

EPI EPI DC/DC CONVERTERS 10÷1500 A

Intended for
the following industries:



EPI type DC/DC voltage converters are designed for converting DC voltage into DC stabilized voltage required by the loads - ranging from 24 to 220 VDC or other receivers compatible with the specifications.

EPI CHARACTERISTICS:

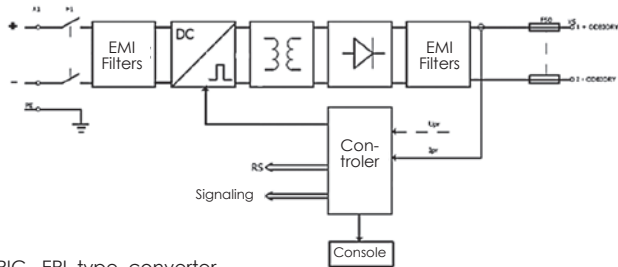
- High stability of output voltage and current;
- Very low current and output voltage ripple;
- Modular design;
- Small size and weight;
- Quiet operation;
- High efficiency;
- Galvanic isolation;
- Electromagnetic compatibility (EMI filters);
- Ground fault monitoring on both output poles.
- User interface (HMI - Human Machine Interface), control console with LED signaling and LCD screen, potential free outputs, RS485 communication ports, USB, events logging.

EPI TYPE DC/DC CONVERTERS TECHNOLOGY

The converter is built using IGBT transistors, it operates with pulse width modulation (PWM). DC supply voltage is converted in a two-step converters system.

- high-frequency converter
- high-frequency rectifier.

EPI converters are equipped with DSP microprocessor control system (Digital Signal Processor) which controls the converter operation.



PIC. EPI type converter schematic diagram

The adjustable converter operating with pulse width modulation (PWM) provides adjustment of the output voltage to the needs of receivers. High-frequency ferrite transformer provides a galvanic isolation between input and output circuits. The modules are cooled by forced air circulation, including adjustment function, depending on the radiators temperature. The device operation is monitored by a controller. With its help, communication of the device with the user and master monitoring is performed.

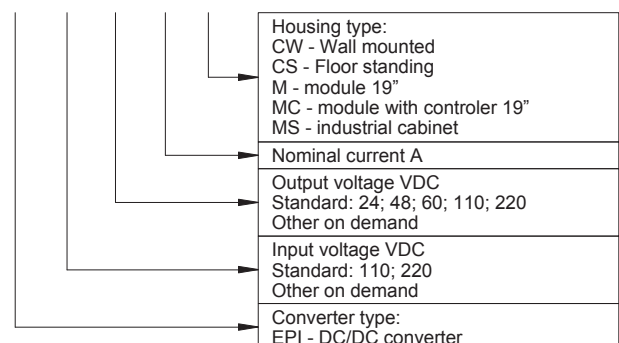


PIC. DC voltage converter EPI 220/110/200 MS

EPI DC/DC CONVERTER MARKING

EPI 220/110/25 MC

EPI / /



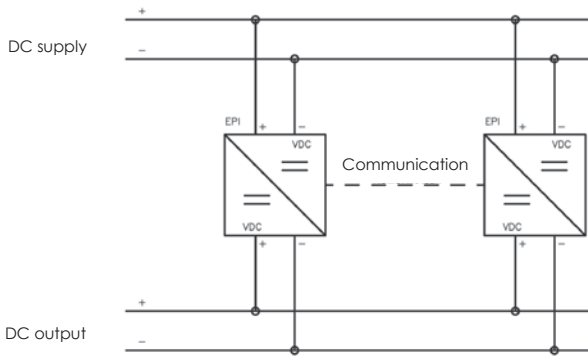
TAB. EPI DC/DC CONVERTERS - TECHNICAL PARAMETERS

CONVERTER SUPPLY	
Supply voltage	110 or 220 VDC
CONVERTER DC/DC	
DC supply voltage tolerance	-15%/+40%
Nominal output voltage DC	220/110/60/48/24 VDC
Output voltage stability	+/-1%
Output voltage ripple	+/- 1%
Nominal output current	10 to 100 A in one module, max15 modules parallel operation
Output current stability	+/- 1%
Output current pulsation	+/- 1%
Overload	1.5 In up to 3 s
Efficiency	>92%
Interface language	PL EN RUS DE CZ
ENVIRONMENTAL	
Operating temperature (EN 50178 class 3k3)	-0 to +40 °C
Storage temperature	-15 to +55 °C
Humidity (EN 50178 class 3k3)	max 80% (without condensation)
Service and technical support access	from the front
Cable entry	from the bottom
Altitude	1000 m (a.s.m.l.)

