

## Features

- Input Voltage Range: 600 VDC/750VDC: 420VDC - 975 VDC
- Ambient Temperature: -40C to +85C (EN 50155)
- High Efficiency
- Isolation up to 7000VDC



## Description

The MHVC Series converts 600VDC/750VDC from the third rail to 24VDC, ideal for supplying points, signal lamps and electronic monitoring. The MHVC250 Series can be used as a self-starting module for trams or trolley buses with discharged batteries, avoiding towing. The rugged design and high quality components guarantees high reliability in transit vehicles, even under severe shock and vibration conditions. High efficiency allows for performance without the need for forced air over an ultra wide temperature range of -40C to 85C.

## Specifications

Input	Parameter	Conditions	Data
$V_{in}$	DC Input Voltage	Continuous	600V / 750V: 420V to 975V
		$t \leq 2$ s	600V / 750V: 375V to 420V
		$t \leq 2$ s	600V / 750V: 975V to 1125V
	Stand-by Current		$\leq 25$ mA
$I_{in\ max}$	Max. Input Current	$V_{in} = 375$ VDC	$\leq 950$ mA
	Transient Filter		according to IEC1287-1
	Input Fuse		1.25 A / 3.0 kV (8 x 85 mm) (vibration resistant)

Output	Parameter	Conditions	Data
$V_{out}$	Voltage Deviation	Preset at factory	$\pm 1.5$ %
$V_{out}$	Voltage Accuracy	S ( $U_{in}$ , $I_{out}$ , $T_A$ , t)	$\leq 3.0$ %
$V_{LF/HF}$	Ripple & Noise	$U_{in} = \text{min/max}$ , $T_A = \text{min/max}$ 300 kHz, 20 MHz	$\leq 600$ mV <sub>pp</sub>
		Dynamic Control Deviation	$I_{out} = 50...100...50$ % dynamic
$t_r$	Transient Response Time	$I_{out} = 50...100...50$ % ohmic load	$\leq 3.0$ ms
$I_{max}$	Overload Characteristics		$\geq 1,1 \times I_{out\ nom}$
	Start-up Time	nominal load	$\leq 200$ ms
OVP	Overvoltage Protection		5 kW transient (BZW 50-27)
$\epsilon$	Temperature Coefficient	$T_A = -40C$ to $+70C$ (+85C)	0.01 % / K
	No Load Characteristics		No ground load
$P_{over}$	Short Circuit Protection		Continuous
PG	Power Good Signal		Open Collector *
	Shut Down Function		Via output circuit (optional) **

\* Limit value for Open Collector Transistor (connector X200C ref. to -U<sub>out</sub>):  
U<sub>ce</sub>, max  $\leq 70$  V and I<sub>cm</sub>  $\leq 300$  mA. U<sub>out</sub>  $\geq U_{out,nom} \times 0,15$  (18,7 V) --> PG = Low

\*\* Max. external voltage (connectors X200D, X200E): U<sub>EX</sub> = 12...36 VDC, I<sub>EX</sub> < 10 mA  
All data measured at nominal input voltage, full load and ambient temperature of 25 °C (unless otherwise specified).

## General Specifications

General	Parameter	Conditions	Data
$U_{isol}$	Isolation	Input-Output Input-Ground Output-Ground	5.0 kV <sub>AC</sub> (1 Min.) 4.6 kV <sub>AC</sub> 1.0 kV <sub>AC</sub>
	Creepage Distances	Input-Output Input-Ground Output-Ground	≥11 mm ≥8 mm ≥1 mm
	Operating Isolation	Creep Distances	≥5 mm (EN 50124-1)
	Partial Discharge Intermittent Voltage		1.425 VDC
$T_A$	Ambient Temperature		-40C to +70C -40C to +85C (t ≤ 10 Min.)
$T_s$	Storage Temperature		-40C to +100C *
$\Delta T$	Cooling		Free convection
	Protection Type		IP 20
	Protection Class		I
	Pollution Level		PD 2
	MTBF	$T_A = +70C$ , SN 29500	200,000 hours
	Case Material	perforated plate cover (protection class > IP 30)	aluminum
	Weight		2.500g ±50 g
	Connecting Type	Wall mounting	Spring clamps
	Dimensions L x W x H		330 x 170 x 87 mm

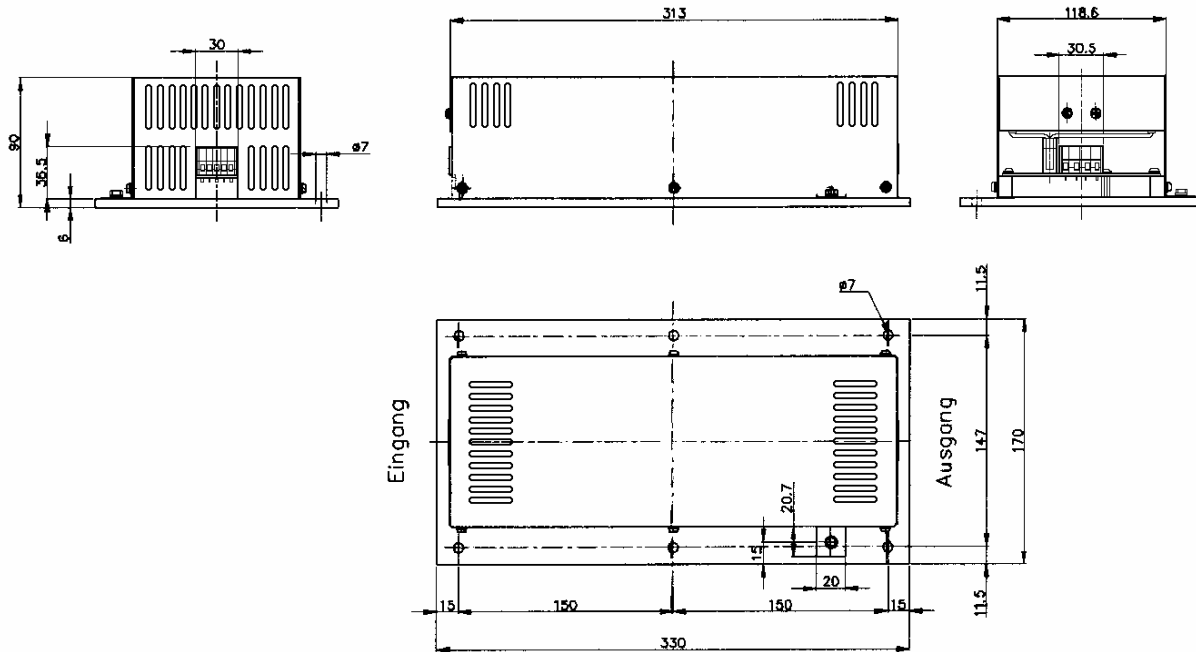
## Model Numbers

Model Number	Input	Input Current		Output	Output	Efficiency
	[V]	No Load [A]	Full Load [A]	[V]	[A]	[%]
0600MHVC0250.1024	600	≤0.025	≤0.5	24	9	≥83

## Regulatory Compliance

<b>EMI: Designed to Meet</b>	EN 55011/A
<b>Safety: Designed to Meet</b>	EN 50155
	EN 50121-3-2
	IEC 1287-1
	SN 29500
	EN 50124-1
	According to 6.2.1 Over Voltage Category: QV 2 According to 2.2.1 Isolation Voltage for Measuring: 0,95 kV <sub>DC</sub>
	EN 61373

## Mechanical Outline



## Mounting Configuration

Suffix	Type
-S0C0A06V	Wall Mounting

## Electrical Connections

