



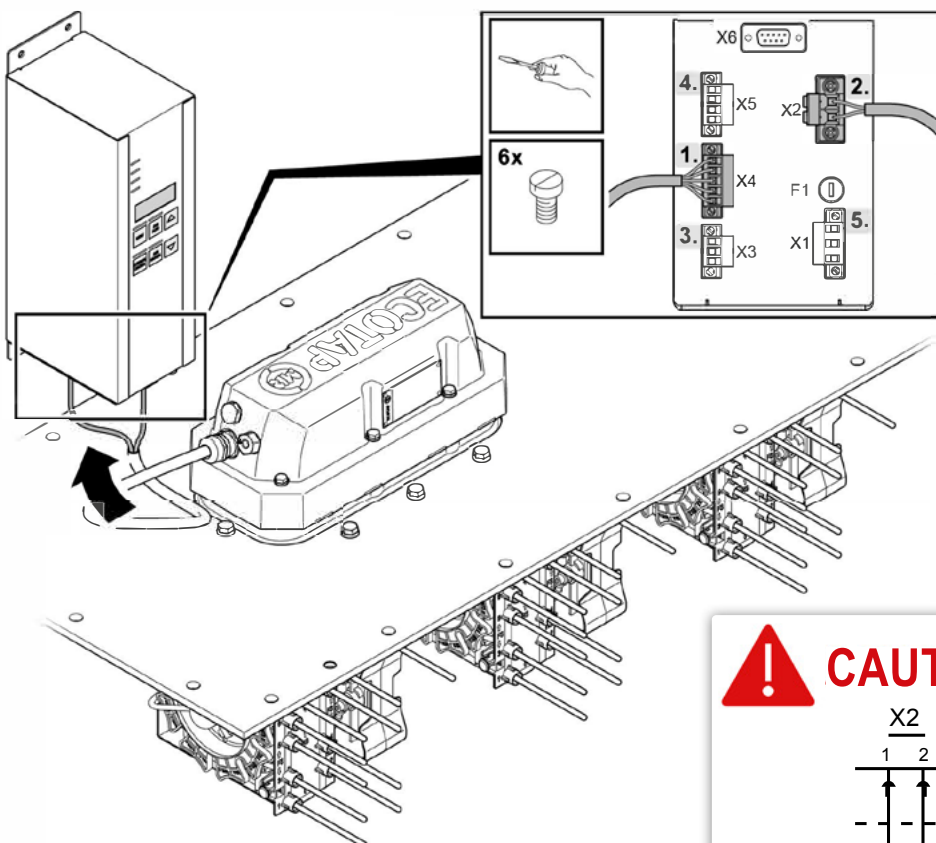
COMMISSIONING GUIDE

MOTOR-DRIVE AND CONTROL UNIT ECOTAP® VPD® MD&C

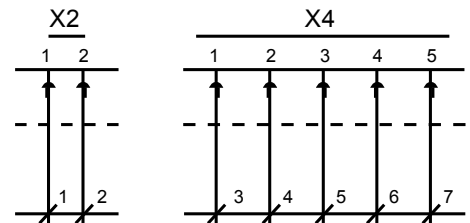
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1. Connect the control unit ECOTAP® VPD® CONTROL



CAUTION



CAUTION

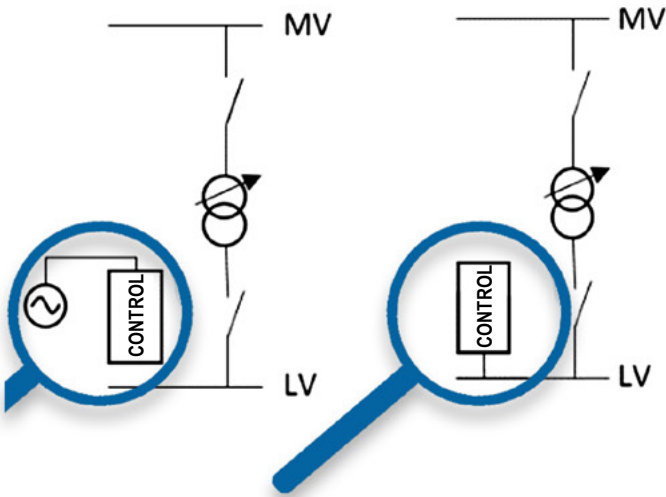


If you supply the device via a voltage transformer, take appropriate measures to protect against electric shock, as the VT has no bearing on the protective conductor.

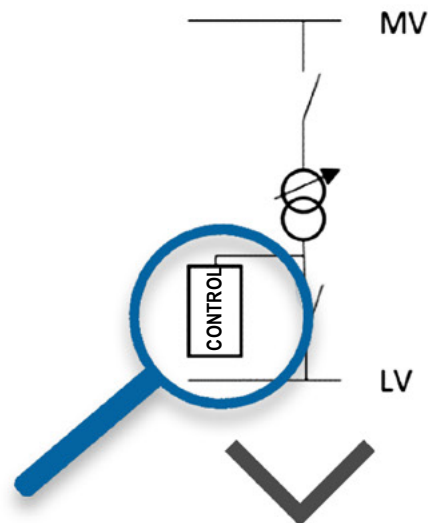
Take suitable measures to protect against electric shock in accordance with IEC 61140 as well as the local connection regulations.

