

WD-UDK-247射频导纳物位开关

WD-UDK-247RF ADMITTANCE LEVEL SWITCH

概述 Introduction

UDK-247智能型射频导纳物位计系列是一款从根本上实现了智能化的射频导纳物位计。该系列产品是基于射频导纳原理设计的高端产品，具有稳定性高、测量精确、应用场合广泛等优点。相比传统的射频导纳物位计，本系列产品采用模块化设计，配有液晶调试模块，无需使用任何外围辅助设备，能够自动获取并显示被测物位当前值，为用户提供更可靠的测量数据；液晶调试模块具有调试和显示的双重功能，使用户能够简洁直观地读取所需的各项数据，方便了调试。

UDK-247 Series of intelligent RF admittance level meter is a fundamentally realized intelligent . This series of products is the high-end products which is designed on the basis of the principle of radio frequency admittance , with high stability, precise measurement and wide applications, etc. Compared to the traditional RF admittance level meter, this series product adopts modular design, equipped with LCD debugging module, without using any peripheral auxiliary equipment, can automatically retrieve and display the measured level , to provide more reliable measurement data; LCD debugging module have double function of debugging and displaying , to read intuitively all the data and convenient debugging.



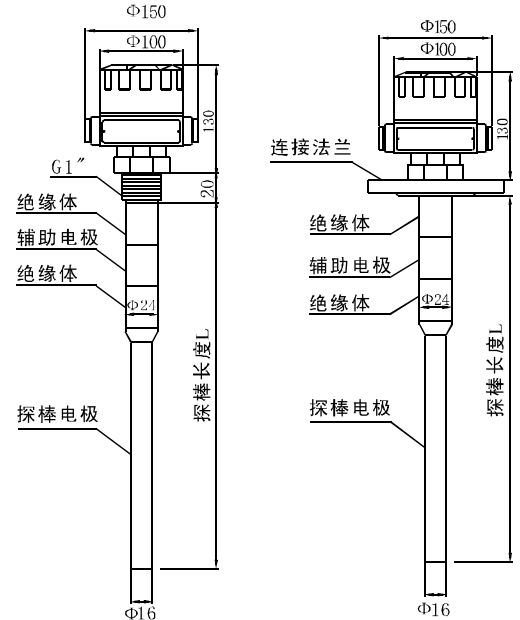
典型应用 Application

- 电厂：煤堆、原煤仓、燃料仓、蓄水池、废气净化罐、仓泵、灰库、油箱等；
Electricity plant: coal, raw coal, fuel storage, water, waste gas purification tank, pump, ash library, tank, etc.;
- 油田：原油或成品油储罐、三相分离器、沉降罐、污水罐及油水界面、钻探泥浆罐等；
Oil fields: crude oil or petroleum products storage tanks, three-phase separator, sedimentation tank, sewage tank, oil-water interface and drilling mud tank, etc.;
- 化工：原油蒸馏塔、原料和中间料仓、反应罐、氨水罐、固体料仓、分离器等；
Chemical industry: the crude distillation tower, raw materials and intermediate bunker, reaction tank, ammonia tank, solid bin, separator, etc.;
- 冶金：矿石料仓、矿石粉碎机、原料仓、辅料仓、高炉、氧化铝粉仓、电解池缓冲罐等；
Metallurgy: ore mill, raw material warehouse, accessories warehouse, blast furnace, alumina powder storehouse, electrolytic cell buffer tank.
- 水泥：石料仓、生料仓、水泥仓、煤粉仓、炉渣存储仓等；
Cement: pulverized coal stone warehouse, material house, cement warehouse, warehouse, slag storage warehouse.
- 水处理：蓄水池、污水池、水处理罐、沉淀池、深井、饮用水网络等；
Water treatment: reservoirs, water treatment, sewage pool cans, sedimentation tank, deep well, drinking water network, etc.;
- 造纸：原料仓、储料塔、干燥鼓、化学物料存储仓等；
paper: raw materials warehouse, towers, drying drums, chemical storage materials storage warehouse, etc.;
- 其他：采石场、食品、制药、环保、造船等行业等；
Other: quarry, food, pharmaceutical, environmental protection, shipbuilding industries, etc

