

# INSTALLATION INSTRUCTION

## LRS Series

### AC-DC Subrack Systems MK007

#### AC INPUT

**AC INPUT A:** 100 - 240 VAC, 4.8 A max., 50 - 60 Hz

(Wide input voltage range; No manual change required.)

**AC INPUT B:** 100 - 240 VAC, 4.8 A max., 50 - 60 Hz

For single converter, maximum input current is 2.4 A.)

#### OUTPUT VOLTAGE

##### OUTPUT (LK5542):

	NUMBER OF CONVERTERS PER SECTION			
	1 x LK5542-9ERD8TG		2 x LK5542-9ERD8TG	
	Nom. power of section: 150 W		Nom. power of section: 300 W	
	Outputs in parallel <sup>1</sup>	Outputs in series <sup>1</sup>	Outputs in parallel <sup>1</sup>	Outputs in series <sup>1</sup>
Output A	15 V, 10 A	30 V, 5 A	15 V, 10 A	30 V, 5 A
Output B	(12 – 16.5 V adjustable)	(24 – 33 V adjustable)	(12 – 16.5 V adjustable)	(24 – 33 V adjustable)

##### OUTPUT (LK5662):

	NUMBER OF CONVERTERS PER SECTION			
	1 x LK5662-9ERD8TG		2 x LK5662-9ERD8TG	
	Nom. power of section: 150 W		Nom. power of section: 300 W	
	Outputs in parallel <sup>1</sup>	Outputs in series <sup>1</sup>	Outputs in parallel <sup>1</sup>	Outputs in series <sup>1</sup>
Output A	24 V, 6 A	48 V, 3 A	24V, 6 A	48V, 3 A
Output B	(18 – 26.4 V adjustable)	(36 – 52.8 V adjustable)	(18 – 26.4 V adjustable)	(36 – 52.8 V adjustable)

<sup>1</sup> See Fig.1 for the position of the jumpers for converter output connections.

#### SAFETY APPROVALS

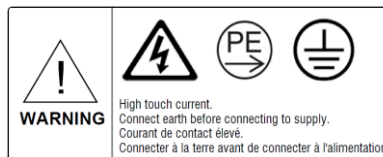
Approved to the latest version of the following safety standards: UL/CSA 60950-1, IEC/EN 62368-1.

#### CAUTIONS

This Power Subrack System is intended exclusively for installation within other equipment by professional installers.

This is Class I equipment.

The Subrack System must be properly connected to earth ground in the end-use application. The outputs should not be connected together in any manner which causes the total output voltage to exceed 60 VDC, otherwise the output will not be ES1.



#### PROTECTIVE EARTHING

The Power Subrack System must be properly grounded to the protective earth at end use system.

#### ENVIROMENTAL CONDITIONS

<b>TRANSPORTATION &amp; STORAGE:</b>	Ambient Temperature Range:	-55 °C to 100 °C
	Relative Humidity Range:	0% to 95%, non-condensing
	Altitude:	2000 m
<b>OPERATION:</b>	Ambient Temp. Range:	-40 °C to 71 °C, full load
	Relative Humidity Range:	0% to 95%, non-condensing
	Altitude:	2000 m

#### FUSING

A Fuse rated 4 A / 250 V is installed in each converter. In case of failure, the converter must be returned to the company. There are no user-serviceable parts in the converter.

**LIMITED WARRANTY**

Bel Power Solutions warrants this equipment for a period of two years from the date of original shipment. This warranty applies to defects in materials and workmanship that result in non-performance to published specifications.

Bel Power Solutions assumes no liabilities for consequential damages of any kind through the use or misuse of its products by any user. No other obligations are expressed or implied.

**SERVICING**

The product(s) must be returned to the Authorized Bel Service Center for repair with a pre-assigned RMA number.

**NUCLEAR AND MEDICAL APPLICATIONS**

These products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

**TECHNICAL REVISIONS**

The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.