2. Possibilities of connecting the power supply of the control unit

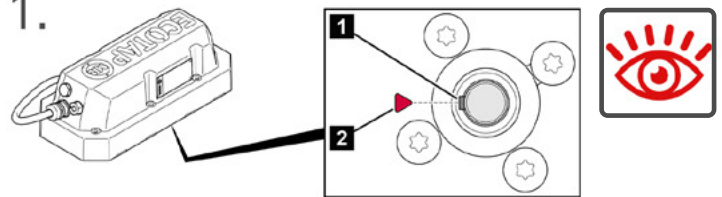
A) / B)



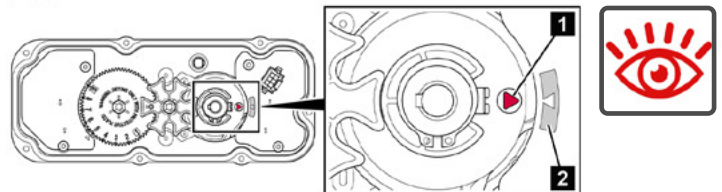
C)



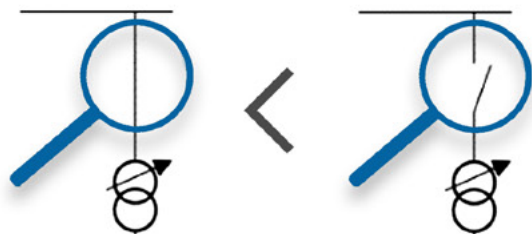
1.



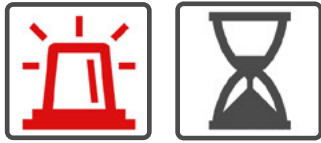
2.



3.



