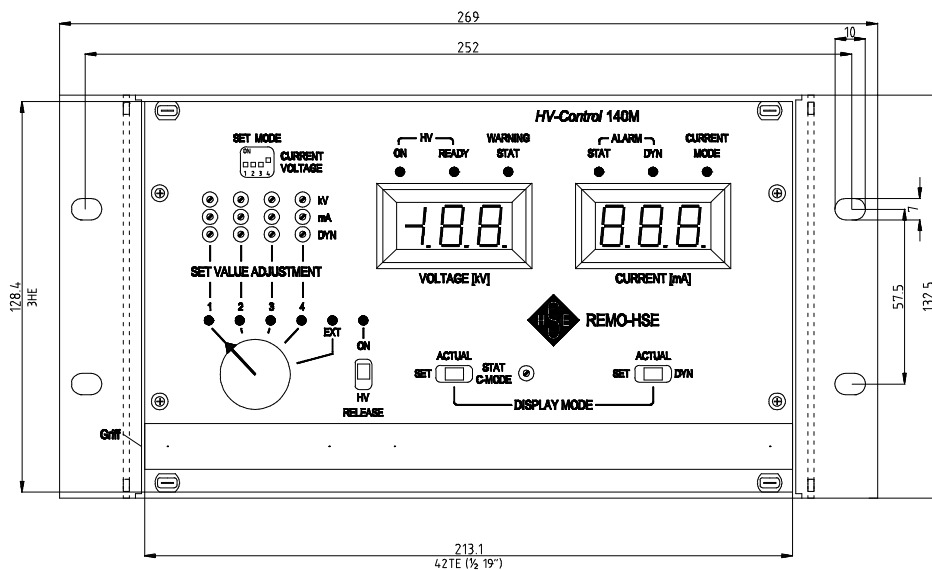
 <b>REMO-HSE</b>	<i>HV-Control 140M</i>	<b>Technical Data Manual</b>
	<b>Control Equipment for High Voltage Units</b>	

Description and range of application: Control Equipment for the high voltage units HE-36-100k-1m and HE-36-(–100k)-1m, which are used in liquid paint and powder coating systems. An use with the high voltage units HE-36-120k-1m and HE-36-(–120k)-1m is also possible, but the control equipment **HV-Control 140M** must be adjusted in a different way in the factory.

Operational mode: Voltage controlled with dI/dt-cuttoff  
Current controlled with dU/dt-cuttoff.



Front Panel Insert Module

Mechanical Dimensions:  $\pm 0,5$  mm

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## HV-Control 140M

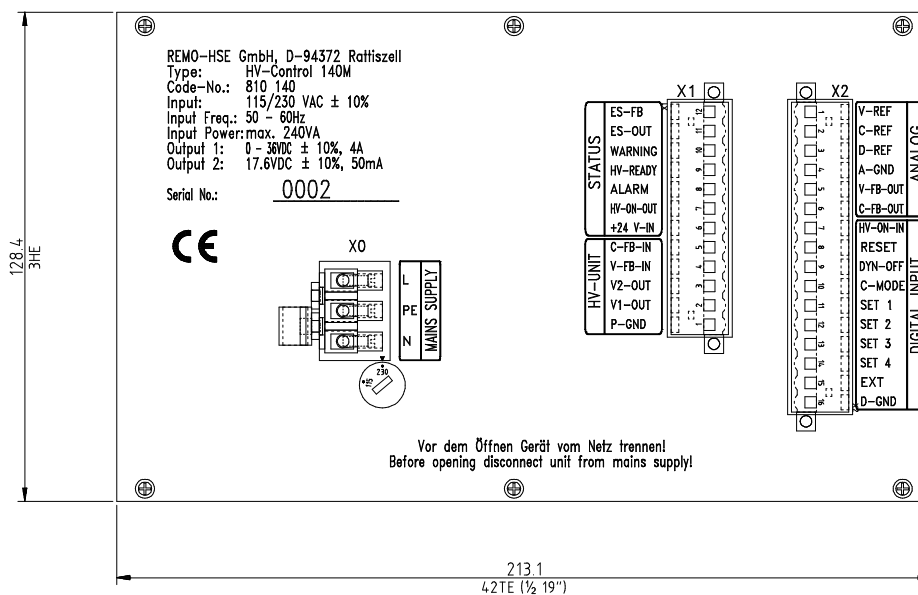
Control Equipment  
for High Voltage Units

Technical Data  
Manual

### Technical Specifications:

#### General Data

Input voltage:	115/230 V AC ( $\pm 10\%$ )
Input frequency:	50 to 60 Hz
Input power:	max. 240 VA
Output 1:	0 to 36 V DC $\pm 10\%$ ; 4 A
Output 2:	17,6 V DC $\pm 10\%$ ; 0,05 A
Subrack without fixing angle:	$\frac{1}{2}$ -19"-insert module design: 3 U; 42 HP; W = 222 mm; H = 133 mm; D = 237 mm
Degree of protection:	IP 20
Operating temperature range:	0 to 45°C
Weight:	approx. 4,5 kg