USE OF EPI SYSTEMS:

DC/DC CONVERTERS

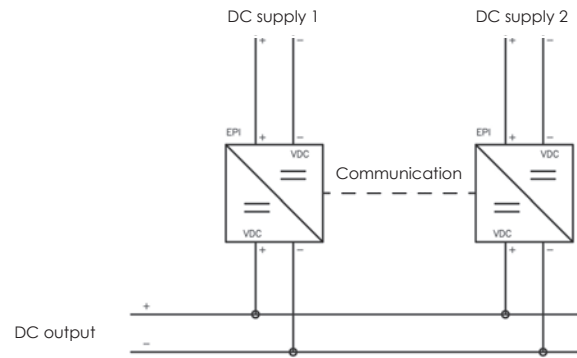
- for providing an additional DC power supply to power circuits with a voltage differing from a battery voltage.
- To supply a stable DC voltage to the critical load, that cannot be directly connected to the battery due to its temperature-changing float voltage level during the charging.



PIC. DC/DC converter wiring diagram - redundant system

DC/DC CONVERTERS - ATS DC

A special case of EPI DC/DC converters application is a system with two galvanically isolated DC sources. DC sources may also be of different levels. In case of parallel operation the system is redundant. While operating converters independently it is possible to set a system with a preferred input source thanks to the output voltage level regulation, what in turn allows to switch to another source in case of a first source failure (DC ATS).



PIC. DC/DC - ATS DC converter wiring diagram

SPECIAL VERSIONS OR OPTIONS OF DC/DC CONVERTERS EQUIPMENT

Upon request, it is possible to adapt the equipment to the specific design requirements;

- Higher rated DC currents;
- Other DC rated voltages;
- Extending the scope of DC input voltages;
- Environmental requirements in the ambient temperature range (-20 °C to + 55 °C), presence of aggressive factors, etc.;
- Housing construction, including seismically resistant constructions, IP protection degree, construction of busbars, cables access from the top, paint color, etc.;
- Measurement and communication: appropriate class digital or analog gauges, fault indication, operating modes visualization, synoptic connections, communication protocols, etc.
- Cable entry from the top.

EPI INTERNAL PROTECTIONS:

- Against power circuits overheating (limitation of output current without operation interruptions);
- Against short circuit electronic and thermofusible;
- Overvoltage;