3 Activate control unit

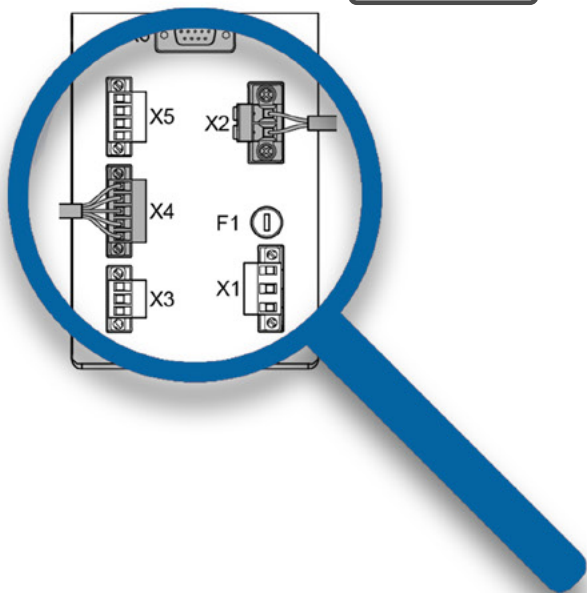




E2.6

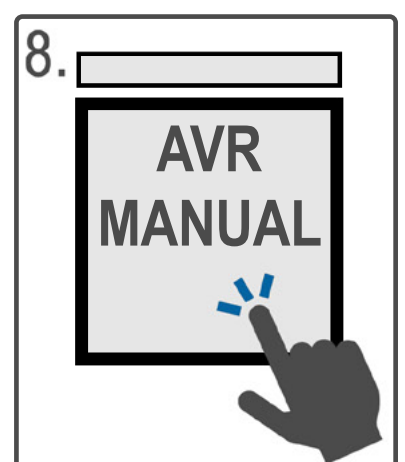
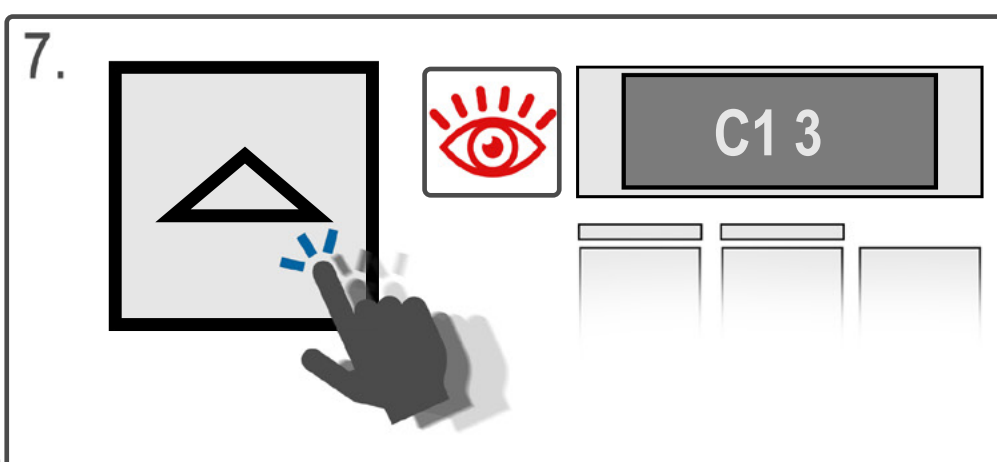
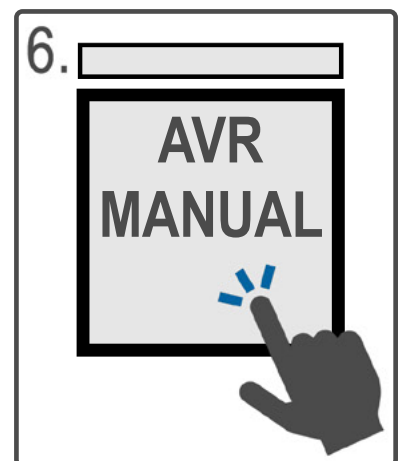
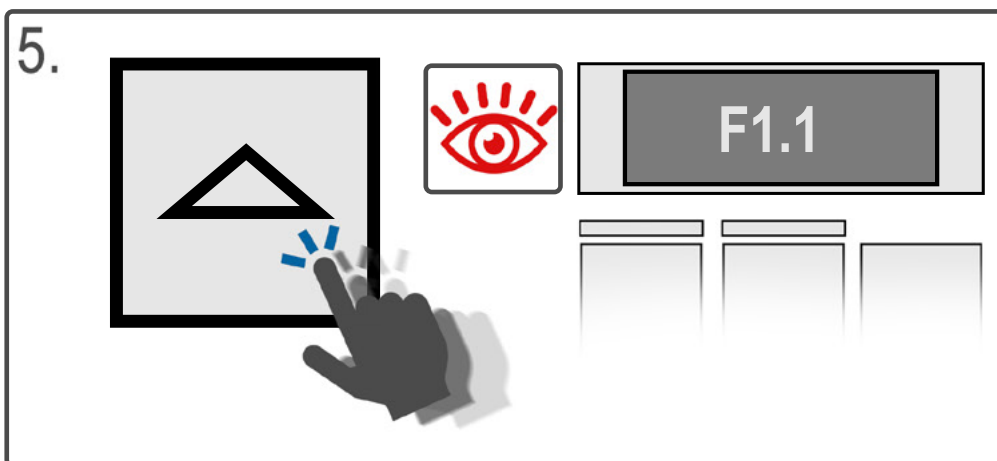
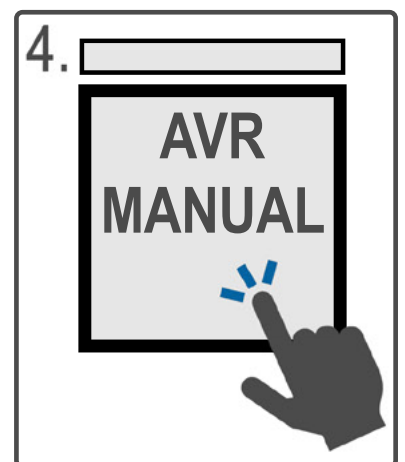
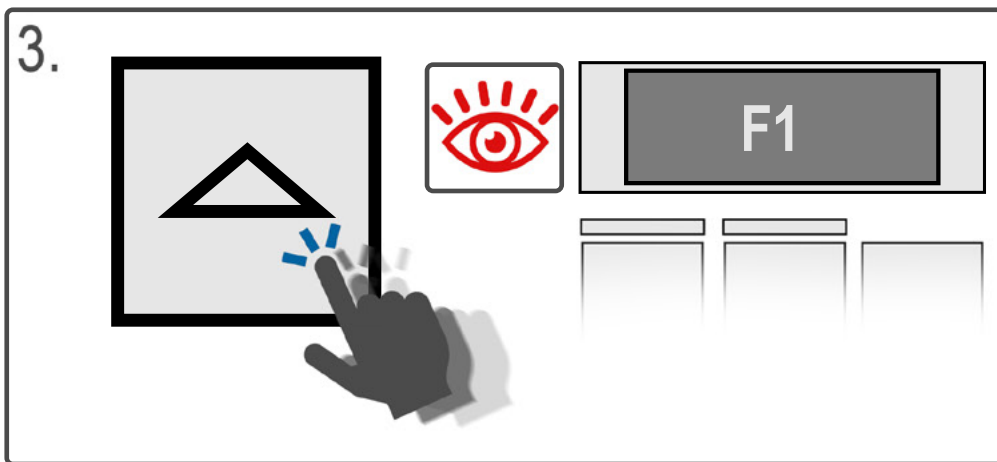
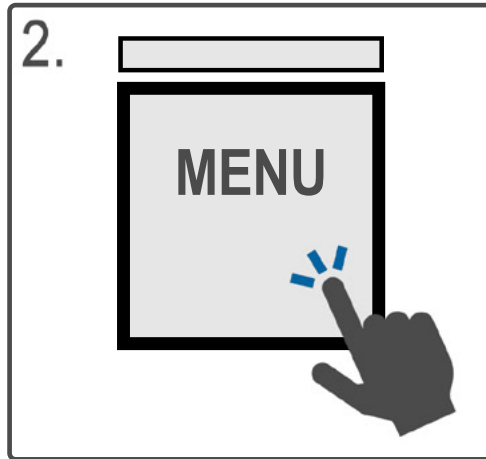
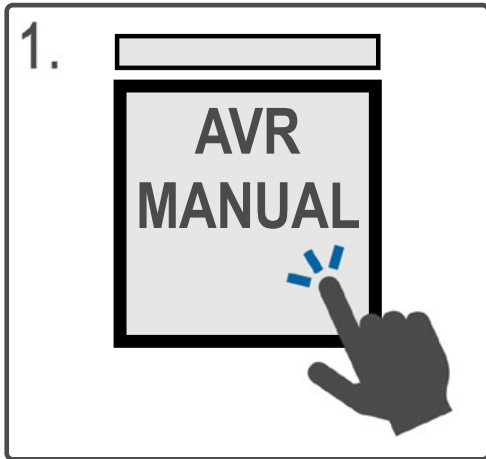


