SZ7001

ZIGBEE wireless tipping bucket rain sensor

User Manual

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SZ7001 using the standard ZIGBEE Wireless Communication Interface,easy access to PLC，DCS and other instruments or systems for monitoring rainfall state quantities.The internal use of high-precision sensing core and related devices to ensure high reliability and excellent long-term stability,can be customized RS232,RS485,CAN,4-20mA,DC0~5V\10V,ZIGBEE,Lora,WIFI,GPRS and other output methods.

Technical Parameters

Technical parameter	Parameter value

Brand	SONBEST
Rainfall range	0.01mm~4mm/min
Rainfall Resolution	0.01mm~4mm/min
Rain inlet size	Φ200mm
Rainfall Sharp edge	40°~45
Rainfall accuracy	±3%
Communication Interface	ZIGBEE
Radio frequency	2.4G ISM
Network Type	Star network
Network capacity	65535
Power	DC9~24V 1A
Running temperature	-40~80°C

Wiring instructions

Any incorrect wiring can cause irreversible damage to the product. Please carefully wire the cable as follows in the case of power failure, and then connect the cable to confirm the correctness and then use it again.

ID	Core color	Identification	Note
1	Red	V+	Batter V+
2	Green	V-	Batter V-

In the case of broken wires, wire the wires as shown in the figure. If the product itself has no leads, the core color is for reference.

