UST

Utility Systems Technologies, Inc.

Mini-EVR™

Energy Saving Voltage Regulator

Protects your equipment from:

- Over/Undervoltage
- Voltage Fluctuations
- Sags • Dips • Swells
- Brownouts • Surges

For single phase application:

- Sizes 2 to 25 kVA
- Any voltage up to 600VAC
- 50 Hz • 60 Hz
- All load types
- All power factors
- 1000% fault clearing capacity
- No over-sizing required
- 99% efficiency
- Cool, quiet operation
- Indoor • Outdoor • Dirty Locations

Quality Power. Better Business.

Small and lightweight, the
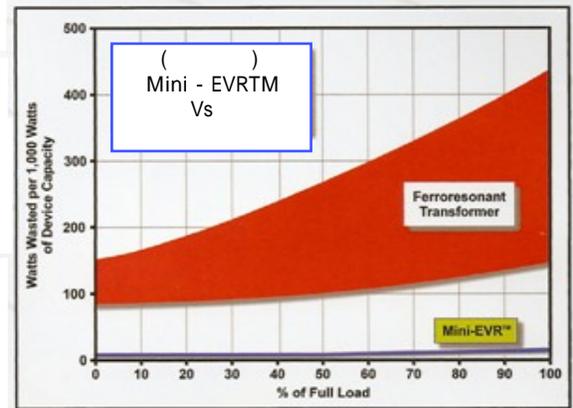Mini-EVR™ comes ready
for easy wall mounting

UST

Mini-EVRTM   AVR   ,   ,
            (SAG),   , Surge   ,   (Swell)
              .   Mini-EVRTM
        .

Mini-EVRTM   (CVT, Ferroresonant transformer,
ferros)
              .

Mini-EVRTM
Fault clearing   .   Size,   ,   ,   ,
              Option   .
Mini-EVRTM   Microprocessor   switch   Transformer tap
                        .   +10%   -25%
                  Mini-EVRTM   %
        .

Typical applications include:

Manufacturing ● Machining
Industrial Automation ● Mining
Pharmaceutical ● Petrochemical
Food Processing ● Broadcasting
Power Generation & Transmission
Schools ● Offices ● Labs
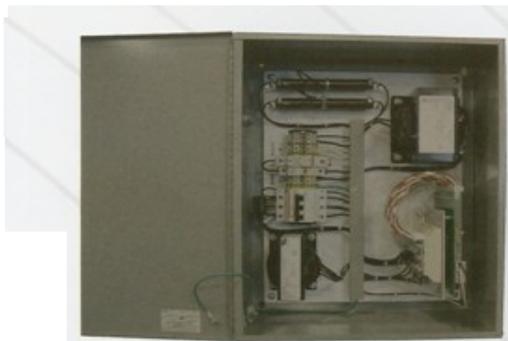Printing ● Pulp & Paper
Medical Imaging & Treatment

The Mini-EVRTM difference (Mini-EVRTM   )

Heavy Duty Voltage Regulation

                                                Mini-EVRTM
            AVR   ,   .

Highest Overload Capacity

                                        AVR   2~ 3
              .Mini-EVRTM   Over sizing
        .

Mini-EVRTM

Energy Saving Efficiency

                                            .
      10~50%   . Mini-EVRTM   1%
                              .

Flexible Installation - Maintenance-Free   -

Mini-EVRTM
          , OEM   .

            :   60 A   905

TEL : 02 - 2083 - 1777 ~ 8   Website : http:/www.willinco.com

FAX : 02 - 2083 - 1779   E - mail : willinco@ willinco.com

Quality Power. Better Business.

UST MiniEVR™ OVERVIEW

Mini-EVRTM   ,

. Mini-EVRTM

. Mini-EVRTM

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Mini-EVRTM   1,000%

.   , Mini-EVRTM

,   .

Mini-EVR™   .

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.   - SCR   5
.   99%
.   -
.   , Sag,   /
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Mini-EVRTM   ,

Mini-EVRTM   .   ,   ,   ,   ,

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MiniEVR™ Electronic Voltage Regulator-Power Conditioner (MEVR)

Standard Unit Specifications, Technical Data and Weights & Dimensions

Application		
Power Rating/Size (kVA) [1Ø only]	2, 3, 5, 7.5, 10, 15 (for larger single phase units see UST SureVolt™ power conditioner	
Voltages	60Hz: 120, 208, 240, 480	50Hz: 110, 120, 220, 380, 400 Non-standard voltages available

Regulation/Operating Characteristics	
Regulation	Nominal input voltage +10%/-22%, 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 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	±20% of nominal frequency

Protection / Bypass	
Surge Suppression	Included, complies with ANSI/IEEE C62.41, UL 1449
Failsafe Electronic Bypass	Auto-actuation on high temperature, over-current, component failure with no loss of load

Construction	
Technology	Microprocessor-controlled tap switching Auto-Transformer design
Switching Semiconductors	Non-full power semiconductors – individual SCRs are not required to carry full unit current
Controls	no controls or programming required, no user-adjustable controls
Cooling	Natural convection, no cooling fans used
Transformer	Dry-type auto-transformer, copper wound
Enclosure	Wall-mounted NEMA-1, ANSI 61 grey, other enclosure types & colors available
Monitoring	Contacts for remote indication of unit and surge suppression status are included
Audible sound level	Less than 65 dB @ 1 meter
Warranty	5 year warranty against SCR Failure, one year on complete unit – see written 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 – 60Hz Lbs. (kg)	Weight-50Hz 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 & Dimensions for standard units. Certain options may require larger enclosures or more weight. Contact Factory for details.