E4.1

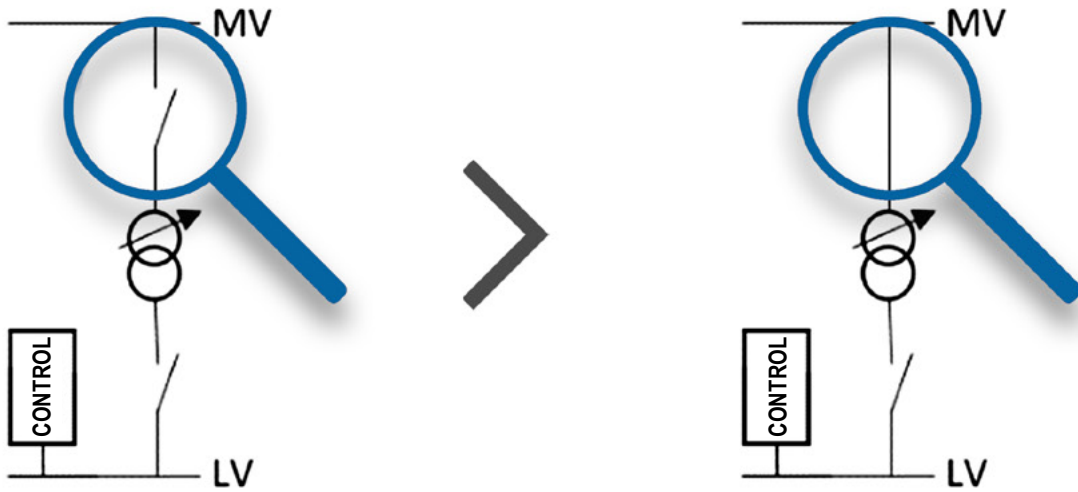


> 4. Carry out automatic adjustment

4. Carry out automatic adjustment

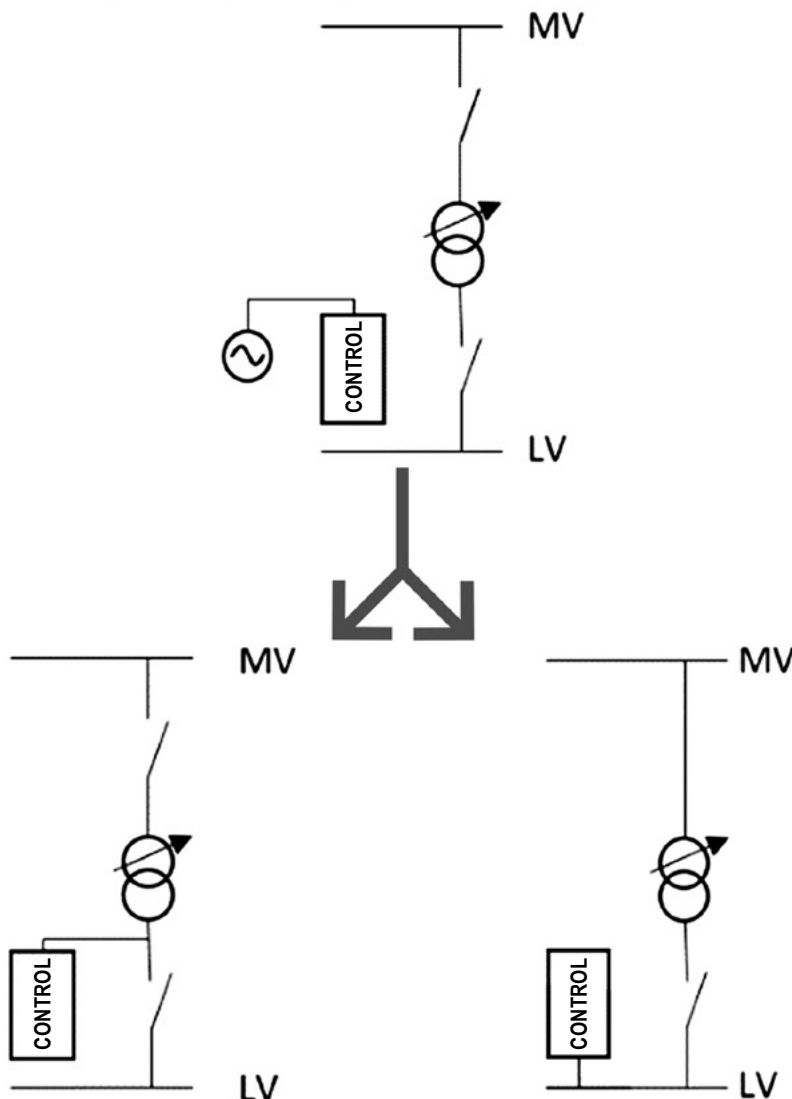


5. Switch on MV side



5

6. Reconnect the power supply of the control unit from A) to B) or C)



6



Caution

The voltage supply has to be supplied by the controlled transformer itself during operation, because this signal is also used as the measurement signal.

If you supply the device via a voltage transformer, take appropriate measures to protect against electric shock, as the VT has no bearing on the protective conductor.

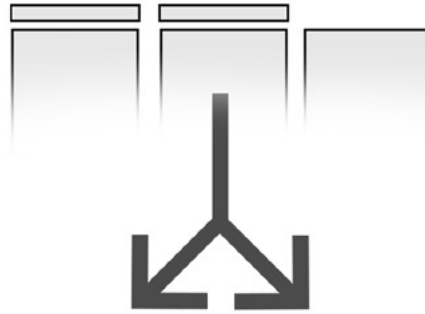
7. Adjust LV voltage level manually



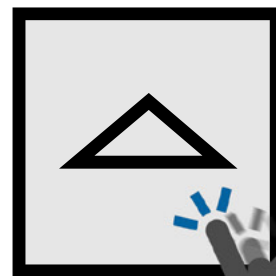
$$U_{\text{meas}} = U_{\text{target}} ?$$