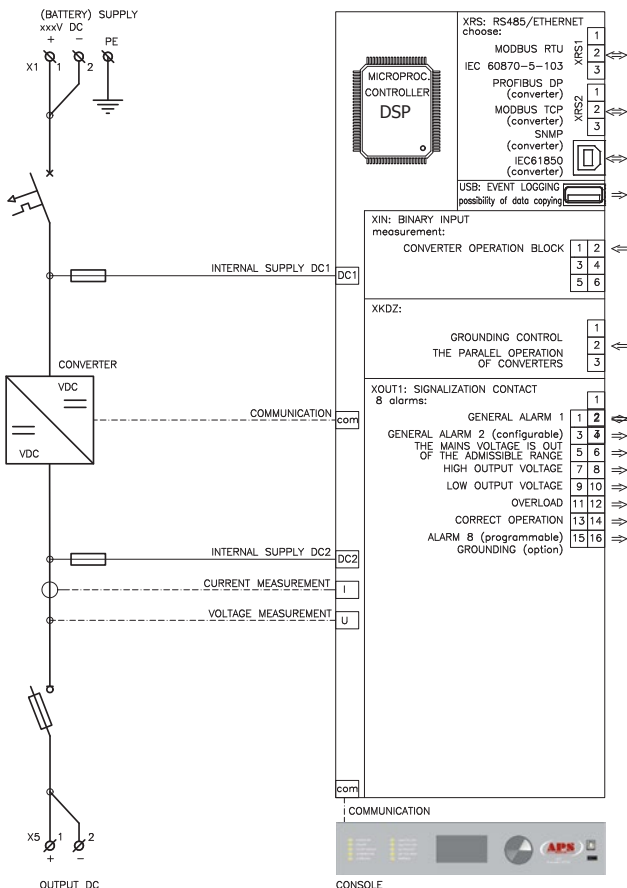
EPI DC/DC CONVERTERS COMPACT TYPE

TAB. COMPACT CONVERTERS, TYPE EPI CW/CS
(CW - wall-mounted version, CS - standing version)

Nominal current	Output voltage	Input voltage: 220 VDC				Input voltage: 110 VDC			
		CW type	Dimensions*	CS type	Dimensions*	CW type	Dimensions*	CS type	Dimensions*
10 A	220 VDC	EPI 220/220/10 CW	CW4	EPI 220/220/10 CS	CS4	EPI 110/220/10 CW	CW4	EPI 110/220/10 CS	CS4
	110 VDC	EPI 220/110/10 CW		EPI 220/110/10 CS		EPI 110/110/10 CW		EPI 110/110/10 CS	
25 A	220 VDC	EPI 220/220/25 CW	CW4	EPI 220/220/25 CS	CS4	EPI 110/220/25 CW	CW6	EPI 110/220/25 CS	CS6
	110 VDC	EPI 220/110/25 CW		EPI 220/110/25 CS		EPI 110/110/25 CW		EPI 110/110/25 CS	
	60 VDC	EPI 220/60/25 CW		EPI 220/60/25 CS		CW4	EPI 110/60/25 CW	EPI 110/60/25 CS	
	48 VDC	EPI 220/48/25 CW		EPI 220/48/25 CS			EPI 110/48/25 CW	EPI 110/48/25 CS	
	24 VDC	EPI 220/24/25 CW		EPI 220/24/25 CS			EPI 110/24/25 CW	EPI 110/24/25 CS	
30 A	220 VDC	EPI 220/220/30 CW	CW6	EPI 220/220/30 CS	CS6	x	x	x	x
	110 VDC	EPI 220/110/30 CW		EPI 220/110/30 CS		EPI 110/110/30 CW	EPI 110/110/30 CS		
	60 VDC	EPI 220/60/30 CW		EPI 220/60/30 CS		CW4	EPI 110/60/30 CW	EPI 110/60/30 CS	
	48 VDC	EPI 220/48/30 CW		EPI 220/48/30 CS			EPI 110/48/30 CW	EPI 110/48/30 CS	
	24 VDC	EPI 220/24/30 CW		EPI 220/24/30 CS			EPI 110/24/30 CW	EPI 110/24/30 CS	
50 A	220 VDC	EPI 220/220/50 CW	CW6	EPI 220/220/50 CS	CS6	x	x	x	x
	110 VDC	EPI 220/110/50 CW		EPI 220/110/50 CS		EPI 110/110/50 CW	EPI 110/110/50 CS		
	60 VDC	EPI 220/60/50 CW		EPI 220/60/50 CS		CW4	EPI 110/60/50 CW	EPI 110/60/50 CS	
	48 VDC	EPI 220/48/50 CW		EPI 220/48/50 CS			EPI 110/48/50 CW	EPI 110/48/50 CS	
	24 VDC	EPI 220/24/50 CW		EPI 220/24/50 CS			EPI 110/24/50 CW	EPI 110/24/50 CS	
75 A	110 VDC	EPI 220/110/75 CW	CW6	EPI 220/110/75 CS	CS6	x	x	x	x
	60 VDC	EPI 220/60/75 CW		EPI 220/60/75 CS		EPI 110/60/75 CW	EPI 110/60/75 CS		
	48 VDC	EPI 220/48/75 CW		EPI 220/48/75 CS		CW6	EPI 110/48/75 CW	EPI 110/48/75 CS	
	24 VDC	EPI 220/24/75 CW		EPI 220/24/75 CS			EPI 110/24/75 CW	EPI 110/24/75 CS	
100 A	110 VDC	EPI 220/110/100 CW	CW6	EPI 220/110/100 CS	CS6	x	x	x	x
	60 VDC	EPI 220/60/100 CW		EPI 220/60/100 CS		EPI 110/60/100 CW	EPI 110/60/100 CS		
	48 VDC	EPI 220/48/100 CW		EPI 220/48/100 CS		CW6	EPI 110/48/100 CW	EPI 110/48/100 CS	
	24 VDC	EPI 220/24/100 CW		EPI 220/24/100 CS			EPI 110/24/100 CW	EPI 110/24/100 CS	

