

## High Voltage Power Supply EPS series 150 W

Technical data	EPX <sup>1</sup> 10 157 24 5	EPX <sup>1</sup> 20 756 24 5	EPX <sup>1</sup> 40 406 24 5	EPX <sup>1</sup> 80 206 24 5	EPX <sup>1</sup> 120 126 24 5	EPX <sup>1</sup> 150 106 24 5	EPX <sup>1</sup> 200 755 24 5	EPX <sup>1</sup> 300 505 24 5	
V <sub>nom</sub> [kV]	) <sup>1</sup> X = p:	+ 1	+ 2	+ 4	+ 8	+ 12	+ 15	+ 20	+ 30
	) <sup>1</sup> X = n:	- 1	- 2	- 4	- 8	- 12	- 15	- 20	- 30
I <sub>nom</sub> [mA]	150	75	40	20	12,5	10	7,5	5	
Internal capacitor [nF]	1100	600	55	45	20	18	9,5	2,6	
Damping resistor [kΩ]	0,1	0,1	0,3	1	6	6	10	10	
Discharge resistor [MΩ]	8,5	8,5	27,5	250	330	330	330	330	
Ripple & noise (f > 10 Hz)	< 0,5 V <sub>P-P</sub>	< 0,8 V <sub>P-P</sub>	< 2 V <sub>P-P</sub>	< 4 V <sub>P-P</sub>	< 5 V <sub>P-P</sub>	< 6 V <sub>P-P</sub>	< 5 V <sub>P-P</sub>	< 15 V <sub>P-P</sub>	
Stability	$< 2 * 10^{-4} * V_{nom} \quad (\Delta R_{LOAD})$				$< 1 * 10^{-4} * V_{nom} \quad (\Delta V_{IN})$				
Accuracy	$\pm 1 \% * V_{nom}$				$\pm 1 \% * I_{nom}$				
Temp. coefficient	$2 * 10^{-4}/K$								
Errors (stored)	<ul style="list-style-type: none"> <li>- Supply over and under voltage, over temperature, energizing the power supply without activation the Inhibit signal</li> <li>- Errors can be reset by activating Inhibit (pin 3 of AIO -&gt; low)</li> </ul>								
<b>Attention !</b>	<ul style="list-style-type: none"> <li>- Over voltage protection</li> <li>- Internal temperature monitoring with over temperature switching-off,</li> <li>- INHIBIT signal for switching-off the high voltage generation immediately</li> <li>- Protection against inadvertent activation the high voltage generation after energizing the power supply</li> </ul>								
There is only one short circuit or arc per second allowed!									