U_{target}



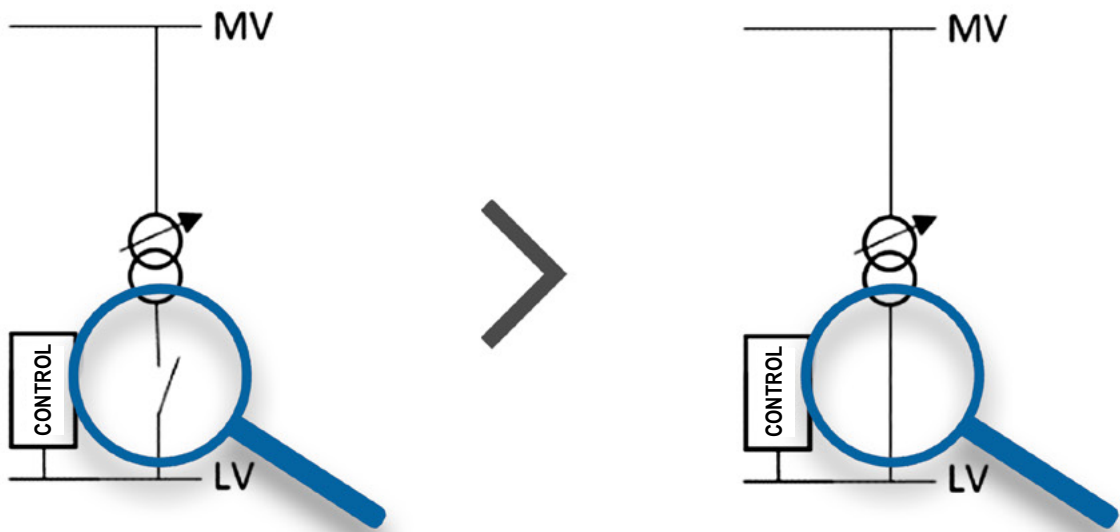
AVR
MANUAL



$$U_{\text{meas}} = U_{\text{target}}$$



8. Switch on low voltage



8

9. Perform trial tap-change operations

TARGET : $U_{\text{pos } n+1} > U_{\text{pos } n}$

1. pos n

2.

3.

4. pos n + 1

9-1



$$U_{\text{pos } n+1} > U_{\text{pos } n}$$

$$U_{\text{pos } n+1} < U_{\text{pos } n}$$



change parameter F5 to invert the switching direction



9-2

10. Set parameters for automatic voltage regulation



Parameter overview without function DS

Parameter	Setting range	Factory settings	Current settings
P1: Desired voltage	100...240 V	230 V	
P2: Normal regulation			