Subrack Rear Panel


Mechanical Dimensions:  $\pm 0,5$  mm

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<b>In- /Outputs</b>		
<b>Analog inputs:</b>		
Reference value of the high voltage:	1 to 10 V DC $\cong$ 0 to 100 kV; R <sub>i</sub> approx. 20 k $\Omega$	
Reference value of the HV-current:	0 to 10 V DC $\cong$ 0 to 1 mA; R <sub>i</sub> approx. 20 k $\Omega$	
Reference value of the dx/dt-cutoff at dl/dt-cutoff:	0 to 10 V DC $\cong$ 0 to 1 mA/s oder	
at dU/dt-cutoff:	0 to 10 V DC $\cong$ 0 to 1 MV/s; R <sub>i</sub> approx. 20 k $\Omega$	
Actual value of voltage of the high voltage unit:	0 to 10 V $\cong$ 0 to 100 kV	
Actual value of current of the high voltage unit:	0 to 10 V $\cong$ 0 to 1 mA	
<b>Analog outputs:</b>		
Actual value of the high voltage unit:	0 to 10 V $\cong$ 0 to 100 kV	
Actual value of current of the high voltage unit:	0 to 10 V $\cong$ 0 to 1 mA	
Output resistance:	approx. 100 $\Omega$ each	
Max. output current:	2 mA each	
<b>Digital inputs:</b>		
Earth switch feedback:	+ 24 V DC; R <sub>i</sub> approx. 10 k $\Omega$	
High voltage on:	+ 24 V DC; R <sub>i</sub> approx. 10 k $\Omega$	
Reset:	+ 24 V DC; R <sub>i</sub> approx. 5 k $\Omega$	
dx/dt-cutoff off:	+ 24 V DC; R <sub>i</sub> approx. 10 k $\Omega$	
C-mode on:	+ 24 V DC; R <sub>i</sub> approx. 10 k $\Omega$	
Parameter-set 1:	+ 24 V DC; R <sub>i</sub> approx. 1 k $\Omega$	
Parameter set 2:	+ 24 V DC; R <sub>i</sub> approx. 1 k $\Omega$	
Parameter set 3:	+ 24 V DC; R <sub>i</sub> approx. 1 k $\Omega$	
Parameter set 4:	+ 24 V DC; R <sub>i</sub> approx. 1 k $\Omega$	
Parameter set external:	+ 24 V DC; R <sub>i</sub> approx. 1 k $\Omega$	
<b>Digital outputs:</b>		
High voltage on:	+ 24 V DC; max. 100 mA	
High voltage failure:	+ 24 V DC; max. 100 mA	
80 %-value:	+ 24 V DC; max. 100 mA	
Warning:	+ 24 V DC; max. 100 mA	
Earth switch:	+ 24 V DC; max. 100 mA	
External supply voltage: Status:	+ 24 V DC; max. 500 mA	

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<b>Control- and Display Unit</b>	
Control Unit:	<ul style="list-style-type: none"> <li>- 4 manual parameter sets or 5 parameter sets can be selected by a +24 V control signal</li> <li>- 4 parameter sets with voltage, current and dx/dt-reference values V/C-operation mode selection, each</li> <li>1 parameter set with external voltage, current and dx/dt reference value and V/C-operation mode selection</li> </ul>
High voltage display:	2½ digits max. –199 kV, color: green, height: 13 mm, selectable reference value, actual value and threshold of dx/dt cutoff
HV-current display:	3 digits max. 9.99 mA, color: red, height: 13 mm, selectable reference value, actual value and threshold of dx/dt cutoff
Status - indication:	5 Parameter sets, HV release, HV on, HV ready, warning, Alarm V/I statically, Alarm V/I dynamically, C-mode
Static threshold of lower V-cutoff in C-mode:	Adjustable from 0 to 50 kV

<b>Additional Features</b>	
C-mode:	Selectable by a +24 V control signal or it can be changed for parameter set 1-4 individually
HV rise time:	Internally adjustable from approx. 1 to 10 s
Delay of earth switch output cutoff:	Internally adjustable from approx. 0.1 to 5 s
Safety devices:	Over-current limitation output 1; Over-voltage cutoff; Over-current cutoff; Cutoff at line interruption
V-mode:	Over-current cutoff at reference value; dl/dt-cutoff
C-mode:	Under-voltage cutoff; dU/dt-cutoff
Error message at HV-failure:	By collective error message output and LED status indication
dx/dt-cutoff:	Range of dl/dt-cutoff: 0 to 1 mA/s; Range of dU/dt-cutoff: 0.01 to 1 MV/s
Auxiliary voltage output:	Supply voltage for the electronic of the high voltage unit HE-36-(–100k)-1m or HE-36-100k-1m

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<b>Connections</b>	
Mains connection:	3-pole plug-in screw terminal; rated cross section: max. 2,5mm <sup>2</sup>
Control board for control inputs:	16-pole plug-in screw terminal; rated cross section: max. 2.5mm <sup>2</sup> /AWG 26-14
Power board for supply voltage and control outputs:	12-pole plug-in screw terminal; rated cross section: max. 2.5mm <sup>2</sup> /AWG 26-14

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