## High Voltage Power Supply EPS C-CHARGER series 150 W

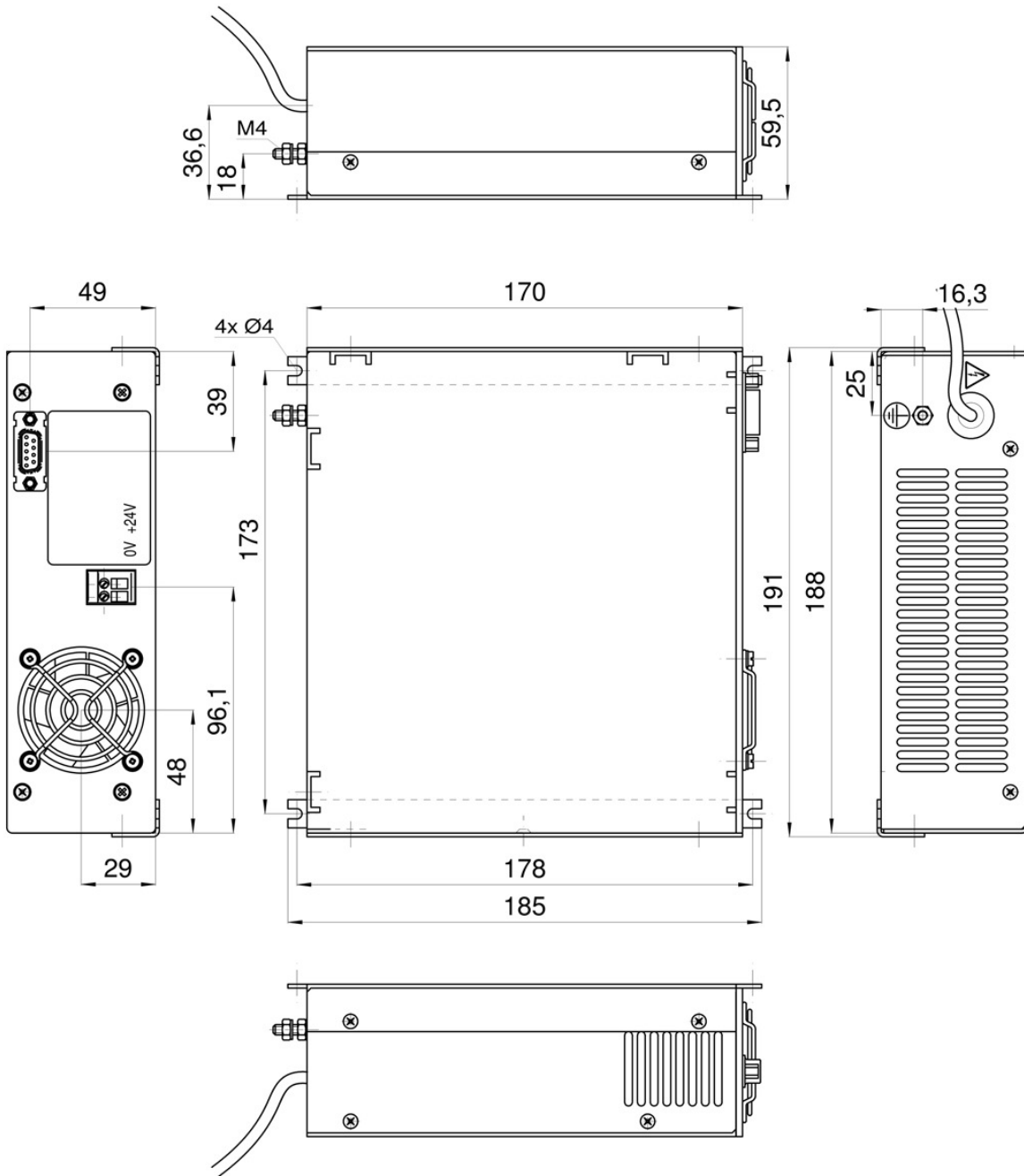
C-charger: charging with  $I_{OUT} = \text{constant}$  according  $V_{I\_SET}$  up to  $V_{V\_SET}$

Technical data	EPX <sup>1)</sup> 10 157 24 5_CLD	EPX <sup>1)</sup> 20 756 24 5_CLD	EPX <sup>1)</sup> 40 406 24 5_CLD	EPX <sup>1)</sup> 80 206 24 5_CLD	EPX <sup>1)</sup> 120 126 24 5_CLD	EPX <sup>1)</sup> 200 755 24 5_CLD	EPX <sup>1)</sup> 300 505 24 5_CLD	
$V_{nom}$ [kV]	<sup>1)</sup> $x = p:$	+ 1	+ 2	+ 4	+ 8	+ 12	+ 20	+ 30
	<sup>1)</sup> $x = n:$	- 1	- 2	- 4	- 8	- 12	- 20	- 30
$I_{nom}$ [mA]	150	75	40	20	12,5	7,5	5	
Internal capacitor [nF]	220	200	13,6	7,5	3,5	2,8	1,1	
Damping resistor [kΩ]	0,11	0,4	1	4	4	10	10	
Discharge resistor [MΩ]	24	8,5	28	250	330	330	330	
Ripple and noise	< 3% * $V_{nom}$ on resistive load at nominal load							
Accuracy	$\pm 1 \% * V_{nom}$			$\pm 1 \% * I_{nom}$				
Repeat accuracy	< 1 % * $V_{nom}$							
Temp. coefficient	$2 * 10^{-4}/K$							
Errors (stored)	<ul style="list-style-type: none"> <li>- Output over voltage, supply over and under voltage, over temperature, energizing the power supply without activation the Inhibit signal</li> <li>- Errors can be reset by activating Inhibit (pin 3 of AIO -&gt; low)</li> </ul>							
Protection	<ul style="list-style-type: none"> <li>- Over voltage protection with switching-off the high voltage generation</li> <li>- Internal temperature monitoring with over temperature switching-off,</li> <li>- INHIBIT signal for switching-off the high voltage generation immediately</li> <li>- Protection against inadvertent activation the high voltage generation after energizing the power supply</li> </ul>							
<b>Attention !</b>	<ul style="list-style-type: none"> <li>- There are only 5 short circuits or arcs per second allowed!.</li> </ul>							

