



# N6841A RF Sensors

## QUICK Note 2 | Power Options

### Power Requirement

The Agilent RF Sensor was designed for low power consumption and outdoor installations. Under most conditions, the unit draws 25 Watts but under heavy use, can draw as much as 30 Watts. The input voltage requirement is 15 VDC minimum to 24 VDC maximum. Applying more than 28 VDC to the power connector may result in damage, and less than 13 VDC at the input connector could result in unreliable operation.

For safe operation, to protect yourself and others from hazards, use a power supply with a safety agency listing mark and the appropriate rating and environmental specifications for either indoor or outdoor use. An outdoor rated power supply must be used if the RF Sensor OR the Power Supply is installed outdoors.



### Power Options

#### Indoor use with AC power available

The N6841A-SP1 power supply will source the needed DC power to the RF Sensor with an input of either 110/120 or 220/240 VDC at 50 or 60 Hz. This supply is rated for use only where it and the RF Sensor are both installed indoors in a dry location.

#### Outdoor use with AC power available

In all cases, these two approaches can be used:

- **Cable solution**

If AC power is available from a protected area with a building penetration, a safety agency listed, outdoor rated power supply must be used in the protected area with an extended length DC power cable and connector. If the power supply is sourcing 24 VDC Nominal (21 VDC minimum), 18 AWG (0.75 mm<sup>2</sup>) cable runs up to about 100 meters will supply adequate voltage and current to the N6841A. If a 15 V DC source is used, a cable run with 16 AWG (1.5 mm<sup>2</sup>) conductors can go up to roughly

30 meters. One extra power supply connector is provided with each Agilent RF Sensor. Detailed instructions for making the power cable are included in the N6841A Installation Guide (CLICK All Programs > Agilent RF Sensor > Documents > Installation Guide).

- **Power supply collocated with Sensor solution.**

When installing the outdoor power supply with the RF Sensor, pay particular attention to the specified operating temperature limits and IP rating of the product. A safety agency listed, outdoor rated power supply must be used. There are a number of outdoor rated power supplies suitable for application with the N6841A.

The Meanwell CLG-60-24 is an option. It supplies 2.5 A at 16.8 to 24 VDC and is rated at 60 W. It is designed to IP67 for outdoor application and has a UR safety marking. All components which bear the UL Recognized Marking are under UL's Follow-Up Service (FUS) program. UL's FUS Program verifies that these components which bear the UL Recognized Marking continue to be manufactured in compliance with UL's safety requirements.





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## Battery Operation

For cases in which no power is available, the N6841A RF Sensor can be operated for about nine hours on a single battery charge using the UltraLife Model UBBL02 Lithium Ion battery. It sources 13.3 Ampere Hours at 15 or 30VDC. For application with the N6841A, configure the battery to source 15VDC through cable CA0007. This cable has two conductors that need to be soldered to the Switchcraft power connector provided with the RF Sensor. Be careful to follow the polarity convention as shown in the N6841A Installation Guide.

**IF THE BATTERY IS NOT CURRENT LIMITED A FUSE IS NECESSARY**

Also, a choice of battery chargers is available. The CH0002 is a Desktop one unit charger.

Product specifications and descriptions in this document subject to change without notice.

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