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1 特性 Features

应对连续额定电压 AC125V-AC600V 的商品群
 单相或三相电源的避雷对策
 快速响应陡峭的浪涌
 最大浪涌耐量 8/20 μ s-6,000A
 脉冲试验分类：II类（II型）
 全部路由由相同的保护元件构成，可按照相同等级对线间/对地之间进行保护

Continual rated voltage AC125V-AC600V.
 Lightning surge protection for single or three phase application.
 Fast response for surge.
 Maximum peak surge current 8/20 μ s-6,000A.
 Impulse test category: class II (type II)
 Every pathway consists of same elements. Between line and line/between lines and ground can protect as the same level.

2 用途 Applications

光伏发电用逆变器
 LED 照明的安保灯、路灯
 电动车充电
 攻丝机、NC 车床、各种机床
 曝光装置、清洗装置、IC 测试器
 注塑成型机、绕线机、贴装机
 汽车空调
 一般工业设备等伺服放大器

Power inverter for solar photovoltaic system.
 LED security light, LED street light.
 Electrical vehicle charger.
 Tapping machine, NC machine, other machine tools.
 Lithography equipment, Washing device, IC tester
 Injection molding machine, Winding machine, Surface mounter
 Vehicle air conditioner
 Electric facility, Industrial equipment, servo amplifier

3 术语 Glossary

参考标准 Reference Standards
 UL1449 5th ed.: 2021 · CSA C22.2 No.269.5-17,2017 · EN60099-1:1994+A1

4 技术参数 Specifications

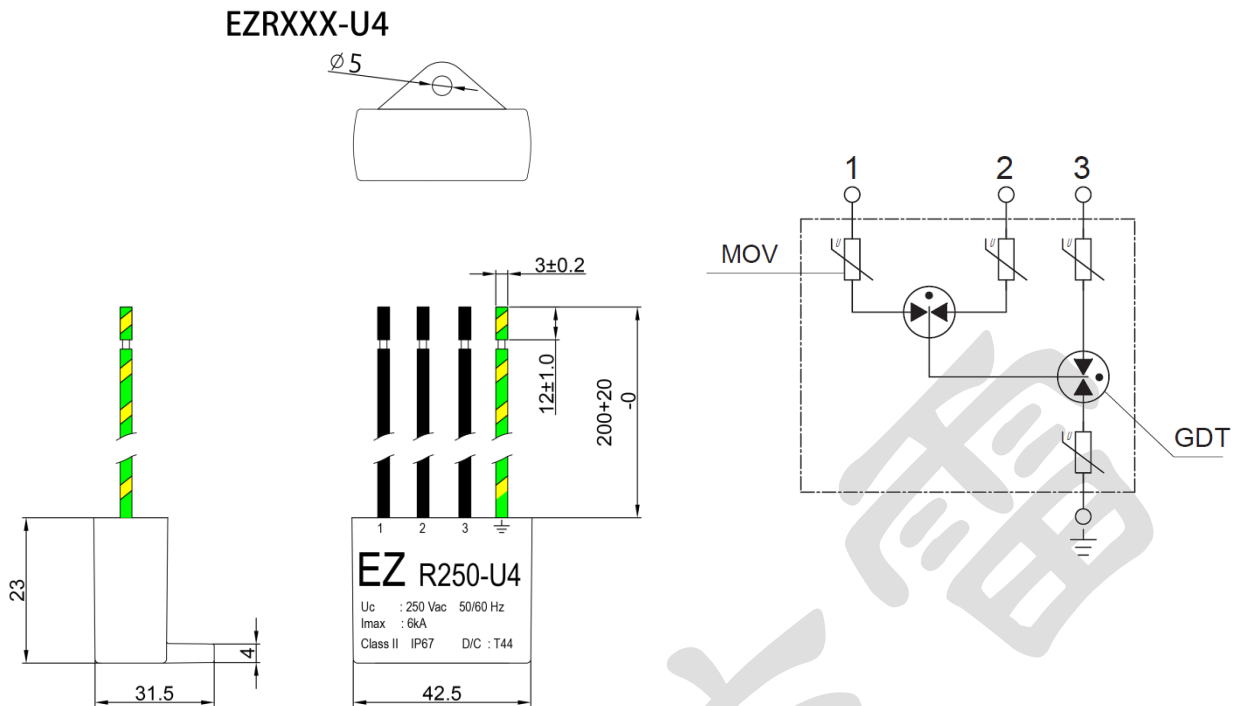
型号 Model Number	额定电压 Rated Voltage	DC 工作 开始电压 DC Operating Voltage	标称系统电压范围 Nominal System Voltage Range, Un			测量限制电压 Measured Limiting Voltage,	标称放电电流 Nominal Discharge Current	最大放电电流 Maximum Discharge Current	脉冲电流寿命 Impulse life test	
	50/60Hz	(V) \pm 25%	Δ	Y		MLV (V)	In (8/20 μ s, A)	I _{max} (8/20 μ s, A)	8/20 μ s, 1000A	
EZR250-U4-(IT)	AC250V	700	240	120/208		1300	3000	6000	约 300 次 about 300 times	
EZR420-U4-(IT)	AC420V	1100	-	220/380	230/420	240/415				1500
EZR500-U4-(IT)	AC500V	1300	480	277/480		2000				
EZR600-U4-(IT)	AC600V	1500	600	346/600		2500				