P2.1: Bandwidth B1	0.5...8%	2%	
P2.2: Delay time T1	3...1800 s	10 s	
P3: Fast regulation			
P3.1: Bandwidth B2	3...9%; off ¹⁾	4%	
P3.2: Delay time T2	2 s... $(T1 - 1 \text{ s} / 5 \text{ s})^{2)}$	2 s	
P4: Voltage blocking			
P4.1: Undervoltage blocking	85...263 V	85 V	
P4.2: Overvoltage blocking	86...264 V	264 V	
P4.3: Activate/deactivate voltage blocking	0 = inactive 1 = active	0	
P5: Blocking function	0 = inactive 1 = active AUTO/EXTERNAL 2 = active MANUAL/AUTO/EXTERNAL	0	

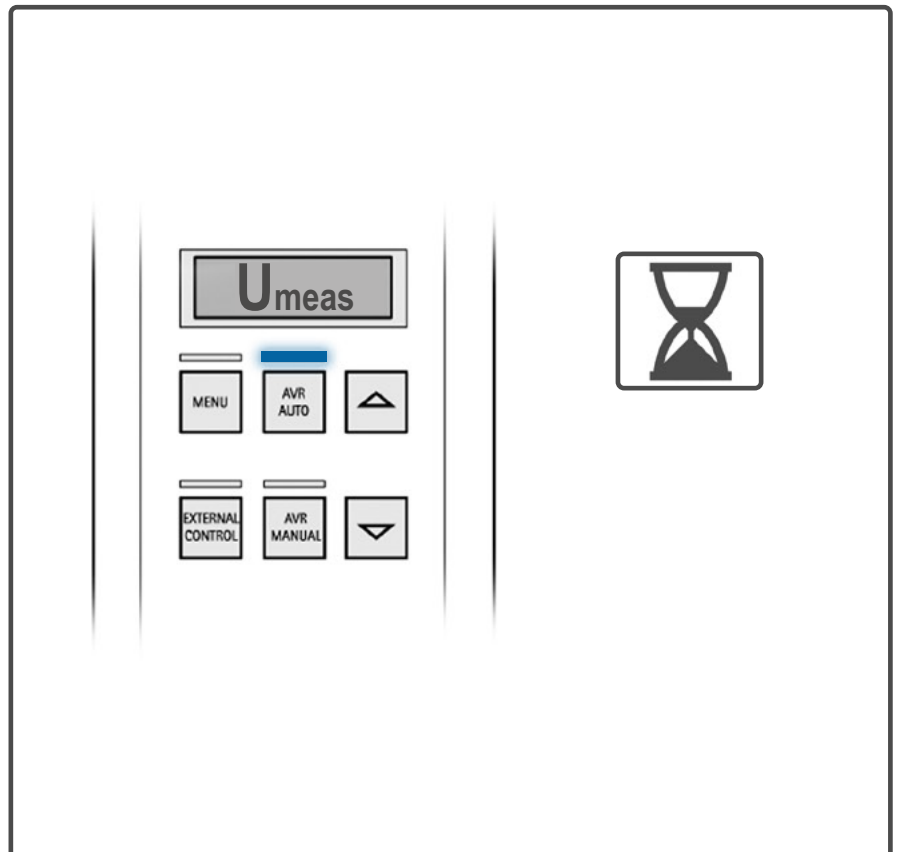
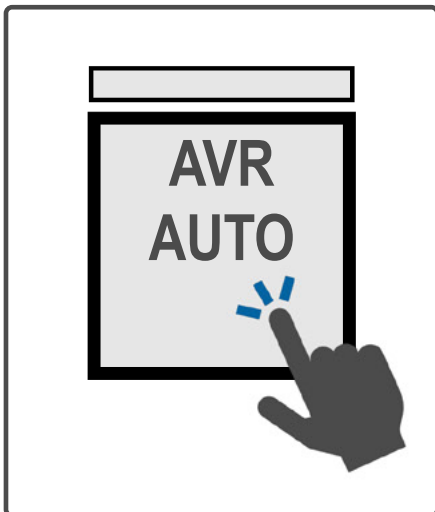
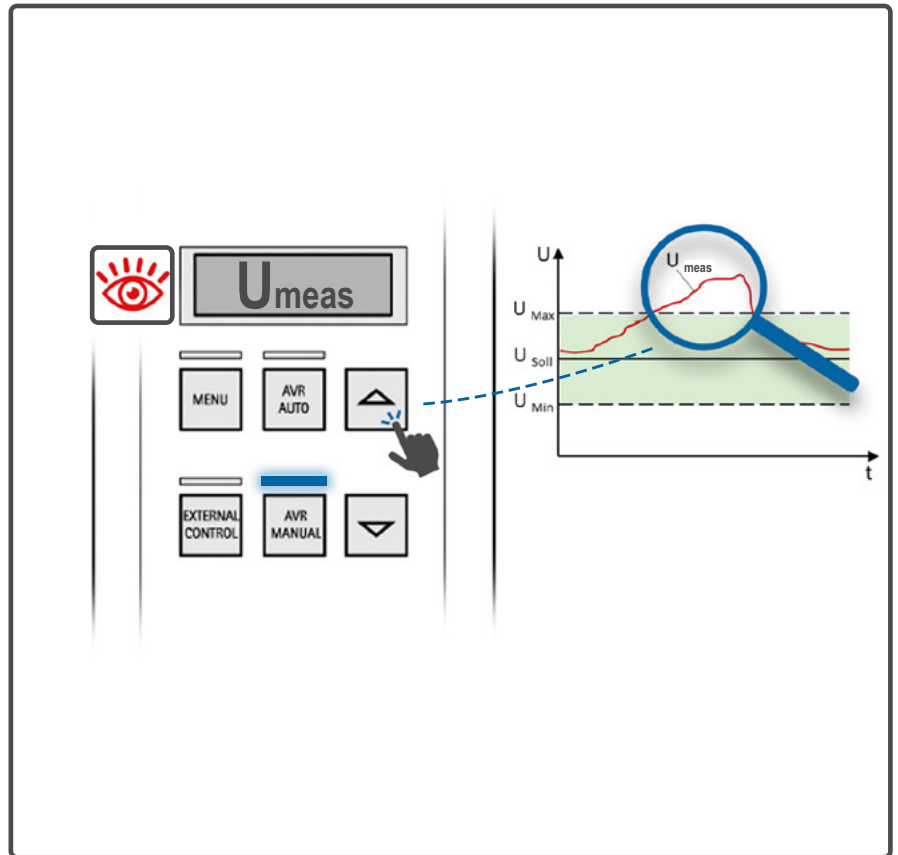
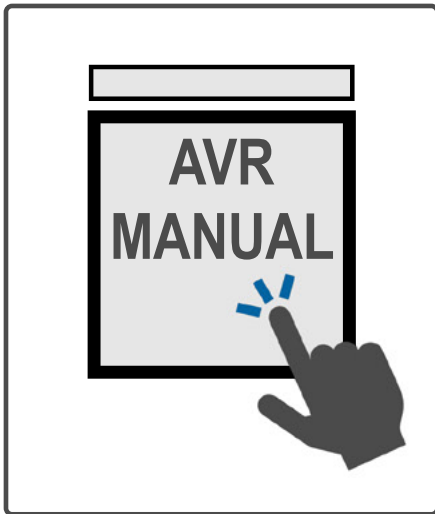