* CW6: 500 x 700 x 250; CS6: 500 x 1400 x 250; CW4: 400 x 600 x 255; CS4: 400 x 1200 x 255 (WxHxD)

PIC. EPI CW/CS



EPI type compact converters can be made in freestanding version (CS) and wall-mounted version (CW). The converter can be equipped with a ground fault monitoring system.

The device converts the DC voltage into DC voltage with required parameters. EPI converter provide a galvanic isolation between the output voltage and power supply voltage. Converters are cooled by air circulation forced by fans. The fans run with three speeds in function of the device internal temperature.



PIC. EPI DC/DC converter - wall-mounted version

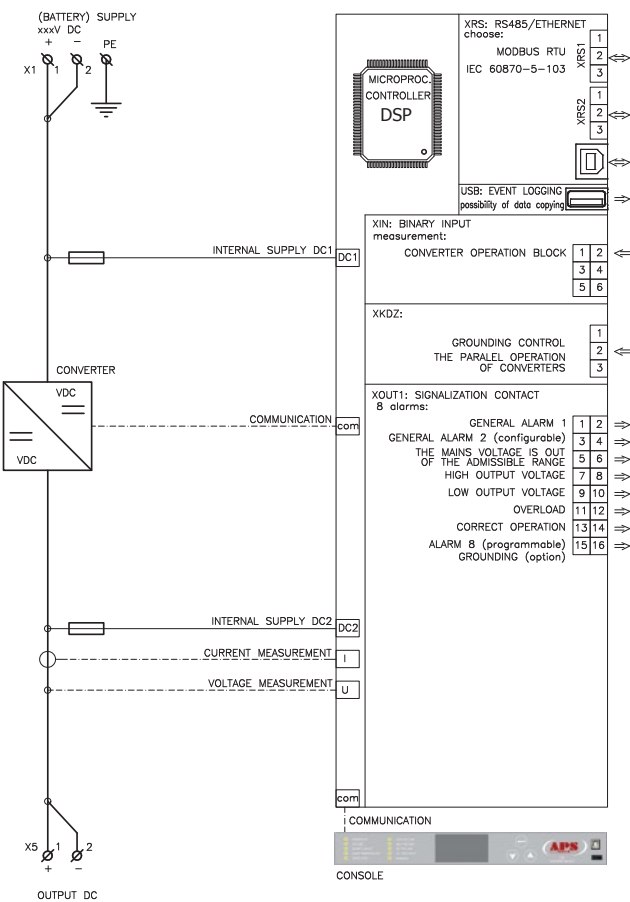
EPI M/MC DC/DC CONVERTERS MODULES, 10÷100 A

Tab. DC/DC CONVERTERS, TYPE EPI M AND EPI M/MC (19" modules for mounting in the industrial cabinets)