Precautions

1、试验工具：专用雨量量筒 1 个、小型滴管 1 个；

2、试验前的检查：

试验前先取下不锈钢外筒检查仪器水平泡是否居中、翻斗是否翻转灵活、无卡滞现象，并检查水路是否畅通，然后用清水对引水漏斗、翻斗进行充分润湿；

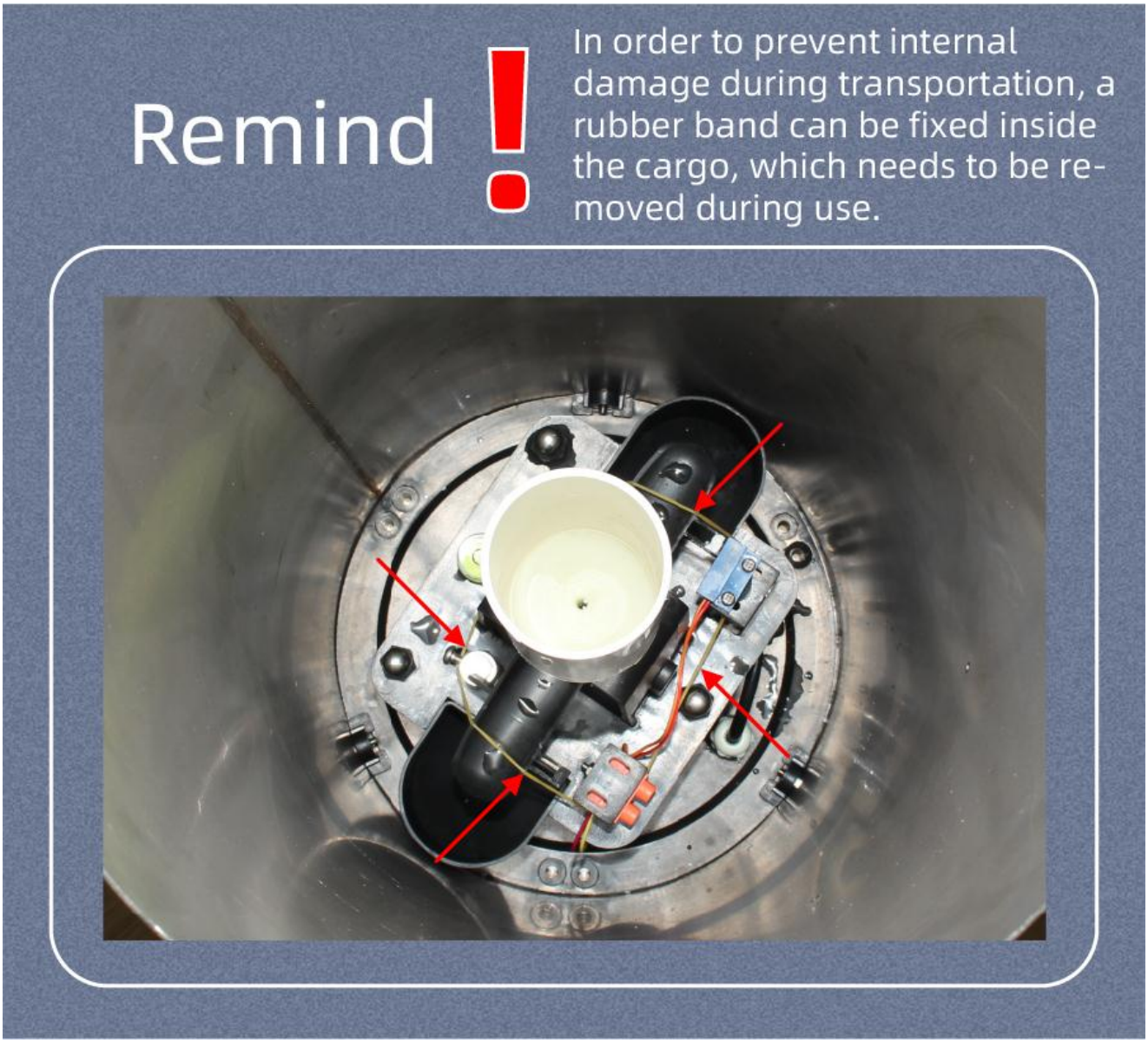
3、注水试验

用双速滴水法检验仪器测量准确度，其方法为：

用专用雨量量筒量取 10mm 的清水，通过引水漏斗以 0～4mm 雨强之间任意雨强缓缓倒入上翻斗的引水斗内，待下翻斗最后一斗欲翻未翻时，即停止注水，然后用滴管量取定量清水，一滴一滴加入到翻斗内直到下翻斗翻转即停止滴水，依次反复试验，记录翻斗翻转次数与耗用水量。0.2mm 翻斗翻转 50 次，耗用水量为 9.80～9.90mm，则可认定仪器翻斗倾角基点正当倒水量＜9.80mm，说明翻斗倾斜角度过小，应适当降低调节螺钉高度；一般讲，调节螺钉转一圈，能使精度改变 2～3%。

注：本方法只作为现场应急校准仪器误差用。精确校准仪器误差必须按照国家标准 GB/T11832-2002《翻斗雨量计》的要求在雨强试验台上进行校准或将仪器返回厂家校准。

How to use?


Remind !
In order to prevent internal damage during transportation, a rubber band can be fixed inside the cargo, which needs to be re-moved during use.

Where are they often used ?