General technical data	
$V_{IN}$	(21 - 29) V-DC / max. 9 A (see 2-pin screw terminal)
Control	<ul style="list-style-type: none"> <li>- with built-in analog I/O (<math>V_{SET}</math> and <math>V_{MON}</math>)</li> <li>- with signal HV-ON or HV-OFF: <ul style="list-style-type: none"> <li>• EPS: High voltage switching-on or -off with ramp (4s up to <math>V_{OUTnom}</math>)</li> <li>• EPS C-Charger: High voltage switching-on or -off without ramp</li> </ul> </li> </ul>
Operating temperature	-25°C up to +65°C <b>under full load conditions !</b>
Storage temperature	-30°C up to +85°C
Cooling	Forced cooling with integrated fan <b>It is not allowed to cover any air input or output slots!</b>
HV output	Shielded HV cable, length 600 mm
Dimension (W/H/D)	Metal box : (188/60/170) mm without assembly bracket
2-pin screw terminal	Right pin: PWR_+ 24V    Left pin: PWR_0V (internal connected with $V_{SIG\_0V}$ and GND, LOW potential)
Earth connection /GND	Screw bolt M4 on the rear

Analog interface (AIO), male D-SUB-9 connector			
Pin	Name	Description	
Pin 1	GND	0 V	connected with GND and 0 V supply
Pin 2	IMON	Monitor output current	$I_{out} = 0$ to $I_{nom}$ $\Rightarrow$ $V_{MON\_I} = 0$ to 5 V <sup>1)</sup>
Pin 3	INH	HV inhibited / enabled error reset	TTL level    low, activ    0 V – 1 V high, inactiv    3.5 V – 10 V or open
Pin 4	ISET	Set value output current	$V_{SET\_I} = 0$ to 5 V <sup>1)</sup> $\Rightarrow$ $I_{out} = 0$ to $I_{Nom}$
Pin 5	ON	HV on / off	TTL level    low, HV on    0 V – 1 V high, HV off    3.5 V – 10 V or open
Pin 6	0V	Return of pins 2-9	connected with GND and 0 V supply
Pin 7	VMON	Monitor output voltage	$V_{out} = 0$ to $V_{nom}$ $\Rightarrow$ $V_{MON\_V} = 0$ to 5 V <sup>1)</sup>
Pin 8	VSET	Set value output voltage	$V_{SET\_V} = 0$ to 5 V <sup>1)</sup> $\Rightarrow$ $V_{out} = 0$ to $V_{nom}$
Pin 9	REF	reference voltage	$V_{Ref} = 5.0$ V <sup>1)</sup> at 10 k $\Omega$ load

<sup>1)</sup> optional 10 V



We reserve the right to make changes in the product design without reservation and without notification to the user.  
Filename EPx150W\_english; Version 1.01 dated 2015-06-15