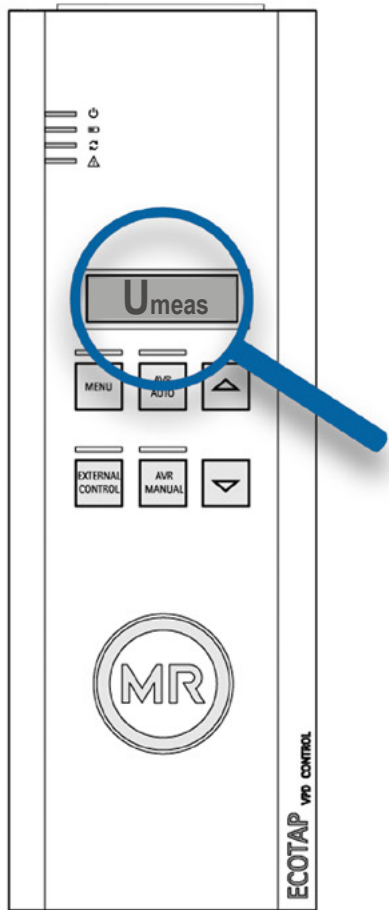
set parameters



10

11. Check automatic voltage regulation





$U_{max} > U_{meas} > U_{min}$



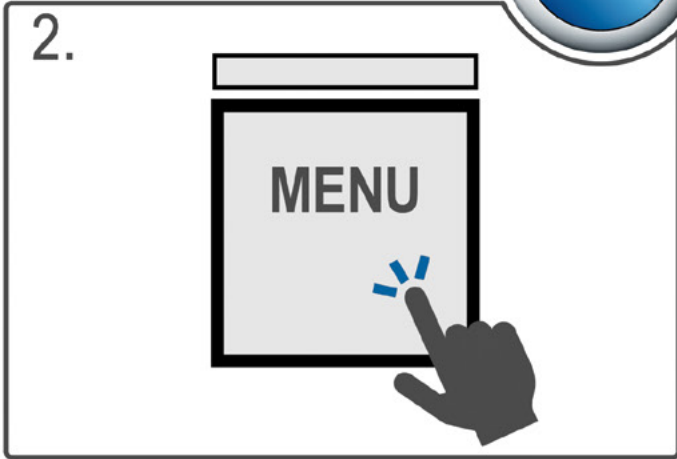
$U_{meas} < U_{min} / > U_{max}$



edit parameters

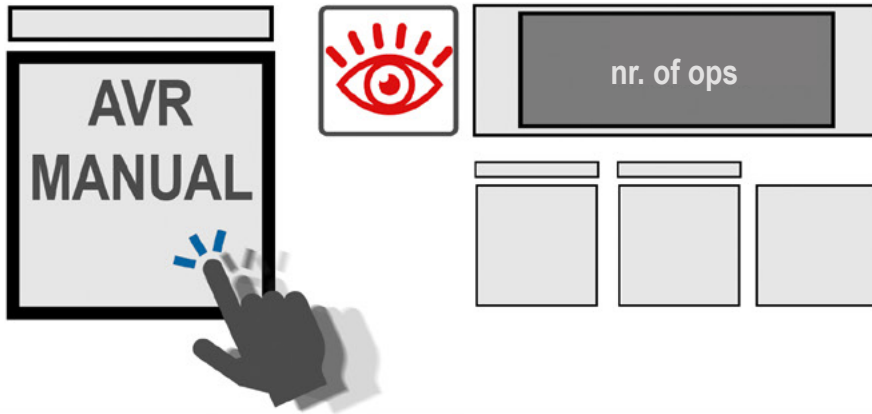


12. For troubleshooting purpose read out event memory

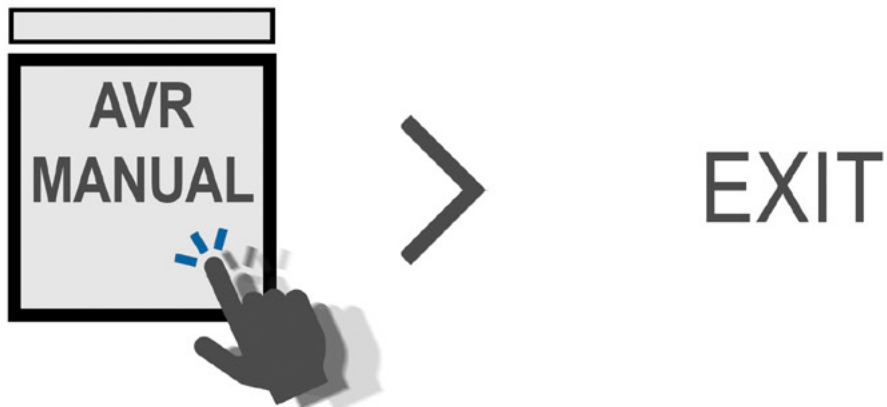




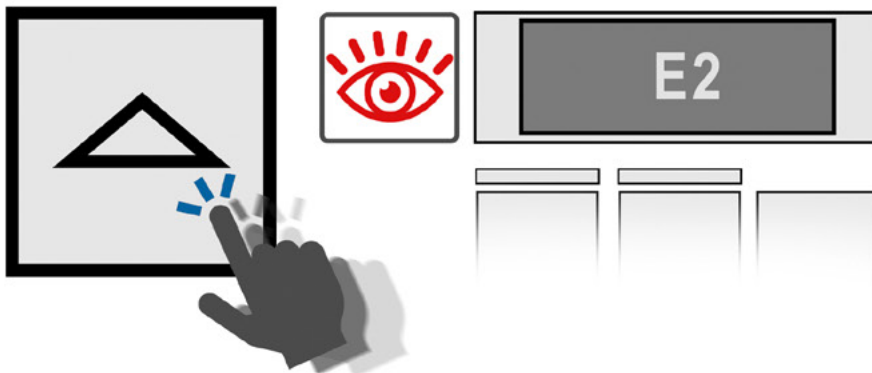
6.



7.



8.



