M2014型光子计数探测器



M2014光子计数探测器是由端窗光电倍增管、高压电源模块以及比较成型电路组成的高灵敏度光子技术探测器。产品出厂前，各参数点已预设为最优值，用户只需接通电源，将输出端与计数单元连接即可使用。

The M2014 photon counting detector is a high-sensitivity photon technology detector composed of an end window photomultiplier tube, a high-voltage power module, and a comparative molding circuit. Before the product leaves the factory, each parameter point is pre-set to the optimal value. Users only need to connect the power supply and output terminal to the counting unit to use it.

规格参数 Specifications

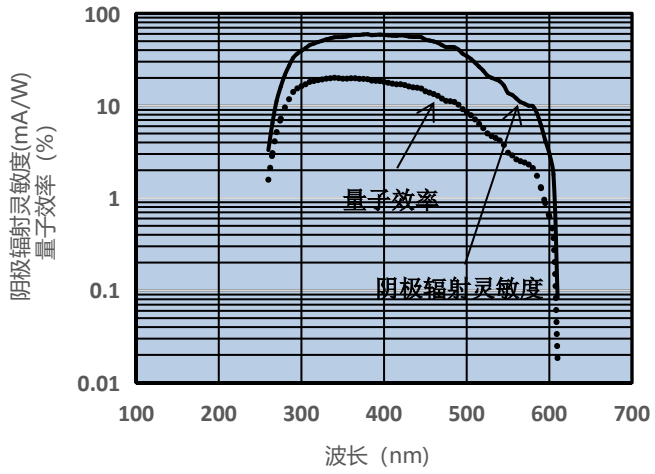
(测试环境温度25℃)

参数参数/Parameter		范围/值 Range/Value	单位/Unit
输入电压/Input voltage		+4.75~+5.25	V
最大输入电流/Max. input current		100	mA
有效面积/Effective area		Φ22	mm
光谱响应范围/Spectral range		290-650	nm
峰值波长/Peak sensitivity wavelength		420	nm
输出脉冲逻辑/Signal output logic		正TTL	--
输出脉冲幅度1) /Output pulse height	Typ.	2.2	V
	Max.	2.5	
脉冲对分辨时间/ Pulse-pair resolution		17	ns
辐射计数灵敏度/Count sensitivity	400nm	4.5×10^{5}	$s^{-1}\cdot pW^{-1}$
最大线性计数率2) /Count linearity	校正前	1×10^{7}	s^{-1}
	校正后	4×10^{7}	
暗计数3) /Dark count	Typ.	100	s^{-1}
	Max.	200	
一致性（相对偏差）4) /Consistency		±10%	--
8小时不稳定性5) /8-hour instability	Typ.	0.6%	--
	Max.	3%	
推荐负载/Recommended load resistance		50	Ω
重量/Weight		220	g
工作环境6)/ Operating environment	温度/Temperature	+5~+40	℃
	湿度/Humidity Max.	90%RH	--
存放环境6) /Storage environment	温度/Temperature	-20~+50	℃
	湿度Humidity Max.	93%RH	--

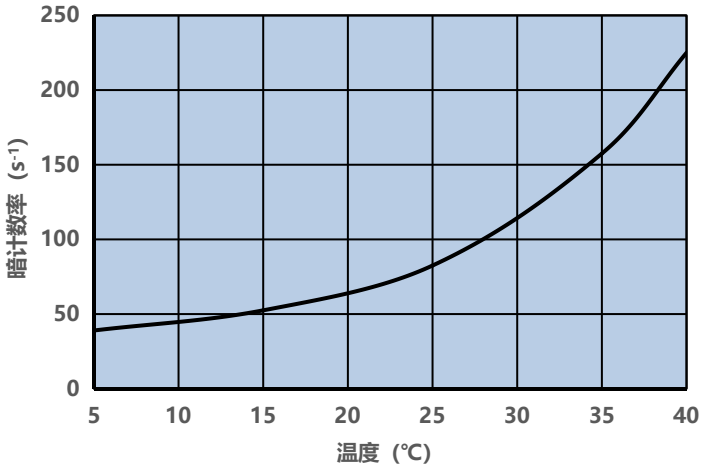
1) 负载50Ω、同轴线缆RG-174/U(500mm)；
2) 随机脉冲；校正后为2014配合计数单元M4011校正功能所得；
3) 避光 30 分钟后，室温25℃；
4) 光源波长在 400~500nm 之间，探测器输出计数率约 450ks^{-1}；
5) 探测器输出计数率约 450ks^{-1}；
6) 无冷凝。

1) Load resistance 50Ω，coaxial cable RG-174/U(500mm)；
2) Random pulse；the corrected max linearity count is obtained by M2014 operating with the correction function of the North Night Vision M4011 counter;
3) After 30 minutes of light avoidance and the operating temperature is 25℃;
4) The light source wavelength is between 400~500nm, and the detector output count is about 450ks^{-1}.
5) The detector output count is about 450ks^{-1}.
6) No condensation.

