Premium
Powering Your Challenge

OVX-6400

6400VA DC/AC INVERTER

GENERAL FEATURES:

Sine wave output voltage
Suitable for motors control
Adjustable output frequency
Adjustable output voltage
High input-output isolation 5200V_{RMS}
Remote OFF opto-coupled
Alarm by isolated relay contacts
Configurable input: Reverse or Mid power
Remote control via RS-232 or CAN BUS



5 YEAR WARRANTY RAILWAY
EN50155
EN61287
EN45545 fire & smoke
ROHS REACH

	Input voltage	Transient input overvoltage	Parallel operation	Output voltage	Output power
OVX-6400-7701S	400 … 1000V_{DC}	None	X	400V_{RMS} 3 phase	6kW 6.4kVA 8kW_{PK}
OVX-6400-7701Z	400 … 1000V_{DC}	2800V acc. EN50124-2	X	400V_{RMS} 3 phase	6kW 6.4kVA 8kW_{PK}
OVX-6400-7701SP	400 … 1000V_{DC}	None	✓	400V_{RMS} 3 phase	6kW 6.4kVA 8kW_{PK}
OVX-6400-7701ZP	400 … 1000V_{DC}	2800V acc. EN50124-2	✓	400V_{RMS} 3 phase	6kW 6.4kVA 8kW_{PK}

Specifications are subject to change without notice. These products are not intended for use as critical components in life support or nuclear systems.

INPUT	
Nominal DC input voltage	600V / 750V
Minimum DC input voltage	400V continuous
Maximum DC input voltage	1000V continuous
Maximum Input overvoltage	Only for the model OVX-6400-7701Z/ZP: • EN50163:2004 (Supply voltage of traction systems) • 2800V according to EN50124-2:2017 4.2.2 and Annex A
Maximum input ripple	±5% V_{PP} from 300 to 360Hz
Inrush current	15A
OUTPUT	
Output type	AC 3ph with neutral
Output Voltage	400V line to line
Output Waveform	Sinusoidal
Voltage tolerance	±5%
Output voltage range	20…100% of V_{OUT} (adjust via remote control)
Output frequency	50 / 60Hz via DIP-switch, 5…75Hz via RS-232 or CAN
Maximum continuous current (I_{RMS})	9.24A
Maximum peak current 5s (I_{RMS})	11.5A
Continuous active / apparent power	6000W / 6400VA
Peak active / apparent power 5s	8000W / 8000VA
Load regulation	< 4.5%
Line regulation	< 2%
Output wave distortion THD	< 2% (average of 16 samples)
Output HF ripple	< 2.5%
ENVIRONMENTAL	
Storage temperature	-25 … 80°C
Operating ambient temperature: Full load 62.5% load	 -25 … 55°C, 70ºC 10 min (SU3 class, according to EN61287-1:2014) -25 … 70°C
Relative humidity without condensation	5 … 95%
Maximum Altitude	2000m at full load
Cooling	Internal forced air controlled
Shock and Vibrations according to	EN61373:2010 Category 1 class B body mounted
Environmental regulations	RoHS & Reach according to directive 2011/65/EU
EMC	
Immunity according	EN50121-3-2:2016
Emissions according	EN50121-3-2:2016
SAFETY	
Safety according to	EN50124-1:2017 Railway application (Insulation coordination)
Dielectric strength: Input-Output	5200V_{RMS} 50Hz 1min.
Dielectric strength: Input-Earth	3400V_{RMS} 50Hz 1min.
Dielectric strength: Output-Earth	2300V_{RMS} 50Hz 1min.
Dielectric strength: Output-Signals	2300V_{RMS} 50Hz 1min.
Dielectric strength: Signals-Earth	1400V_{RMS} 50Hz 1min.
Pollution degree	PD2
Overvoltage category	OV3 → Input-Output and Input-Earth OV2 → Output-Earth, Output-Signals and Signals-Earth
Fire and smoke	EN45545-2:2020
RELIABILITY	
MTBF	100.000h @40ºC according to SN29500

PRELIMINARY

Life cycle	20 years (fan maintenance after 10 years is required)