※IT 遥信信号: 额定电压 250Vac, 额定电流 5A.

IT remote signal: rated voltage 250 Vac, rated current 5A.

产品型号 Product Model		标称系统 电压 Nominal System Voltage	最大连续 工作电压 Maximum Continuous Operating Voltage	压敏电压 Varistor Voltage \pm 10%	直流击穿 电压 DC Breakdown Voltage	复合冲击波 Combination Impulse Wave	绝缘电阻 Insulation Resistance	介电耐压 Withstanding Voltage
		Un (Vac)	Uc (Vac)	(V)	Ez+30, -20%	(V)	Uoc (1.2 / 50 us) / Icw (8 / 20 us)	(M Ω)
EZR242-Q4	(1-2)	125	140	540	-	6kV/3kA 15 次 15 times	>1000	-
	(1/2-G)	-	-	-	2400			AC1000V, 60s AC1250V, 3s
EZR302-Q4	(1-2)	250	300	940	-			-
	(1/2-G)	-	-	-	3000			AC1500V 60s
EZR362-Q4	(1-2)	250	300	940	-	-		
	(1/2-G)	-	-	-	3600	AC1500V 60s AC1800V 3s		

项次 No.	项目 Item	测试方法 Test Methods
4.1	标准条件 Standard Conditions	除非另有规定外，所有的测试都于下述环境条件下进行。 温度：-40~85 °C 相对湿度：45~85 % RH Unless otherwise specified, all tests are made under environmental conditions as given below: Temperature: -40~85°C Relative humidity: 45~85 % RH
4.2	DC 工作 开始电压 DC Operating Voltage	SPD 连接到可调电压源，调节该电压源以在 10ms 和 500ms 之间保持施加 1 mA DC 的电流并测量 SPD 两端的电压。 SPD be connected to a variable voltage source adjusted to maintain a current of 1 mA DC applied between 10 ms and 500 ms and the voltage across the SPD measured.
4.3	测量限制电压 Measured Limiting Voltage (MLV)	施加标称放电电流(In)时，在 SPD 接线端子间测得的最大电压峰值。 Highest value of voltage that is measured across the terminals of the SPD during the application of impulses of nominal discharge current(In).
4.4	标称放电电流 Nominal Discharge Current (In)	每次间隔 1 分钟施加 15 次 8x20us 电流波形浪涌，DC 工作开始电压变化率小于±25%，可通过 SPD 的电压峰值。 peak value of the current through the SPD having a current waveform of 8x20μs where the DC operating voltage change less than ±25% after applied 15 surges with an intervals of 1 minute.
4.5	最大放电电流 Maximum Discharge Current (Imax)	参考 IEC61643-11:2011 第 8.3.3.1 节的测试方法，未曾测试过的 SPD 应不通电施加 Imax*2 次，即正极性与负极性的 Imax 各 1 次，每次冲击的间隔时间应足以使样品冷却到环境温度。 Referred to test methods of section 8.3.3.1 on IEC 61643-11:2011 previously untested SPD shall be tested unenergized. 2 total impulses of Imax shall be applied, i.e. one sequence of positive polarity and one sequence of negative polarity are applied to the sample. The interval between individual impulses shall be long enough for the sample to cool down to ambient temperature.
4.6	压敏电压 Varistor Voltage	SPD 连接到可调电压源，调节该电压源以在 10ms 和 500ms 之间保持施加 1 mA DC 的电流并测量 SPD 两端的电压。 SPD be connected to a variable voltage source adjusted to maintain a current of 1 mA DC applied between 10 ms and 500 ms and the voltage across the SPD measured.
4.7	直流击穿电压 DC Breakdown Voltage	以 100~2000 V/s 的电压上升率测量 SPD 两端电压。 The voltage across the SPD measured with a voltage rise rate of 100~2000 V/s.
4.8	复合冲击波 Combination Impulse Wave (Uoc)	每次间隔 1 分钟施加 15 次 Uoc 冲击波，压敏电压变化率小于±10%，直流击穿电压变化率小于±25%，可施加 SPD 的 Uoc 电压峰值。 Peak value of the voltage across the SPD where the varistor voltage change less than ±10% and DC breakdown voltage change less than ±25% after applied 15 impulses with an intervals of 1 minute.