Model Numbers, Documentation, Common Options, and Lug Sizes

Model Number Construction		
ZZZ:	KVA: 030 (3 kVA), 050 (5 kVA), 075 (7.5kVA), 100 (10kVA), 150 (15kVA)	Example: 5kVA, 50Hz, 220v
AAA:	Input Voltage (L-N) e.g. 120v = 120	MEVR -050-220-5
OOOO	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 within 10 working days in "PDF" format. 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 voltage
Adjustable target output voltage	O	Permits adjustment of the target output voltage by approximately +/-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	Used for any option not already defined
Non-standard regulation range	R	For any regulation ranges other than the nominal input voltage +10%/-22% and nominal output voltage +/-3%. Contact factory for further details.

Unit Input & Output Lug Sizes												
	2kVA		**3kVA**		**5kVA**		**7.5kVA**		**10kVA**		**15kVA**	
Voltage	#	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

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INPUT

G N

OUTPUT

N

REMOTE ALARM
CONTACTS*
2A @ 250 VAC

MOV

INPUT OUTPUT

ADJUSTABLE
TARGET OUTPUT
VOLTAGE ($)

SCRs

CONTROL
BOARD

REMOTE ALARM CONTACT*
0.6A @ 125VAC
0.6A @ 110VAC
2.0A @ 30VDC
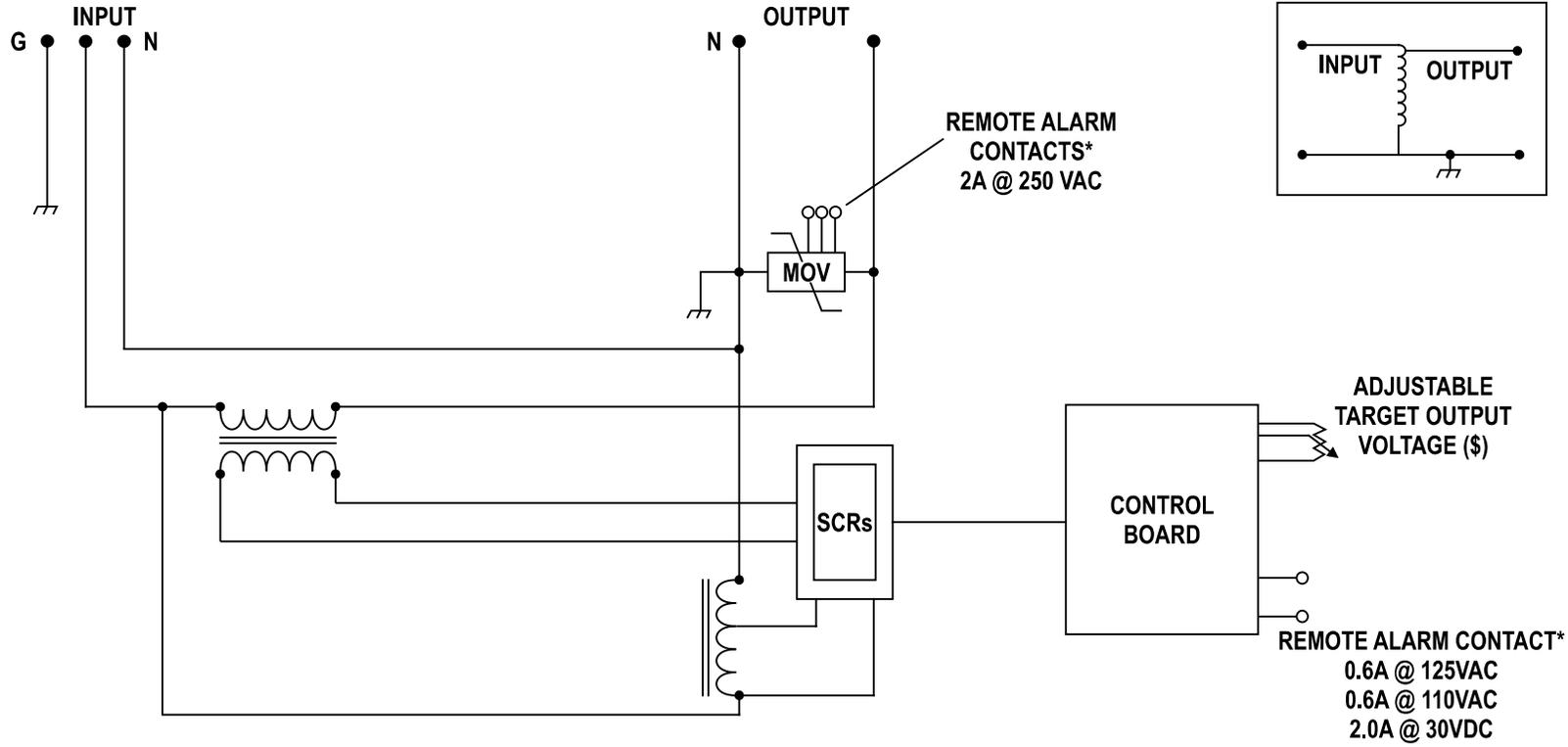
POWER WIRING
INTERFACE POINTS

CONTROL WIRING
INTERFACE POINTS

* ALL CONTROL WIRING
IS DISCRETIONARY

*ITEMS MARKED ($) ARE
EXTRA COST OPTIONS*

Utility Systems Technologies, Inc.
PO Box 110, Latham New York 12110

TITLE:

MINI-EVR POWER CONDITIONER
ELECTRICAL SCHEMATIC WITH OPTIONS

REV: 2	DATE: January 22, 2009	
REV: 1	DATE: AUGUST 15, 2008	
REV: 0	DATE: DECEMBER 03, 2007	

SIZE:	DWG NO.:	REV:
A	**MEVR-000-000-00**	**0**

SCALE:	NONE	SHEET:	1 OF 1