MECHANICAL	
Dimensions (H x W x D mm)	87 x 430 x 450
Weight	< 12kg
Protection degree	IP20
PROTECTIONS	
Against reverse input voltage	Series diode at the input
Against input under-voltage	Under-voltage lock-out
Against input over-voltage	Over-voltage lock-out
Against input over-current	Input fuse
Against output overloads and short-circuits	Current and I^2T limited (see overload protection curve)
Against over-temperature	Shutdown with auto-recovery
CONTROL	
Output OK LED	Green
Input OK LED	Green
Alarm LED	Red
Input alarm	Open when alarm. Maximum rating: 0.16A at $160V_{DC}$
Output alarm	Open when alarm. Maximum rating: 0.16A at $160V_{DC}$
Remote OFF input	OFF: applying 15…$143V_{DC}$, Impedance >35kΩ
Configurable input (reverse or mid-power)	ON: applying 15…$143V_{DC}$, Impedance >35kΩ

ORDERING CODES

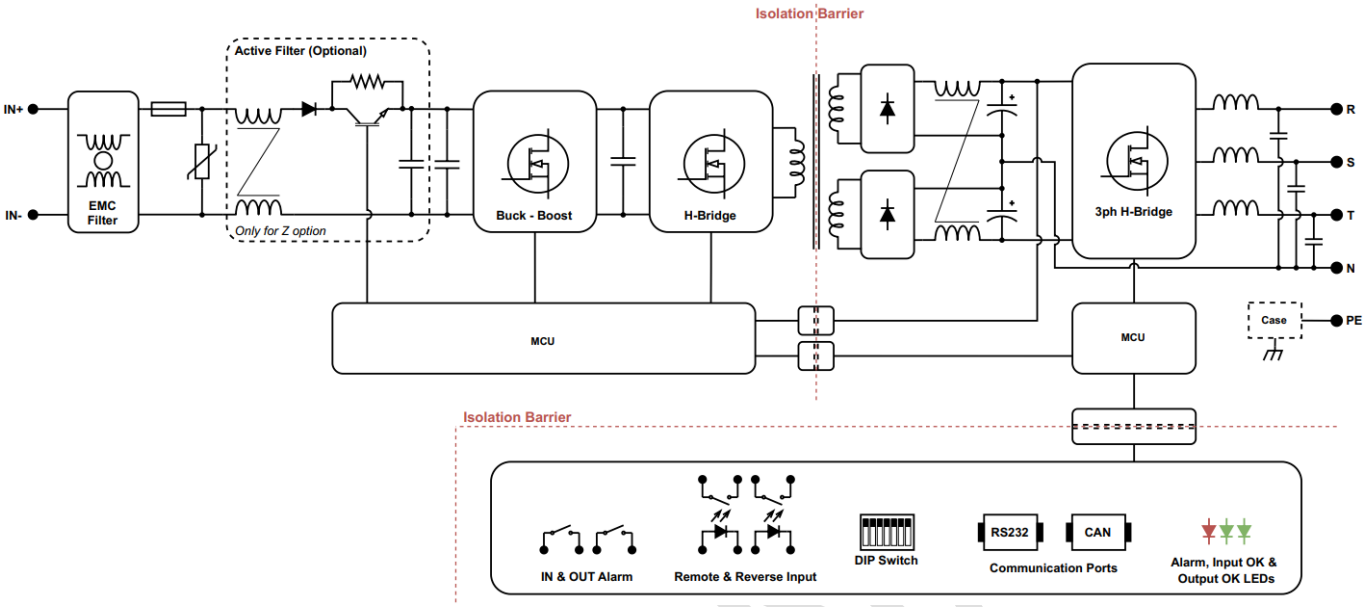
Part Number	Input voltage	Transient input overvoltage	Parallel operation	Output voltage	Output power
OVX-6400-7701S	400 … $1000V_{DC}$	None	*X*	$400V_{RMS}$ 3 phase	6kW 6.4kVA $8kW_{PK}$
OVX-6400-7701Z	400 … $1000V_{DC}$	2800V acc. EN50124-2	*X*	$400V_{RMS}$ 3 phase	6kW 6.4kVA $8kW_{PK}$
OVX-6400-7701SP	400 … $1000V_{DC}$	None	✓	$400V_{RMS}$ 3 phase	6kW 6.4kVA $8kW_{PK}$
OVX-6400-7701ZP	400 … $1000V_{DC}$	2800V acc. EN50124-2	✓	$400V_{RMS}$ 3 phase	6kW 6.4kVA $8kW_{PK}$