特点参数 Parameters

- 智能化：**自动调整工作量程，并配指示灯显示，系统出错自查功能，配指示灯显示，无可动部件水平安装时精度非常高，测量粘稠性物料是该仪表的优势。
 Intelligent: automatically adjust the working range, and with indicator light display, system has the function of error inspection, with indicator light display, high precision when no moving parts level installation, can measure viscosity material
- 抗挂料：**独特的电路设计提高了抗挂料性能
 Resistance to hanging: unique design improves the circuit hanging resistance
- 供电范围：**DC24V 100mA和AC220V 50/60HZ
 Power supply: DC24V 100mA and AC220V 50/60HZ
- 继电器容量：**DPDT, 117/220VAC, 5A无感3A有感
 Relay capacity: DPDT, 117/220VAC, 5A non-inductive 3A inductive
- 适应性：**探头使用温度范围：-184℃~260℃，
 电路部分耐温：-40℃~80℃
 Adaptability: probe using temperature range: 184℃~260℃,
 the circuit heat-resistant: -40℃~80℃
- 灵敏度：**小于0.3PF
 Sensitivity: less than 0.3 PF
- 延时可调：**0-60秒
 Time delay adjustable: 0-60Sec
- 稳定性：**高稳定性输出，耐飞灰、落料、水汽、结晶、结蜡影响。
 Stability: high stability, resistance to fly ash, blanking, water vapor, crystallization, wax.
- 免维护：**无活动、无易磨损部件，无需经常清洁、保养、调试。
 Maintenance free: no activities, no easy worn parts, no need often clean, maintenance and debugging.
- 易操作性：**面板式设计理念，正常安装完成后，仪表自动标定工作点并运行，方便的电气连接，提高了操作人员工作效率。
 Operability: panel design, after completing installation, instrument calibration working point and run automatically, convenient electric gas connection, improve the operating personnel work efficiency.
- 防爆等级：**本安型：ExiaIICT4-CT6
 隔爆型：ExdIICT4-CT6
 Explosion-proof: Intrinsic safety: ExiaIICT4 - CT6
 Explosion-proof: ExdIICT4 - Ct6

外形尺寸图 Outline dimensional



仪表调试 Instrument debugging

仪表出厂前已作全性能的调试，但经过长途运输或长期库存后，在交付使用前仍需对一些主要性能进行检查。

1、零点设置：

将液位设置到欲设定的零点位置(比如空罐状态)，等待液位稳定10-20秒后，按下零点按键5秒以上，待绿色发光管闪烁，松开按键，零位设置完毕。

2、满度设置：

当液位达到设置报警点，待液位稳定10-20秒后，按下量程按键5秒以上，待绿色发光管停止闪烁且熄灭，松开按键，满度设置完毕。

注：零点和量程设置不分先后顺序，互不影响。如先按量程后按零点，则绿色LED灯会一直闪烁，这不影响测量。

Instrument have finished debugging before delivery, but after long-distance transportation or long-term inventory, still need to check some of the main performance before using.

1. Zero setting:

Set the level to zero position(such as empty cans), wait for the liquid level stable after 10 to 20 seconds, press the zero button more than 5 s, stay green light-emitting tube twinkle, loosen the button, zero set finished.

2. Full setting:

When the liquid level to the alarm point, wait for liquid level stable after 10 to 20 seconds, press the button more than 5 seconds, stay green light-emitting tube stop blinking and extinguished, loosen the button, full set is finished.

Note: zero and range set regardless of orderr. If first full setting ,then zero setting, the green LED light flashing all the time, no affect the measurement.

