

VERSION 1.1  
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## APPLICATION NOTE: RX POWER VMON

PHOTODIODE RECEIVE POWER VOLTAGE MONITOR CHANGE

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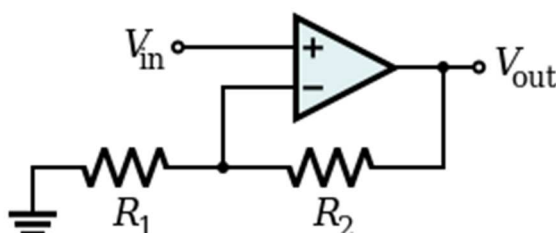
### INTRODUCTION

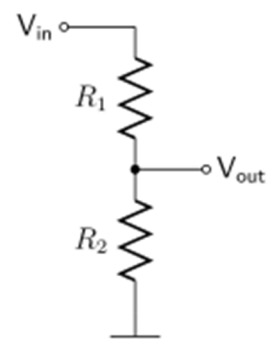
Many Optical Zonu systems incorporating photodiode receiver systems provide a voltage monitor that indicates the optical power of the received signal. The level of the voltage monitor directly indicates the power of the optical signal. This monitor is provided as a pin on either a DB9 or a DB25 connector. This application note provides information on a change in the reference scale and provides possible solutions for rectifying this change in existing systems.

### SCOPE OF CHANGE

The original scale for the received power monitor on systems manufactured before July 2016 is 1.0V=1.0mW. All units manufactured after July 2016 now operate with a scale of 0.1V=1.0mW. For existing monitoring systems, this change can be compensated by implementing a simple op-amp circuit that will be illustrated below. For implementing older equipment with monitoring equipment utilizing the new scale, a simple voltage divider circuit will also be illustrated.

### SOLUTIONS FOR EXISTING MONITORING SYSTEMS OR EQUIPMENT

	<p>For existing monitoring systems still employing the 1.0V=1.0mW scale, the following op-amp circuit can be used to scale the new Vmon output. Resistor values of R1=1.0kΩ and R2=9.0kΩ will multiply the Vmon reference voltage by 10x and make the signal compatible with old scale monitoring systems.</p>
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	<p>For new monitoring systems that incorporate the new 0.1V=1.0mW scale, a simple resistive voltage divider circuit can be implemented for older equipment still using the previous 1.0V=1.0mW scale. Resistor values of R1=10kΩ and R2=1.1kΩ will provide the necessary voltage scaling of 1/10. Any voltage divider circuit that reduces the input voltage by a factor of 10x can be used.</p>
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