OVX–6400–7701_

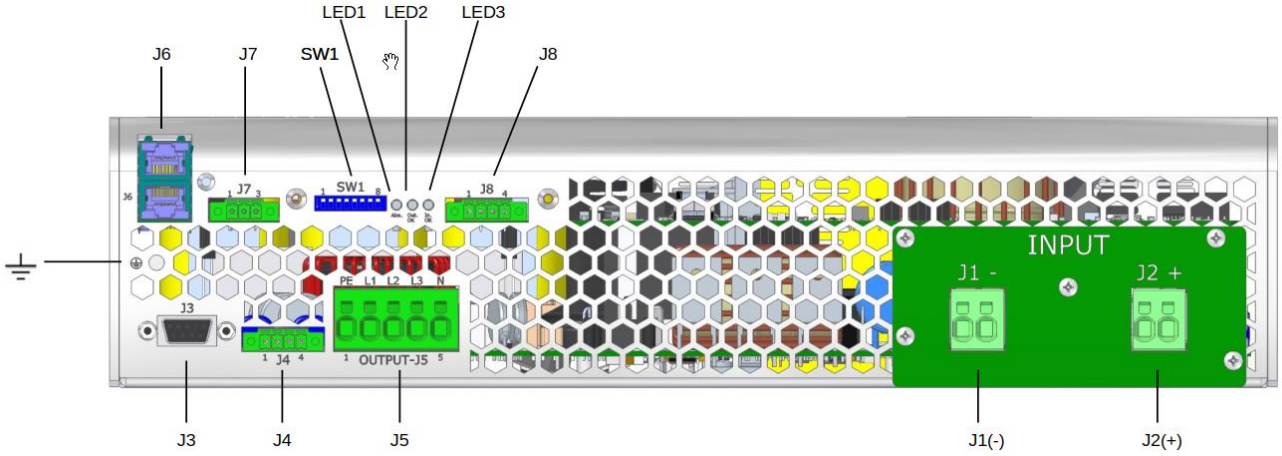
S Without input overvoltage protection
Z Input overvoltage protection according to EN50124-2

PRELIMINARY

BLOCKS DIAGRAM



CONNECTIONS



J1	-Vin	Spring clamp terminals cables 2.5 … 6mm²
J2	+Vin	
J5 - 1	Protective Earth	
J5 - 2	Output R	
J5 - 3	Output S	
J5 - 4	Output T	
J5 - 5	Output Neutral	
J4 - 1	+ Configurable input	Phoenix Contact MC1.5/4-GF-3.81 Recommended female: Phoenix Contact MC1.5/4-STF-3.81
J4 - 2	- Configurable input	
J4 - 3	+ Remote	
J4 - 4	- Remote	
J8 - 1	Status output	Phoenix Contact MC1.5/4-GF-3.81 Recommended female: Phoenix Contact MC1.5/4-STF-3.81
J8 - 2	Status output	
J8 - 3	Status input	
J8 - 4	Status input	
J7 - 1	CAN L	Phoenix Contact MC1.5/3-GF-3.81

J7 - 2	CAN H	Recommended female:
J7 - 3	CAN GND	Phoenix Contact MC1.5/3-STF-3.81
J3	RS-232	Female D-Sub DB9
J6A -J6B	Optional Parallel operation	RJ45

DESCRIPTION

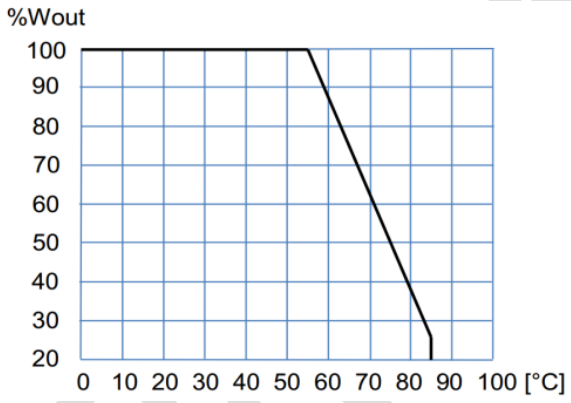
The OVX-6400 is a three-phase sine-wave DC-AC inverter designed not only to work within 400 to 1000V input voltage range but also to withstand surges and over-voltages as described in EN50124-2:2017.