**INSTALLATION**

**REAR VIEW – BACKPLANE OF LRS SYSTEM**

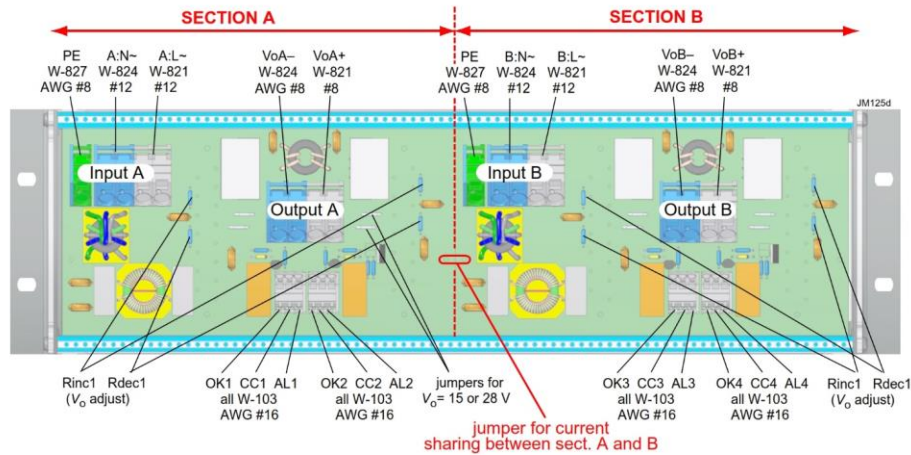


Fig.1. LRS System Backplane

**INPUT/OUTPUT AND ALARM CONNECTOR PINNING**

POSITION		MANUFACTURER / MPN	COLOR	# OF PINS	MIN/MAX. WIRE CROSS SECTION <sup>1</sup>
Input A Input B	L	WAGO / 745-851	Grey	2	24 / 6 AWG
	N	WAGO / 745-854	Blue	2	24 / 6 AWG
	PE	WAGO / 745-857	Green-yellow	1	24 / 6 AWG
Output A Output B	+Vo	WAGO / 745-851	Grey	2	24 / 6 AWG
	-Vo	WAGO / 745-854	Blue	2	24 / 6 AWG
Alarm's		WAGO / 745-103	Grey	3	28 / 12 AWG

<sup>1</sup> This is min./max. wire cross section fitting to the connector, the used wire cross section depends on maximum output current.

**INPUT/OUTPUT CABLING AND INTERCONNECTION**

Section A and section B of the Subrack System have two identical parts of LRS system with separate mains and output connections.

The mains must be led to each input to power up any converter in the respective section. Mains can be connected in parallel (non-redundant system) or each section may be supplied from an independent (redundant system) power source.

In non-redundant LRS systems (except with single converter) is the factory has populated a jumper connecting the current share signals of section A and B. This allows for parallel operation of both sections with equal current.

In redundant LRS systems is each section able to provide nominal power of system.

For configurations using both sections of a Subrack System to accumulate output power or to provide redundancy, outputs A and B must be connected to the load in parallel. A similar resistance of connecting wires is recommended.

## OUTPUT VOLTAGE SETTING SPECIFICATION

LRS systems output voltage is configurable approximately from 80 to 110% of initial  $V_{0\text{ nom}}$  (see table on the 1<sup>st</sup> page). Factory assembled LRS systems are configured to  $V_{0\text{ nom}}$  specified in this table.

To configure the Subrack System to required  $V_{0\text{ nom}}$ , use jumpers for connection of converter outputs in series or in parallel and populate  $R_{\text{inc}}$  and  $R_{\text{dec}}$  for each converter according to product datasheet [LRS Series AC-DC Subrack Systems MK007](#).

The control input R (pin 16) allows for adjusting the output voltage by means of an external resistor. When pin 16 is not connected, the output voltage is set to  $V_{0\text{ nom}}$ . If the converters are inserted in the rack, use  $R_{\text{inc}}$  or  $R_{\text{dec}}$  according to Fig. 1.

**Note:** Only 1 converter can be adjusted at once. Pull out all other converters, to adjust the first one, then repeat this procedure with all other converters.

Depending on the value of the required output voltage, the resistor must be connected:

**either** between pin 16 and pin 14 ( $V_0 < V_{0\text{ nom}}$ ) to achieve an output voltage adjustment range of approximately 0 – 100% of  $V_{0\text{ nom}}$ . If the converter is in the rack, use **Rdec** (fig. 1).

