DESCRIPTION

PRODUCT COVERED:

USR, CNR Power Supplies, Models ZWQ130-5XYZ, -5XY2, and -5XY4. All models may be followed by /L, /A, /FG, /LFG, /AFG, /LWQ or /LAC.

MODEL DIFFERENCES:

“L” denotes models with optional chassis provided. “A” denotes models with optional cover and chassis provided. “FG” denotes models with Capacitors (C2 and C3) rated less than 2200 pF, and Capacitor (C7) rated less than 3300 pF.

“LWQ” denote models with optional chassis provided and output rating current are different as follows.

“LAC” denotes models with optional chassis provided and direction of the input connector changed.

ELECTRICAL RATING:

	Input			Output (+)		
						A (Forced Air Cooling and Maximum Peak Current (++)/ Convection Cooling)
				Output		
Model	V ac	Hz	A	No.	V dc	
ZWQ130-522Z 3	100-240	50/60	2.1	V1	+5 - +5.25 *2	19.0/15.0 (+++)
				V2	+12 / +15 *1	5.0/4.0
				V3	-15 / -12 *1	5.0/4.0
				V4	+2 - +5.25 *2	12.0/10.0 (++++)
ZWQ130-5222	100-240	50/60	2.1	V1	+5 - +5.2 *2	19.0/15.0 (+++)
				V2	+12 / +15 *1	5.0/4.0
				V3	-15 / -12 *1	5.0/4.0
				V4	+11.4 - -12.6	5.0/4.0
ZWQ130-5224	100-240	50/60	2.1	V1	+5 - +5.25 *2	19.0/15.0 (+++)
				V2	+12 / +15 *1	5.0/4.0
				V3	-15 / -12 *1	5.0/4.0
				V4	+22.8 - +25.2 *2	2.5/2.0

NOTE:
1: Regarding to V2 and V3. The units are equipping the connector(J61 and J71 of CN71) used for output voltage setting of rated output. Output Voltage: Short: +-12V, Open: +-15V.

2: Regarding to V1 and V4. The units are equipping the volumes(V51 and V81) used for output voltage setting of rated output.

*3 Z = B (if output V4 as 2 V)
3 (if output V4 as 3 V: 2.0 – 3.63V)
D (if output V4 as 4 V)
or 5 (if output V4 as 5 V: 2.0 – 5.25V)

(+) - Total maximum output power 130 W for convection cooling, 170 W for force air cooling and maximum peak current.

(++) - Maximum Peak Current: See ILL. I for details.

(+++) – “15.0/15.0” for models with suffix “/LWQ”

(++++) – “10.0/10.0” for models with suffix “/LWQ”

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

Use - For use only in (or with) complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Special Considerations - The following items are considerations that were used when evaluating this product.

1. USR/CNR indicates investigation to the U.S. and Canadian (Bi-National) Standard for Safety of Information Technology Equipment – UL 60950-1, 2nd Edition, **2014-10-14** (Information Technology Equipment - Safety - Part 1: General Requirements) and CSA C22.2 No. 60950-1-07, 2nd Edition, **2014-10** (Information Technology Equipment - Safety - Part 1: General Requirements).

2. USR/CNR indicates investigation to UL 62368-1, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements) and CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements).

3. The component is for building in Class I (earthed), intended for use on TN power system.

Conditions of Acceptability - When installed in the end product, consideration shall be given to the following:

1. This component has been judged on the basis of the required spacings in the Standard for Safety of Information Technology Equipment - UL 60950-1, 2nd Edition, **2014-10-14** (Information Technology Equipment - Safety - Part 1: General Requirements) and CSA C22.2 No. 60950-1-07, 2nd Edition, **2014-10** (Information Technology Equipment - Safety - Part 1: General Requirements), Clause **2.10, UL 62368-1, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements), and CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements) which covers the end-use product for which the component was designed..**

2. All secondary output circuits are SELV and are not hazardous energy levels.

3. The power supply shall be properly bonded to the main protective earthing termination in the end product.

4. The maximum working voltage present is 850 V peak. The Electric Strength Test in the end product shall be based on this value.

5. The equipment intended to be used at altitude up to 3000 m.

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6. The equipment has been evaluated for use in a Pollution Degree 2 environment.

7. The power supply is considered for use in a maximum ambient as follows:

Condition

Maximum Ambient, °C	Cooling Condition	Chassis	Cover	Percent(+)	Mounting Condition
40	Convection	Not provided	Not provided	100	Standard Position
60	Convection	Not provided	Not provided	50	Standard Position
40	Convection	Provided	Not provided	100	Standard Position
60	Convection	Provided	Not provided	50	Standard Position
30	Convection	Provided	Provided	100	Standard Position
50	Convection	Provided	Provided	50	Standard Position
30	Convection	Not provided	Not provided	100	Horizontal & Vertical with input connector at top
50	Convection	Not provided	Not provided	50	Horizontal & Vertical with input connector at top
25	Convection	Not provided	Not provided	100	Vertical with input connector at bottom
45	Convection	Not provided	Not provided	50	Vertical with input connector at bottom
30	Convection	Provided	Not provided	100	Horizontal & Vertical Positions
50	Convection	Provided	Not provided	50	Horizontal & Vertical Positions
25	Convection	Provided	Provided	87	Horizontal & Vertical Positions
40	Convection	Provided	Provided	50	Horizontal and Vertical Positions
50	Forced Air	Not provided	Not provided	100	All Positions
70	Forced Air	Not provided	Not provided	50	All Positions
50	Forced Air	Provided	Not provided	100	All Positions
70	Forced Air	Provided	Not provided	50	All Positions
50	Forced Air	Provided	Provided	100	All Positions
70	Forced Air	Provided	Provided	50	All Positions

(+) - Convection Cooling: 100 percent = 130 W
Forced Air Cooling: 100 percent = 170 W

8. Forced air temperature tests were conducted with a 30 cfm (0.85 m^3/minimum) air flow to component side to stabilize Transformer (T1) core temperature less than 80 degree C.

9. The units are equipping the Connector (J61 and J71 of CN71) and Volumes (V51 and V81) used for outputs voltage setting of rated output.

10. Total maximum output power 130 W for convection cooling, 170 W for force air cooling, under the rated current and maximum peak current.

11. The unit has been evaluated for tropical climate and altitude up to 3,000 m.

12. Output circuit was considered ES1/PS3.

13. Classification of PIS has not been conducted. Therefore, all electrical components and conductors including printed wirings were assumed to be arcing PIS and resistive PIS.

14. This component has been evaluated in "control of fire spread" method assuming appropriate fire enclosure is provided in end product. Unless the fire enclosure is made of non-combustible or V-0 material, the separation from the PIS shall be considered.