5 结构尺寸与电路原理 Structure Dimension and Schematics


备注：

1.线规：AWG18 号线。

电线颜色：火线：1,2,3:黑色；地线：绿/黄色。线长： $200 \begin{smallmatrix} +20 \\ -0 \end{smallmatrix}$ mm。

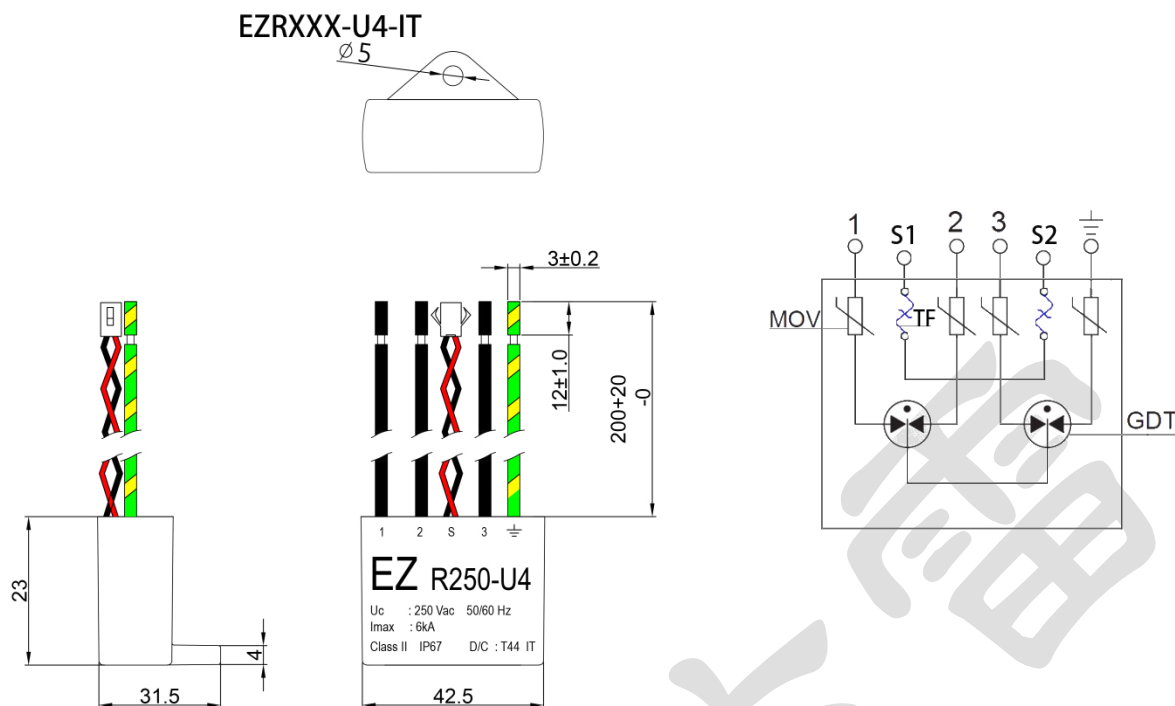
2. EZRXXX-U4：分离线缆，尾端 12.0 ± 1.0 mm 割开不去皮。

Notes：

1. Wire Gauge：AWG18 wire.

Wire Color: Black: Phase line 1,2,3 ; Green/Yellow : Ground. Wire length： $200 \begin{smallmatrix} +20 \\ -0 \end{smallmatrix}$ mm.