**or** between pin 16 and pin 12 ( $V_0 > V_{0\text{ nom}}$ ) to achieve an output voltage adjustment range of 100 – 110% of  $V_{0\text{ nom}}$ . If the converter is in the rack, use **Rinc** (fig. 1).

The second output of double-output models follows the value of the controlled main output

## MECHANICAL DATA

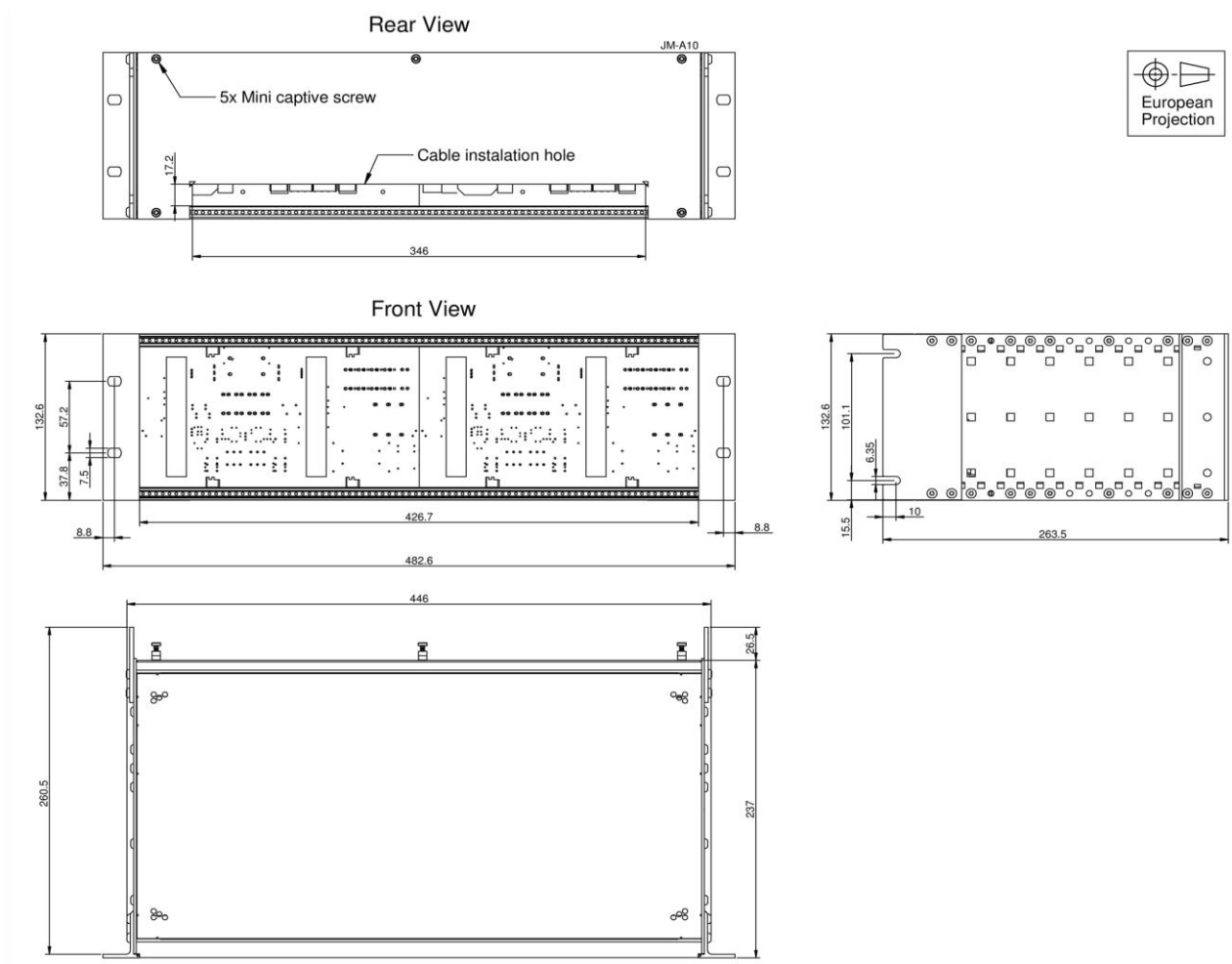


Fig.2 Mechanical outline