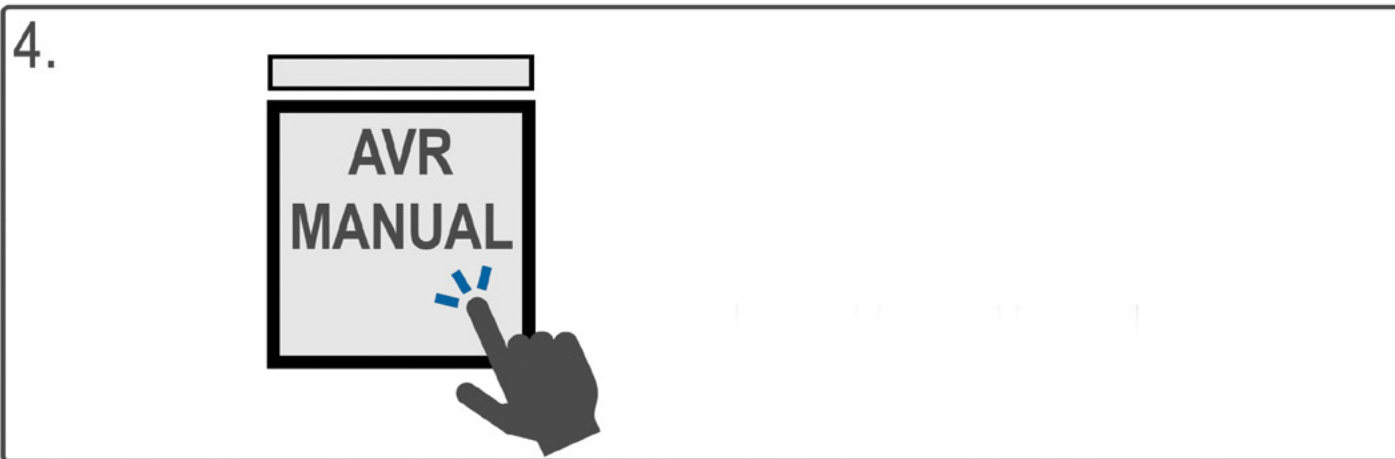
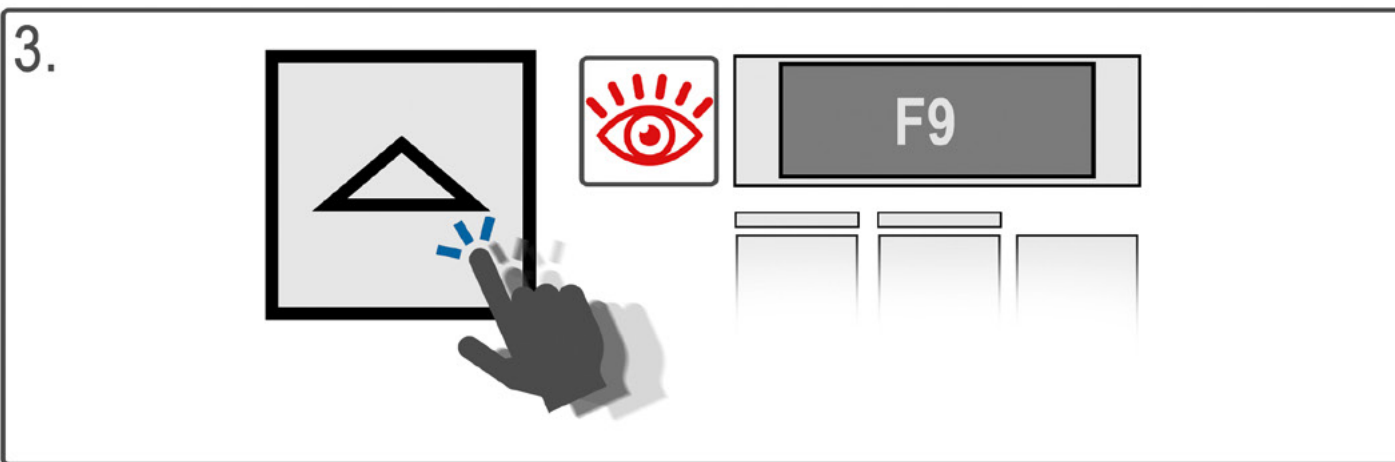
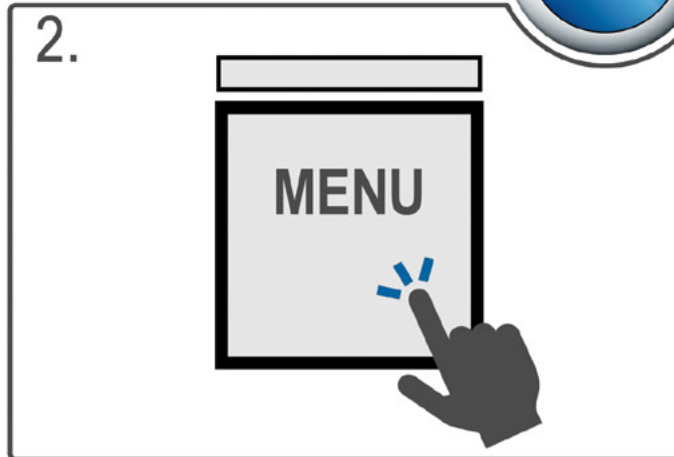
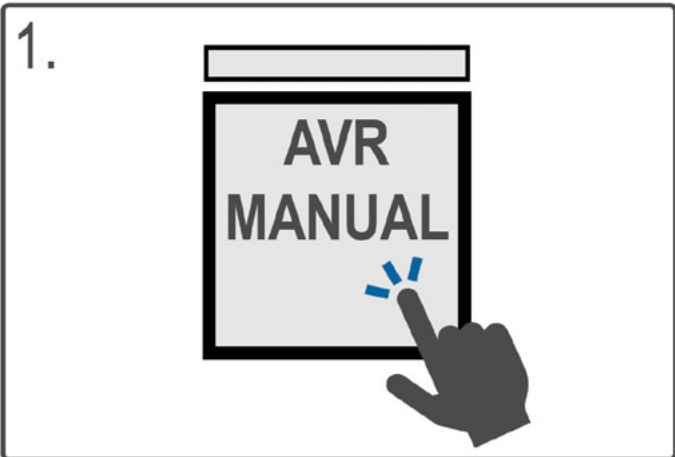
12-1



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12-3

13. Read out the parameters



Parameter	Setting range	Factory settings	Current settings
P1: Desired voltage	100...240 V	230 V	
P2: Normal regulation			
P2.1: Bandwidth B1	0.5...8%	2%	
P2.2: Delay time T1	3...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	85...263 V	85 V	
P4.2: Overvoltage blocking	86...264 V	264 V	
P4.3: Activate/deactivate voltage blocking	0 = inactive 1 = active	0	
P5: Blocking function	0 = inactive 1 = active AUTO/EXTERNAL 2 = active MANUAL/AUTO/EXTERNAL	0	
P6: Target position for loss of voltage			
P6.1: Set target position	1...9 (17)	1	
P6.2 Activate/deactivate 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) ³⁾	9	
P9: Remote behavior	0 = local, 1 = remote	1	
P10: Password protection			
P10.1: Set password	0...255	0	
P10.2: Activate/deactivate password protection	0 = inactive, 1 = active	0 = inactive	
F2: Remaining life of the energy accumulator	-	-	
F5: Invert travel commands	0 = inactive, 1 = active	0 = inactive	
F6: Read out software version	-	-	
F7: Error relay			
F7.1: Error relay E1	0 = inactive, 1 = active	1 = active	
F7.2: Error relay E2	0 = inactive, 1 = active	1 = active	

¹⁾ The bandwidth B2 is always at least 0.5% greater than the bandwidth B1.

²⁾ The delay time T2 is always at least 1 s less than T1 (if T1 ≤ 10 s) or 5 s less than T1 (if T1 > 10 s).

³⁾ Depending on the number of tap positions of the on-load tap-changer.