Nominal current	Output voltage	Input voltage: 220 VDC		Input voltage: 110 VDC		Dimension *
		M type	MC type	M type	MC type	
10 A	220 VDC	EPI 220/220/10 M	EPI 220/220/10 MC	EPI 110/220/10 M	EPI 110/220/10 MC	M4
	110 VDC	EPI 220/110/10 M	EPI 220/110/10 MC	EPI 110/110/10 M	EPI 110/110/10 MC	
25 A	220 VDC	EPI 220/220/25 M	EPI 220/220/25 MC	EPI 110/220/25 M	EPI 110/220/25 MC	M4
	110 VDC	EPI 220/110/25 M	EPI 220/110/25 MC	EPI 110/110/25 M	EPI 110/110/25 MC	
	60 VDC	EPI 220/60/25 M	EPI 220/60/25 MC	EPI 110/60/25 M	EPI 110/60/25 MC	
	48 VDC	EPI 220/48/25 M	EPI 220/48/25 MC	EPI 110/48/25 M	EPI 110/48/25 MC	
	24 VDC	EPI 220/24/25 M	EPI 220/24/25 MC	EPI 110/24/25 M	EPI 110/24/25 MC	
50 A	220 VDC	EPI 220/220/50 M	EPI 220/220/50 MC	x	x	M3
	110 VDC	EPI 220/110/50 M	EPI 220/110/50 MC	EPI 110/110/50 M	EPI 110/110/50 MC	
	60 VDC	EPI 220/60/50 M	EPI 220/60/50 MC	EPI 110/60/50 M	EPI 110/60/50 MC	M4
	48 VDC	EPI 220/48/50 M	EPI 220/48/50 MC	EPI 110/48/50 M	EPI 110/48/50 MC	
	24 VDC	EPI 220/24/50 M	EPI 220/24/50 MC	EPI 110/24/50 M	EPI 110/24/50 MC	
75 A	110 VDC	EPI 220/110/75 M	EPI 220/110/75 MC	x	x	M3
	60 VDC	EPI 220/60/75 M	EPI 220/60/75 MC	EPI 110/60/75 M	EPI 110/60/75 MC	
	48 VDC	EPI 220/48/75 M	EPI 220/48/75 MC	EPI 110/48/75 M	EPI 110/48/75 MC	M4
	24 VDC	EPI 220/24/75 M	EPI 220/24/75 MC	EPI 110/24/75 M	EPI 110/24/75 MC	
100 A	110 VDC	EPI 220/110/100 M	EPI 220/110/100 MC	x	x	M3
	60 VDC	EPI 220/60/100 M	EPI 220/60/100 MC	EPI 110/60/100 M	EPI 110/60/100 MC	
	48 VDC	EPI 220/48/100 M	EPI 220/48/100 MC	EPI 110/48/100 M	EPI 110/48/100 MC	M4
	24 VDC	EPI 220/24/100 M	EPI 220/24/100 MC	EPI 110/24/100 M	EPI 110/24/100 MC	

*) M3 (6U): 482x267x496; M4 (4U):482x142x496 (WxHxD)

PIC. EPI MC



PIC. Converter EPI MC

EPI MC type converters are power modules with an operation controller, EPI M are power modules without an operation controller. They can be executed in 4U and 6U housing. Both types of converters are designed for installation in 19" cabinets. The module converts DC voltage into DC voltage with a required parameters. The converters are designed for an independent operation or as additional modules in multivoltage DC power supplying systems, switchgears or other power supply systems. MC type converter can be equipped with ground fault monitoring system.

Optionally, EPI MC converter can be used to charge the battery as a battery power supply DC powered unit. In this case the controller is equipped with IUU type charging algorithm compliant with Eurobat charging line.

The converter provides a galvanic isolation between the output and supply circuits.

The main purpose of EPI M type converters is the construction of EPI MS type multi-module systems.

Catalog No.: EPI 70-120

Inverters

Static Switch

Converter Hz/Hz

Rectifiers

Converter DC/DC

Control Systems

Special Systems

MODULAR DC/DC CONVERTERS EPI MS

EPI MS type systems are multi-module DC/DC voltage converters with 19" modules connected in parallel, with an even current sharing, mounted in industrial cabinets. The modules convert the DC power supply voltage into