2. Separated wires, cutting on 12.0 ± 1.0 mm from tail terminals but not stripping.


备注：

1.线规：AWG18 号线。

电线颜色：火线：1,2,3:黑色；地线：绿/黄色。 线长：200⁺²⁰₋₀ mm。

2. EZRXXX-U4-IT：分离线缆，尾端 12.0±1.0 mm 割开不去皮。

3. 2 孔遙信端 SM-2P 母接头，线规：AWG26 号线, S1：红色, S2：黑色, 线长：200⁺²⁰₋₀ mm。

Notes：

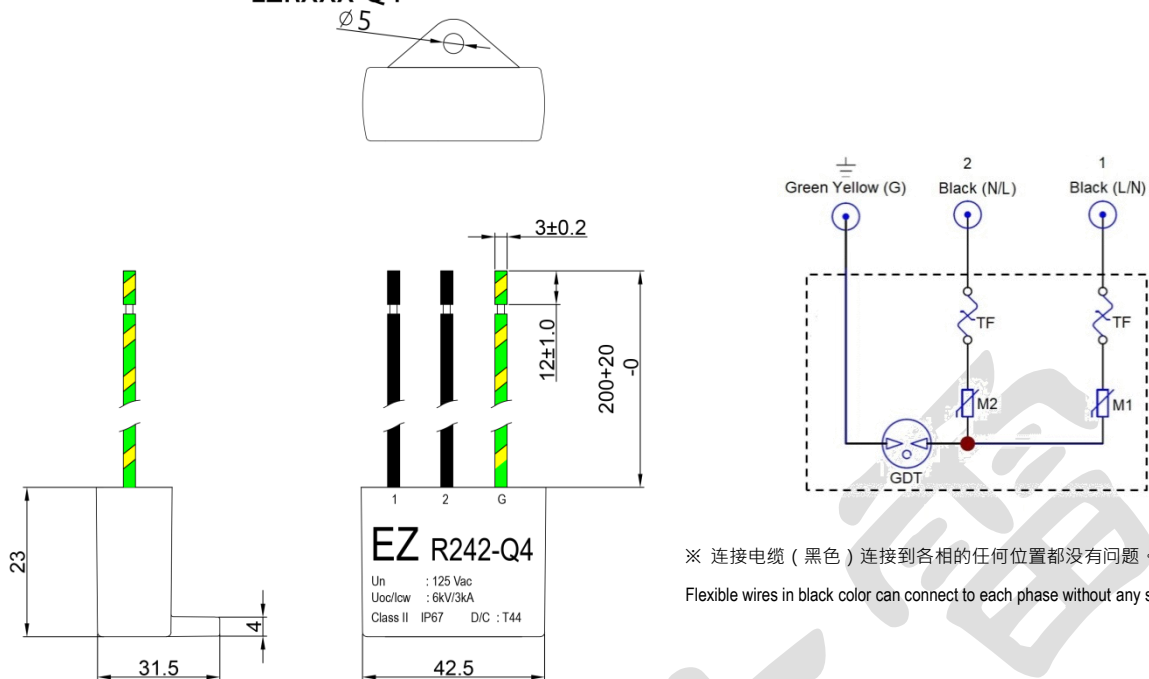
1. Wire Gauge：AWG18 wire.

Wire Color: Black: Phase line 1,2,3 ; Green/Yellow : Ground. Wire length : 200⁺²⁰₋₀ mm.

2. Separated wires . cutting on 12.0±1.0 mm from tail terminals but not stripping.

3. 2 pins remote signal female connector, model SM-2P, Wire Gauge : AWG26 wire, S1 : Red, S2 : Black, Wire length : 200⁺²⁰₋₀ mm.

EZRXXX-Q4



※ 连接电缆（黑色）连接到各相的任何位置都没有问题。
Flexible wires in black color can connect to each phase without any specific control.

备注：

1. 线规：AWG18 号线。

电线颜色：火线：1,2,;黑色；地线：绿/黄色。线长：200⁺²⁰₋₀ mm。

2. EZRXXX-Q4：分离线缆，尾端 12.0±1.0 mm 割开不去皮。

Notes：

1. Wire Gauge：AWG18 wire.

Wire Color: Black: Phase line 1,2, ; Green/Yellow：Ground. Wire length：200⁺²⁰₋₀ mm.

