

Mini-EVR™ Electronic Voltage Regulator (MEVR)

Standard Unit Specifications, Technical Data and Weights & Dimensions

Application						
Sizes (kVA) [1Ø only]	2, 3, 5, 7.5, 10, 15 For larger 1Ø units see the Sure-Volt™ power conditioner					
Voltages	60 Hz: 120, 208, 240, 480	50 Hz: 110, 220, 380, 400	Non-standard voltages available			
Regulation/Operating Characteristics						
Regulation	Nominal input voltage +10%/-25%, nominal output voltage ±3%...other options available					
Regulation Variation	None – regulation constant for 0 to 100% load and any load power factor					
Overload/Inrush Capability	6000% -1 cycle, 1000% - 1 second, 500% - 5 seconds, 200% - 1 min. ; 1000% fault clearing					
Load/ Power Factor	No minimum or part load or load power factor limitations, compatible with all load types					
Tap Switching	No load current interruption or waveform distortion on switching at any load or power factor					
Zero Crossing Sensitivity	None, tap switching not dependent on determining load current zero crossing					
Harmonic Distortion	No distortion added at any load or power factor					
Response Time	1 cycle typical regardless of load or load power factor					
Efficiency	99% typical					
Operating Frequency	±3% of nominal frequency					
Protection/Bypass						
Surge Suppression	Included, complies with ANSI/IEEE C62.41					
Failsafe Electronic Bypass	Auto-actuation on high temperature, over-current, component failure with no loss of load					
Construction						
Technology	Microprocessor-controlled, tap switching autotransformer design					
Switching Semiconductors	Non-full power semiconductors – individual SCRs are not required to carry full unit current					
Transformer	Dry-type autotransformer, copper wound					
Cooling	Natural convection, no cooling fans used					
Enclosure	Wall-mounted NEMA 1, ANSI 61 grey, other enclosure types & color available					
Cabling/Connections	See enclosure drawing for cable entry/exit options and lug size table					
Audible Sound Level	Less than 65 dB @ 1 meter					
Controls	No controls or programming required, no user-adjustable controls					
Monitoring	Contacts for remote indication of unit and surge suppression status are included					
Warranty	5 year warranty against SCR failure, one year on complete unit – see warranty for details					
Environmental Requirements						
Temperature - Humidity	Ambient 32 to 104°F (0 to 40°C) – Relative humidity 0-95% non-condensing					
Operating Altitude	0 to 10,000 ft (3000m)					
Weights & Dimensions*						
kVA	Height (inches –cm)	Width (inches –cm)	Depth (inches –cm)	Weight - 60 Hz (lbs – kg)	Weight - 50 Hz (lbs – kg)	Enclosure
2	20 (51)	16 (41)	10 (26)	50 (23)	55 (25)	M16
3	20 (51)	16 (41)	10 (26)	60 (27)	66 (30)	M16
5	20 (51)	16 (41)	10 (26)	85 (39)	94 (43)	M16
7.5	30 (76)	20 (51)	10 (26)	120 (55)	132 (60)	M20
10	30 (76)	20 (51)	10 (26)	150 (68)	165 (75)	M20
15	36 (92)	24 (61)	12 (31)	200 (91)	220 (100)	M24

*Weights and dimensions for standard units. Certain options may require a larger enclosure or increase weight. Contact factory for details.

Mini-EVR™ Electronic Voltage Regulator (MEVR)

Model Numbers, Documentation, Common Options and Lug Sizes

Model Number Construction		
Model #: MEVR-ZZZ-AAA-0000		Example: 5 kVA, 50 Hz, 220v: MEVR-050-220-5
ZZZ:	kVA: 030 (3 kVA), 050 (5 kVA), 075 (7.5 kVA), 100 (10 kVA), 150 (15 kVA)	
AAA:	Input voltage (L-N) e.g. 120v = 120	
0000	Options – Refer to common options list for option code	

Standard Documentation & Factory Testing
Installation details (weights, enclosure dimensions, cable entry/exit, conductor connections, wiring connections) are typically issued with ten (10) working days in Portable Document Format (PDF). Two (2) copies of Owners Manual with unit information, electrical diagram(s) and factory test data are shipped with each unit. Every unit is factory tested to manufacturer's standards to confirm proper operation of the unit and any options. Contact factory for other requirements.

Common Options		
Option	Code	Description
50 Hz	5	For 50 Hz units
Non-standard enclosure	E	A variety of enclosures and enclosure cooling options are available including NEMA 3R, 12 and 4X. Contact factory for further details.
Non-standard voltage(s)	N	For any non-standard input or output voltages
Adjustable target output voltage	O	Permits adjustment of the target output voltage by approximately $\pm 10\%$ to increase or decrease output voltage or limit normal output to a minimum or maximum value. Contact factory for further details.
Undefined option(s)	Q, Q2, etc.	Used for any options not already defined
Non-standard regulation range	R	For any regulation ranges other than nominal input voltage $+10\%$ / -25% and nominal output voltage $\pm 3\%$. Contact factory for further details.

Unit Input & Output Lug Sizes												
kVA	2		3		5		7.5		10		15	
	#	Size	#	Size	#	Size	#	Size	#	Size	#	Size
120	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	4AWG-300kcmil
208	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0
240	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0
380	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0
400	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0
480	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0	1	14AWG-1/0

Mini-EVR™ Electronic Voltage Regulator (MEVR)

Overview

The Mini-EVR™ is an industrial-grade, microprocessor-controlled, electronic tap switching voltage regulator using a non-full power semiconductor design. The unit continuously monitors the output voltage, and very quickly switches transformer taps when the voltage falls outside of the regulation range. The Mini-EVR™ works automatically to regulate voltage and condition power with no operator effort or programming required. In the event of a malfunction, the automatic bypass actuates to isolate the power electronics and controls while maintaining power to the load and all other functionality except voltage regulation.

Industrial-grade means that the Mini-EVR™ is compatible with all load types and load power factors and provides a minimum 1000% fault clearing capability. Unlike computer-grade products, the Mini-EVR™ is designed for frequent high inrush current and low power factor loads without the need to over-size the product or to sacrifice reliability.

The Mini-EVR™ provides the following features:

- Highest overload capacity available for compatibility with all loads types
- Highest fault clearing capacity available for reliable operation of protective devices
- Best warranty in the industry - 5 year limited warranty against SCR failure
- 99% efficiency for all but the lowest end of the load range
- Continuous load current - no load current interruption on tap switching
- Very fast response to quickly correct under/over voltage, sags, and swells
- Automatic failsafe electronic bypass eliminates load current interruption in the event of a malfunction
- Zero moving parts and fan-free design for increased reliability and no scheduled maintenance
- Surge suppression and input circuit breaker are standard

The standard Mini-EVR™ uses natural convection cooling, solid state components and has no fans or other moving parts. No regularly scheduled maintenance is required.

Installation of the Mini-EVR™ is simple. The unit arrives completely assembled and requires no programming, testing, measuring, setting of switches or internal wiring. It installs much like a dry-type transformer – placing the unit and making input and output wiring connections.



Utility Systems Technologies, Inc.

Phone: 888 403-9084
Fax: 518 377-2207

Email: sales@ustpower.com
Website: www.ustpower.com

P.O. Box 110
Latham, NY 12110