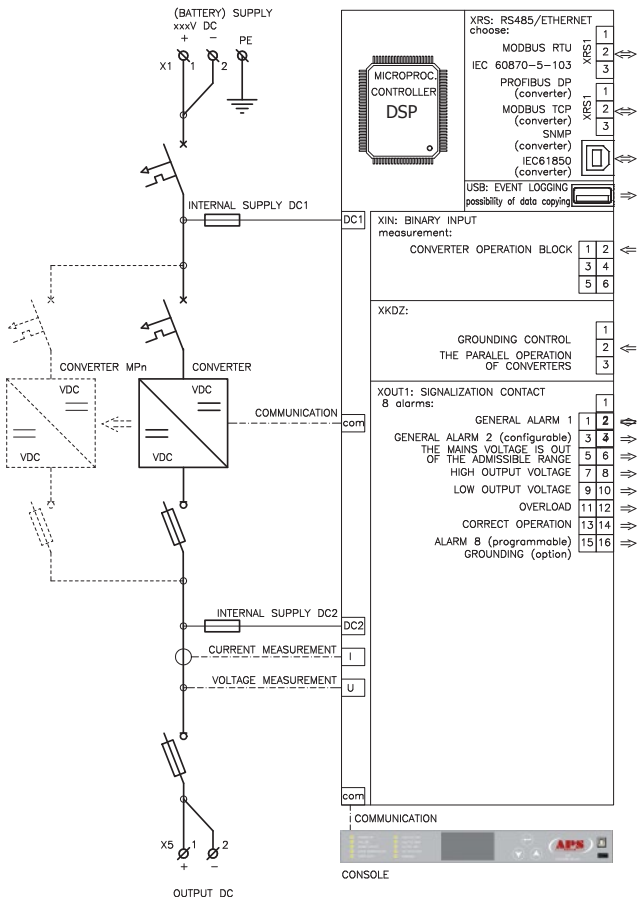
DC voltage preset by the controller. The driver is responsible for the stabilized voltage according to the loads needs. These devices allow to built high output power systems.

TAB. DC/DC CONVERTERS, TYPE EPI MS 220 V - 24 V
(19" modules; parallel operation; for mounting in the industrial cabinets)

Output voltage	Nominal output current	Modules configuration	Input voltage: 220 VDC		Input voltage: 110 VDC		
			Type	Dimensions (W x H x D)	Type	Dimensions (W x H x D)	
220 VDC	10 A	1 x 10 A	EPI 220/220/10 MS	600 x 2000 x 600	EPI 110/220/10 MS	600 x 2000 x 600	
	25 A	1 x 25 A	EPI 220/220/25 MS		EPI 110/220/25 MS		
	50 A	1 x 50 A	EPI 220/220/50 MS		x		x
		2 x 25 A	x		x		
110 VDC	10 A	1 x 10 A	EPI 220/110/10 MS	600 x 2000 x 600	EPI 110/110/10 MS	600 x 2000 x 600	
	25 A	1 x 25 A	EPI 220/110/25 MS		EPI 110/110/25 MS		
	50 A	1 x 50 A	EPI 220/110/50 MS		x		x
		2 x 25 A	x		x		
	75 A	1 x 75 A	EPI 220/110/75 MS		x		x
	100 A	1 x 100 A	EPI 220/110/100 MS		x		x
2 x 50 A		x	x				
60 VDC	50 A	1 x 50 A	EPI 220/60/50 MS	600 x 2000 x 600	EPI 110/60/50 MS	600 x 2000 x 600	
	75 A	1 x 75 A	EPI 220/60/75 MS		EPI 110/60/75 MS		
	100 A	1 x 100 A	EPI 220/60/100 MS		x		x
		2 x 50 A	x		x		
48 VDC	25 A	1 x 25 A	EPI 220/48/25 MS	600 x 2000 x 600	x	600 x 2000 x 600	
	50 A	1 x 50 A	EPI 220/48/50 MS		EPI 110/48/50 MS		
	75 A	1 x 75 A	EPI 220/48/75 MS		EPI 110/48/75 MS		
	100 A	1 x 100 A	EPI 220/48/100 MS		x		x
		2 x 50 A	x		x		
24 VDC	50 A	1 x 50 A	EPI 220/24/50 MS	600 x 2000 x 600	EPI 110/24/50 MS	600 x 2000 x 600	
	75 A	1 x 75 A	EPI 220/24/75 MS		EPI 110/24/75 MS		
	100 A	1 x 100 A	EPI 220/24/100 MS		x		x
		2 x 50 A	x		x		

Catalog No: EPI 70-130

PIC. EPI MS



EPI system provides a galvanic isolation between the output voltage and power supply voltage. Cabinets are cooled by air circulation forced by fans. Roof fans operate with two speeds. The second speed is activated if the temperature inside the cabinet rises.



PIC. Converter EPI MS