2. Separated wires. cutting on 12.0±1.0 mm from tail terminals but not stripping.

6 检验 Inspection

6.1 大气条件 Atmospheric Conditions

温度 Temperature : 5 °C - 35 °C

相对湿度 Relative Humidity : 25%-75%

大气压力 Air pressure: 86 kPa to 106 kPa

6.2 机械特性 Mechanical Performances

项目 Items	试验方法 Test methods/conditions	参考标准 Reference Standards	抽样频率和 接受标准 AQL
拉力 Pull	<p>将待测试产品安装于测试架上,所有输入或输出导线从任意角度施加总重 89N(20 磅)的法码挂钩绑牢,受力时间 1 分钟,轻放法码。</p> <p>Install the product on the test shelf and tie all input or output lead wires respectively with 89N(20 lbf) weight from any angle for 1 minute. Then release the weights slightly.</p>	IEC 61643-11 GB/T 18802.11	<p>3 pcs/Lot, AC=0 导线不损伤、脱落。 The lead wires shouldn't be damaged.</p>

6.3 常规检验项目 Routine Inspection Items

序号 No.	项目 Items	试验要求 Test Requirements	参考标准 Reference Standards	抽样频率和 接受标准 AQL
1	外观 Appearance	<p>壳体无穿孔,飞边;引脚镀层良好,无氧化发黑等情况。</p> <p>The case without perforation, flash, the pin coating is good and no oxidative blackening.</p>	ISO 2768-1 GB/T 1804	G-II, AQL=1.0
2	尺寸 Dimension	<p>用游标卡尺测量引脚外露长度,尺寸范围参照第 5 章节。</p> <p>Use vernier caliper to measure the Pin out length, size range reference section 5.</p>	ISO 2768-1 GB/T 1804	S-2, AQL=0.65
3	介电耐压 Dielectric Withstand	<p>在引脚和外壳间施加工频电压, EZR242-Q4\geq1500V, EZR320(362)-Q4 与 EZR250(420)-U4\geq2200V, EZR500(600)-U4\geq3300V, 1 分钟,不应该发生闪络和击穿。</p> <p>Subject the voltage no less than 1500V for EZR242-Q4, 2200 V for EZR320(360)-Q4 and EZR250(420)-U4, or 3300V for EZR500(600)-U4 last for 1 minute between leads and enclosure, arcing or puncturing shall not occur.</p>	IEC 61643-11 GB/T 18802.11	S-2, AQL=1.0

7 安装使用及维护 Installation and maintenance

7.1 EZRXXX-U(Q)4-(IT) 并联接法,仅输入

EZRXXX-U(Q)4-(IT) Parallel connection, only input

7.2 不正确的安装可能会损坏 SPD 的性能，严格按照指示安装尤为重要。

Incorrect installation may damage the performance of the SPD, and it is especially important to follow the instructions.

7.3 在开始安装程序之前，需用电表验证工作电压 AC，以确保工作电压符合要求。

Before starting the installation procedure, use the meter to verify the operating voltage AC to ensure that the operating voltage meets the requirements.

7.4 如果测量的电压超过电涌保护器的额定值，请勿安装 SPD。

Do not install SPD if the measured voltage exceeds the rating of the surge protector.

7.5 安装前不要接入电力系统。

Do not connect the power system before installation.

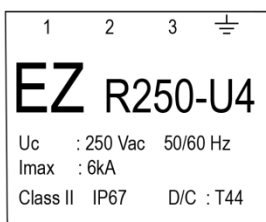
8 标示 Marks

本体标示 Product Body Marking:

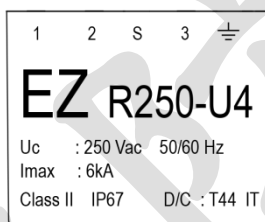
例如 ex:

产品型号 Product Model:

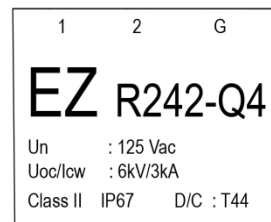
EZR250-U4



EZR250-U4-IT



EZR242-Q4



-以下无正文 **END**