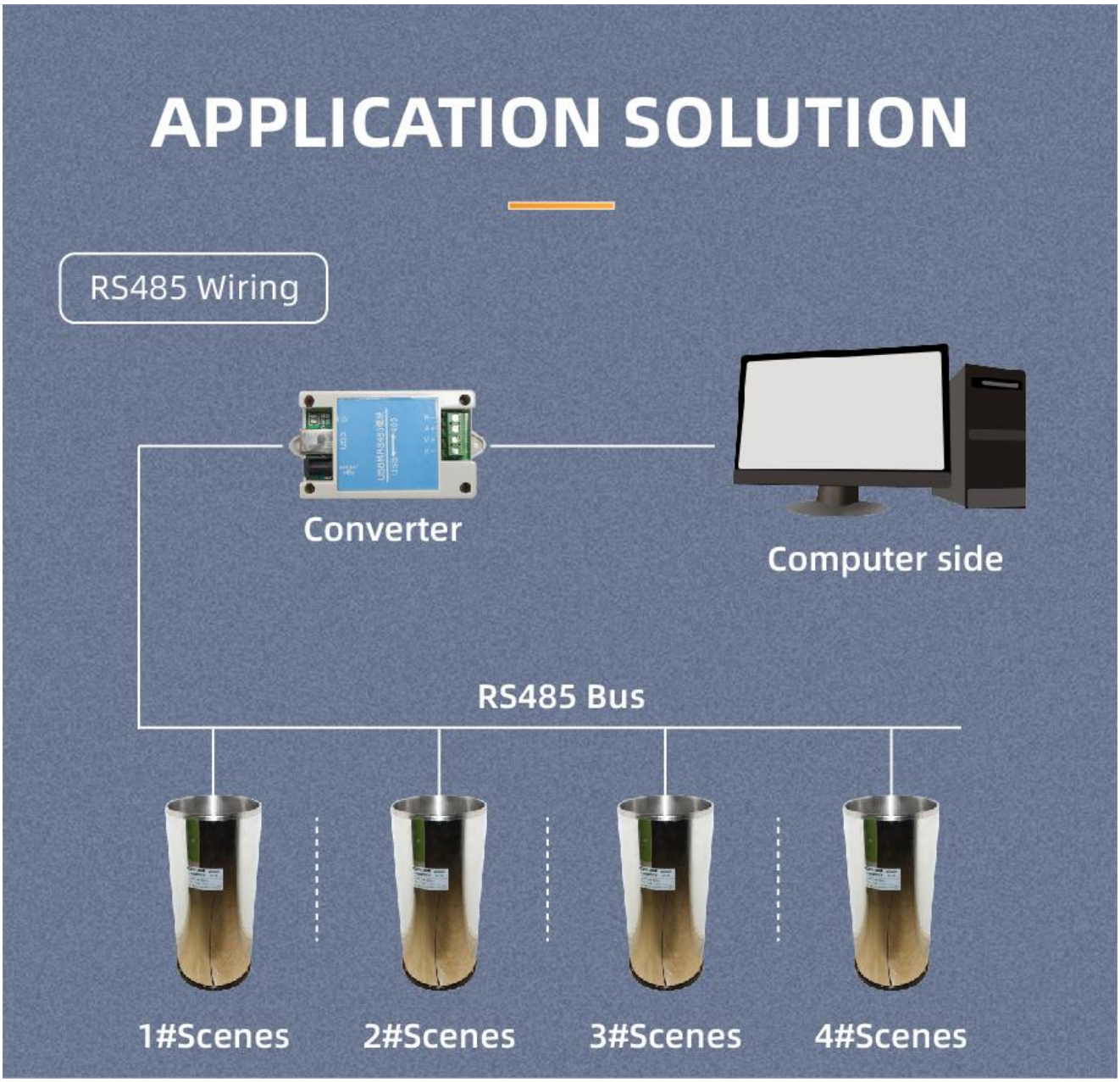
Rain sensors are widely used in:
Meteorological stations (stations), hydrological stations, agriculture, forestry, national defense and other relevant departments are used to remotely measure liquid precipitation, precipitation intensity, and the start and end time of precipitation. It is a system used for flood control, water supply scheduling, water regime management of power stations and reservoirs in hydrological automatic forecasting systems and on-site automatic forecasting stations, and is a precipitation measurement sensor.