The unit allows:

- Changing the output frequency by means of DIP-switch-7 of SW1. OFF: 50Hz or default programmed, ON: 60Hz.
- Change local/remote (waiting RS-232 commands) by means of DIP-switch-6 of SW1. OFF: local, ON: remote.
- Shutdown applying voltage output 15 to 143V on pins 3 and 4 of J4.
- Start-up motors by means of a soft start. In the start-up, the output voltage rises linearly from 0V to set voltage and the frequency from the initial to the set one. The start-up ramp slope may be changed via RS-232.
- Set the rotation speed of a motor according to the appropriate Voltage/Frequency ratio.
- Configurable input (pin 1 and 2 of J4):
  - Reverse mode: Changing the rotation direction for the next start-up of a motor by applying voltage between 15 and 143V.
  - Mid power mode: Changing the output frequency in V/F mode from nominal to a mid-power frequency by applying voltage between 15 and 143V.
- Monitoring the status of the input and output voltage through the contacts of two separate solid-state relays.
- Set and monitor parameters via RS-232 or CAN BUS.
- Parallel operation, it will be possible to connect up to four units with active current sharing. This version is under design and will be available shortly.

The OVX-6400 is equipped with maximum average power protection as well as maximum output peak current protection. This protects the semiconductors even when an output short-circuit occurs. It also features a disabling function for input under-voltage, which allows protecting the batteries from harmful discharges.

POWER DERATING vs AMBIENT TEMP.



START-UP

- The unit has 6 threaded holes for the fixation on a mounting surface.
- The unit has internal fans. For an appropriate cooling, the air input and output should be free of elements that cause and an air flow reduction (minimum recommended distance to other objects 90mm).

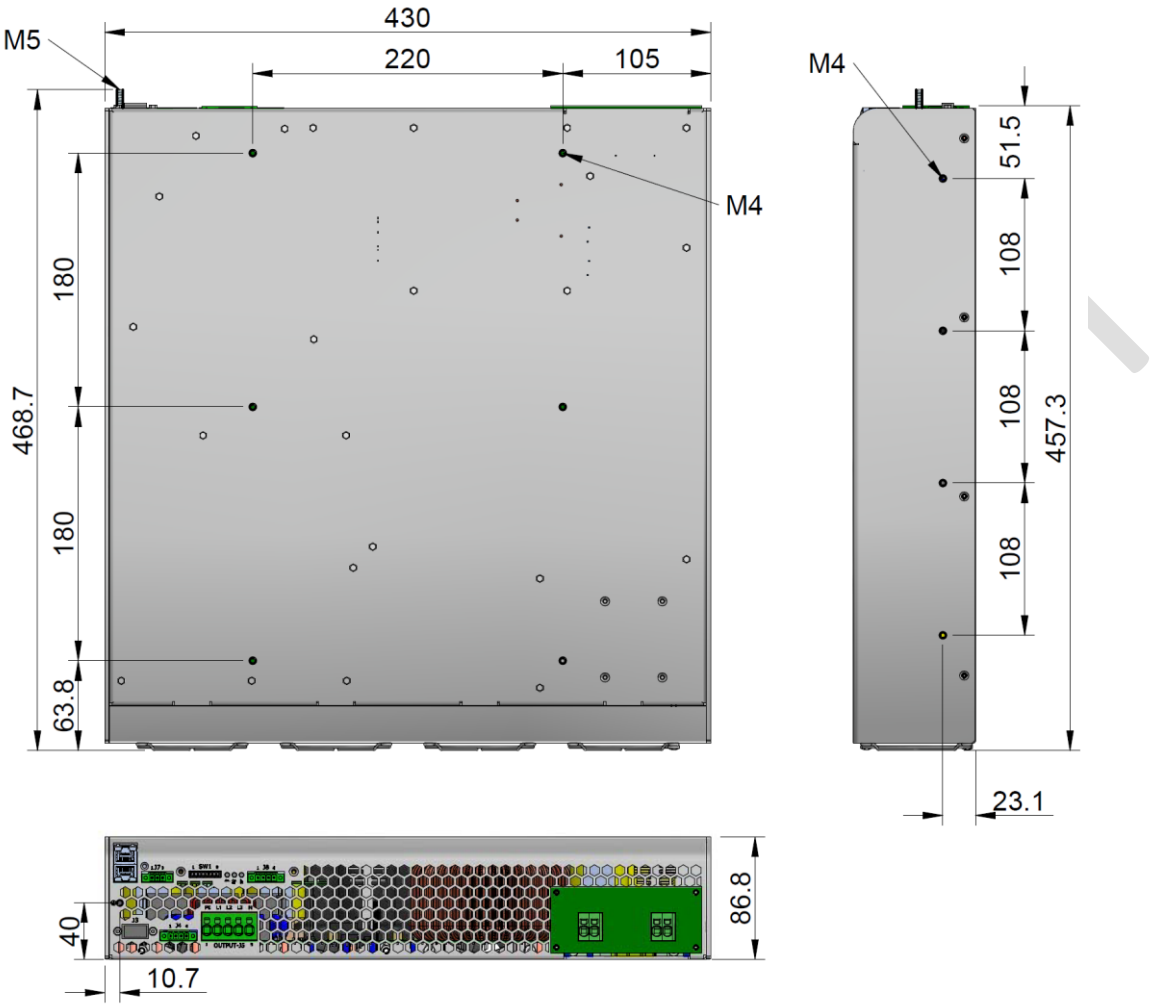
For safety reasons, the following requirements must be met:

- Provide the equipment with some kind of protective enclosure that complies with the electrical safety directives in effect within the country where the equipment is installed.
- Include an input fuse with a rating immediately higher than the maximum input current.

	Input 400V	**Output 400V~**
Maximum current	15A	8.7A
Cable cross-section	≥ 4mm^2	≥ 2.5mm^2

PRELIMINARY

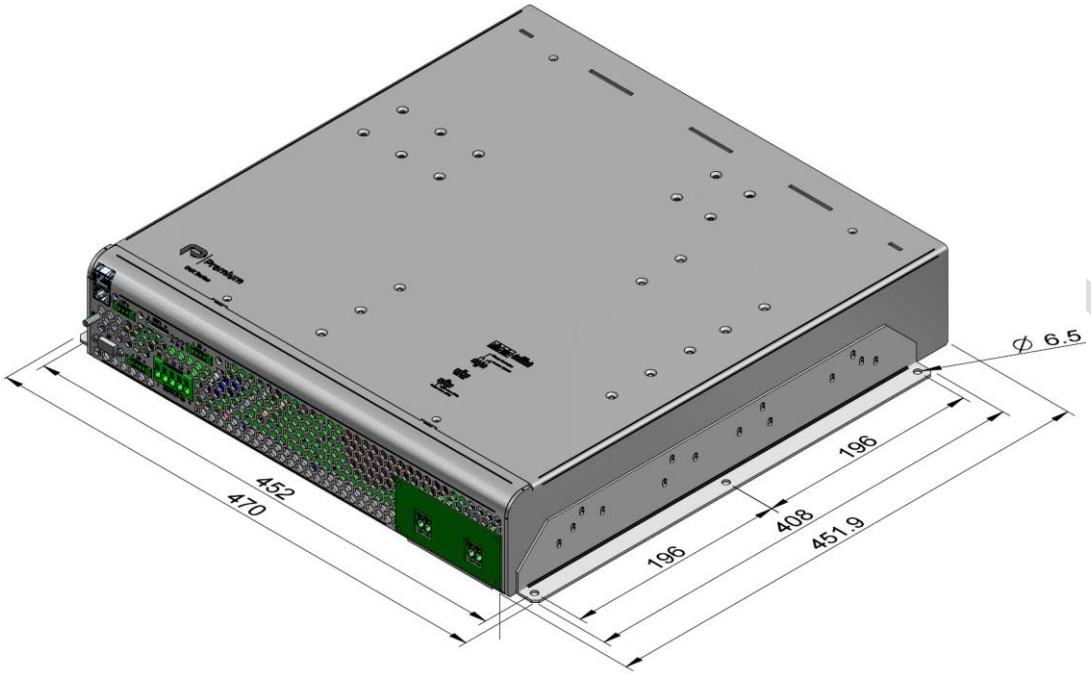
DIMENSIONS



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ACCESSORIES

Description	Notes	CODE
Mounting brackets kit	Contains two brackets and screws	9282



NP-9282

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