Is the **red LED** currently active? (advanced: In which mode is the LED active?)*



☐ Yes ☐ No _____

Read parameters on control unit display and enter them in parameter list.

Activate function F9 to show the parameters in the menu.

(<MENU>, <UP> until F9 is shown on display, <AVR MANUAL>)

☐ Parameters entered in parameter list in attachment A1.

☐ It is not possible to display the parameters.

Which operating mode was active in the control unit at the time of the failure?

☐ AVR Manual ☐ AVR AUTO ☐ External Control

Is the control unit connected to a "Control Pro" control unit?

☐ Yes ☐ No

If yes, please download the data of "*Control Pro*" *control unit* (Settings>Export>System Image with history) and send it to MR.

Is the current tap position indicated in the web visualization of "Control Pro" control unit?

☐ Yes ☐ No

If yes, note the current tap position value: _____

Is the transformer operated in parallel with a second or several transformers?

☐ Yes ☐ No

Where is the control unit mounted? (location/cabinet/environment behavior)

_____

_____

_____

➜ **It is important for analyses to get photos from the mounting situation and the temperature situation.**

Additional information
Was there a voltage drop or a power system blackout before the incident? ☐ Yes ☐ No If yes, please specify which type: (e.g., weather event, switching operations)_____ *Were maintenance or modification measures performed in the substation before the incident, or was the wiring/cabling changed?* ☐ Yes ☐ No If yes, which? _____

Please send the completed checklist to e-mail-address service@reinhausen.com, your contact person at MR or to:

Reinhausen GmbH

Falkensteinstraße 8

93059 Regensburg

A Attachment

A.1 Parameter list

Parameters	Setting range	Factory setting	Setting
P1: Desired voltage	84...266 V	225 V	
P2: Normal regulation			
P2.1: Bandwidth B1	0.5...8 %	2 %	
P2.2: Delay time T1	5...1800 s	10 s	
P3: Fast regulation			
P3.1: Bandwidth B2	3 %...9 %, off[1]	4 %	
P3.2: Delay time T2	2 s... (T1-1 s/5 s)[2]	2 s	
P4: Voltage blocking			
P4.1: Undervoltage blocking	84...266 V	84 V	
P4.2: Overvoltage blocking	84...266 V	266 V	
P5: Blocking contact	0 = inactive, 1 = active	0	
P6: Target position for loss of voltage			
P6.1: Target position	1...9(17)	1	
P6.2: Function	0 = inactive, 1 = active	0	
P7: Number of operating positions	9 or 17	9	
P8: Regulating range			
P8.1: Lowest operating position	1...9 (17)[3]	1	
P8.2: Highest operating position	1...9 (17)	9	
P9: Remote behavior	0 = local, 1 = remote	1	
P10: Password protection			
P10.1: Password	0...999	0	
P10.2: Activate password protection	0 = inactive,1 = active	0	

[1] Bandwidth B2 is always at least 0.5 % larger than bandwidth B1
[2] Delay time T2 is always at least one second less than T1
[3] Depending on the number of tap positions of the on-load tap-changer

Functions	Setting range	Factory setting	Setting
F1: Automatic adjustment			
F1.1: Automatic adjustment			
F1.2: Manual adjustment n-1			
F1.3: Manual adjustment n+1			
F2: Remaining life of the energy accumulator			
F3: LED function test			
F5: Invert travel commands	0 = inactive, 1 = active	0	
F6: Read out software version			
F7: Error relay			
F7.1 Error relay E1	0 = inactive, 1 = active	1	
F7.2 Error relay E2	0 = inactive, 1 = active	1	
F8: Factory setting			
F9: Display control parameters			