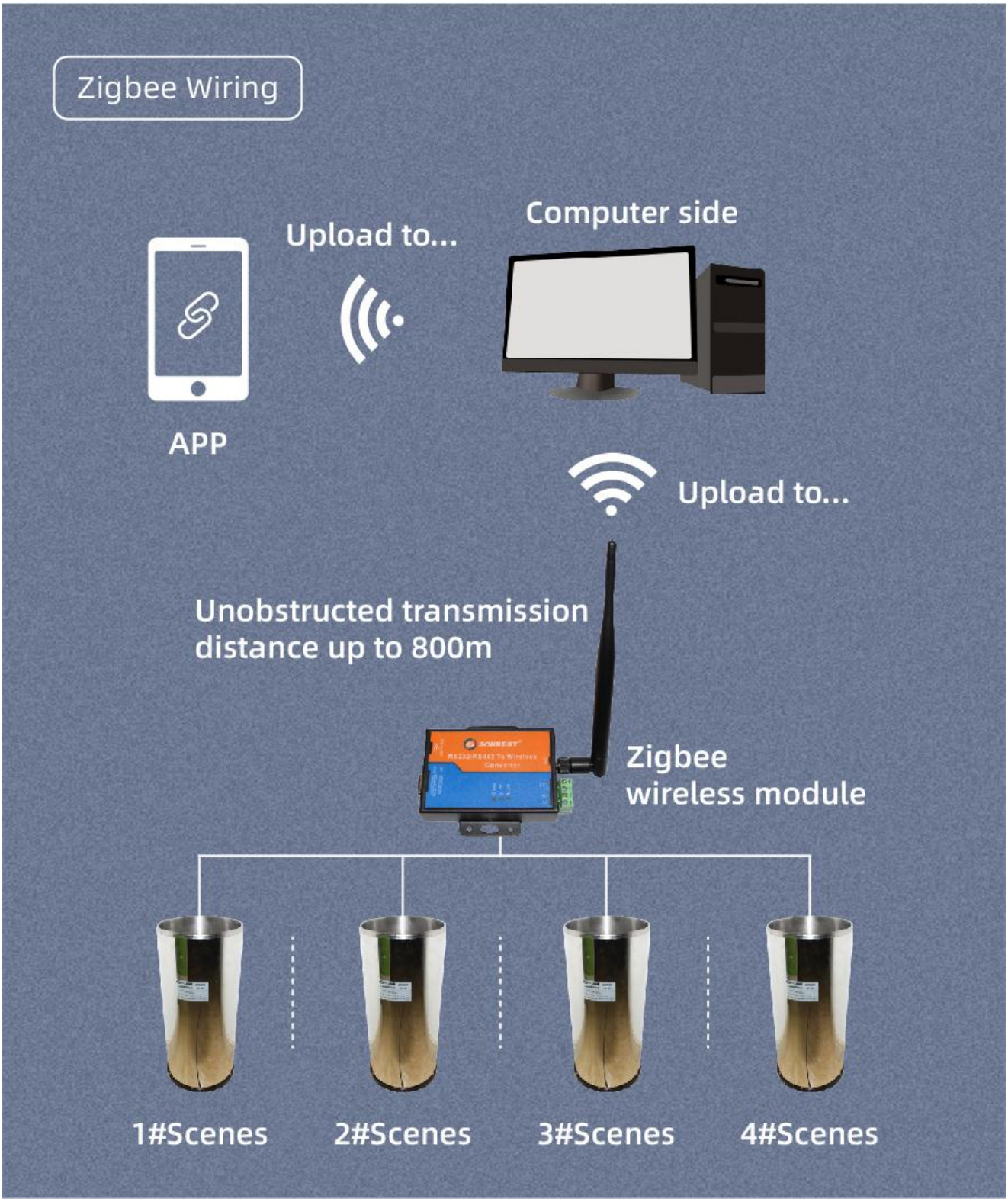









APPLICATION SOLUTION
RS485 Wiring
Converter
Computer side
RS485 Bus
1#Scenes
2#Scenes
3#Scenes
4#Scenes



Precautions

使用前打开设备顶盖，取出固定用皮筋方可正常使用。

Precautions

本表列出了仪器可能发生的一般故障现象、原因及故障排除方法。

中心站表现形式	故障现象描述	解决方法
降雨时收不到数	1、干簧管失效。</BR>	1、更换干簧管</BR>

	2、磁钢与干簧管距离过远。</BR> 3、焊线脱落或信号线断。</BR> 4、翻斗卡住。</BR> 5、仪器堵塞	2、调整干簧管距离</BR> 3、修复</BR> 4、排除</BR> 5、清除堵塞
信号不稳定	1、雨量传感器翻斗翻转倾角失调，但这种误差一般不超过±10%。</BR> 2、磁钢与干簧管距离过远。</BR> 3、焊线脱落或信号线断。</BR> 4、翻斗卡住。</BR> 5、仪器堵塞	1、更换干簧管</BR> 2、调整干簧管距离</BR> 3、修复</BR> 4、排除</BR> 5、清除堵塞
雨量一直计数，实际情况不下雨	检查插座是否浸水，这种现象往往在下大雨后易发生	处理进水，重新安装

注意：表中所列故障现象不一定是雨量计自身故障，在检查仪器自身排除故障之后还应该检查仪器传输出线、数据采集装置、遥测终端机等设备是否存在故障，并逐一排除解决。

Precautions

本仪器属精密的电子产品，正确的的维护和保养有助于保护仪器性能、延长仪器的使用寿命，请注意以下几点：

1、请依据使用说明书的要求正确使用说明书，接钱有误有可能导致仪器损坏。

2、不要用挥发性液体擦拭仪器，否则可能导致仪器变色变形；软布擦拭，避免仪器外部保护膜划伤，延长仪器使用寿命。

3、仪器应轻拿轻放，不得摔落或重压，否则将导致仪器变形、内部电路板损坏。

4、不要在仪器带电的情况下触摸感应部位，以影响量结果或导致仪器内部电路的损坏。

5、请勿私自拆卸和改装本仪器，以免对仪器造成损坏。

6、仪器使用时应用螺丝牢固固定，否则有可能损坏仪器。

7、本仪器为精密型单翻斗式雨量计，使用过程中要定期维护、清洗翻斗和引水漏斗出水口。

8、定期检查仪器电源电压，确保仪器正常运行。

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