特性曲线 Characteristics

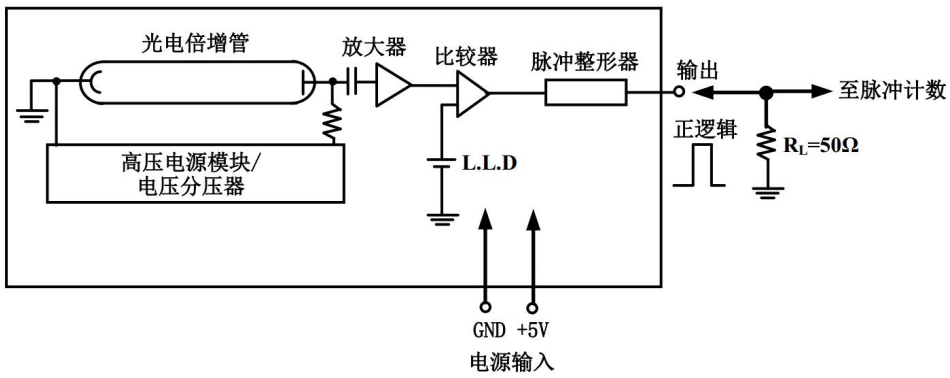


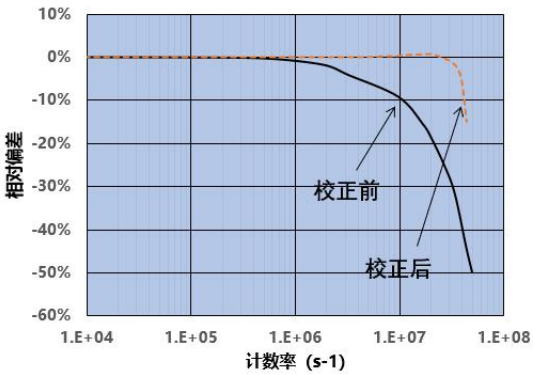
光谱响应曲线
Typical spectral response



暗计数随温度变化
Dark count varies with temperature

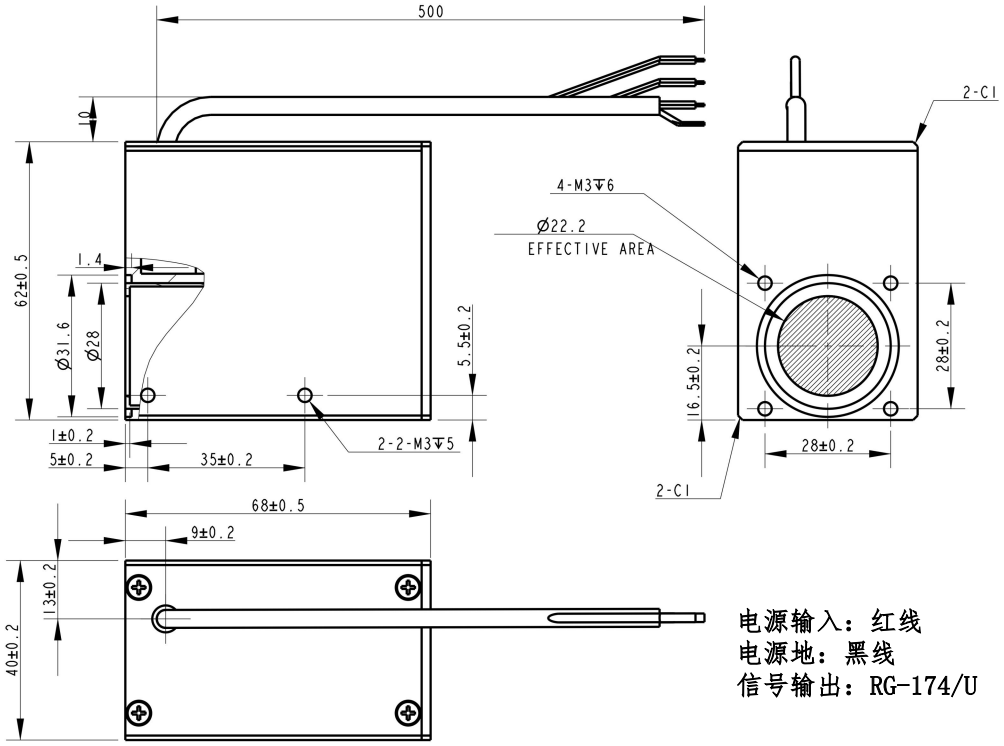
工作原理 Characteristics





配合我司M4011型计数单元，
校正后最大线性计数率可达到40Ms-1。

外形尺寸 Dimensional outline



电源输入：红线
电源地：黑线
信号输出：RG-174/U

参数测试方法请详询厂家

单位mm　线长可定制