按键功能 Key function

1、K1键功能:

- a、在测量状态，长按5S，LED1绿色指示灯闪烁，空测量状态设置。
- b、在设定状态，短按光标循环移位。

2、K2键功能:

- a、在测量状态，长按5S，指示灯闪烁，满测量状态标志。
- b、在设定状态，短按K2键，加或者循环加。

3、K1+K2组合键，进入液晶参数设置菜单。

4、指示灯功能:

LED1: 操作状态指示灯。

LED2: 液位、物位动作翻转指示灯

1. K1 functions:

- a. in measuring state, long press 5 s, LED1 green light is flashing, empty measurement Settings.
- b. in setting state, short press the cursor ,cyclic shift.

2. K2 functions:

- a. in measuring state, long press the 5 s, the indicator light flashing, full measurement status.
- b. in setting state, short press K2, add or cycle.

3. K1 and K2 combination, into parameter Settings menu.

4. Light function:

LED1: operating status indicator.

LED2: liquid level, material level movements turn indicator

菜单设置 The menu settings

1、高低位报警点设置High and low alarm point set:

a、不带液晶Without the LCD

在测量状态下，同时按KEY1键和KEY2键，LED1绿色指示灯亮后，短按KEY2键，继电器和LED2红色指示灯动作翻转（如设置好延时，则等待延时而再翻转）。设置好后，再同时按KEY1键和KEY2键，保存数据并退出设置。

In measuring conditions, at the same time press KEY1 and KEY2, the green light LED1 work, short press KEY2, relays and red indicator light LED2 turned action (finishing set up delay, wait to roll again after delay). After setting up, press KEY1 and KEY2 at the same time, save the data and exit the Settings.

b、带液晶With the LCD

可进入菜单参数设置界面，进入方法，在测量状态，同时按KEY1+KEY2键进入。找到报警点设置项进行设置。

Enter the menu parameter settings interface, under the measurement condition, at the same time press the KEY1 KEY2 to enter. Find alarm settings item to set.

2、延时时间设置Delay time to set

延时时间的设置值是0-60秒。Set value of delay time : 0-60 seconds.

a、不带液晶Without the LCD

在测量状态下，同时按KEY1键和KEY2键，LED1绿色指示灯亮后，短按KEY1键，LED1绿色指示灯闪烁，按闪烁的次数来决定延时的长度，按KEY1键设置循环。

闪烁1次：延时0S，闪烁2次：延时5S，闪烁3次：延时15S。

闪烁4次：延时30S，闪烁5次：延时60S。

In measuring conditions, at the same time, press KEY1 and KEY2, the green light LED1 work, short press KEY1, green light LED1 is flashing, press flicker frequency to determine the length of the delay, press KEY1 set cycle.

Flash one: delay 0 s, flash twice: delay 5 s, flash 3 times: delay 15 s.

Flash four times: delay 30 s, flash 5 times: delay of 60 s.

b、带液晶With the LCD

可进入菜单参数设置界面，进入方法，在测量状态，同时按KEY1+KEY2键进入，找到延时设置项进行设置。

Enter the menu parameter settings interface, in the measurement condition, at the same time press the KEY1 KEY2 to enter, find time delay setting to set

型号规格表 Model&Spec

WD-UDK-247		射频导纳物位开关 RF admittance level controller	
2	24VDC	供电方式 Power Supply	
3	220VAC		
A	标准灵敏度 Standard sensitivity	电路单元灵敏度 Circuit sensitivity	
B	高灵敏度 High sensitivity		
0	无延时(标准电路单元) No delay (standard circuit)	时间延时 Time delay	
1	带延时(0-30秒可调) Delay (0-30s adjustable)		
Y	一体式 Integration	仪表形式 Instrument type	
F	分体式 Disintergration		
0	G1"	螺纹式Screw: 管螺纹Pipe screw	过程连接 Process connecting
1	G1 1/4"		
2	G1 1/2"		
3	DN40 PN 1.6	法兰式Flange	
4	DN50 PN 1.6		
5	DN80 PN 1.6		
6	按客户要求 According to customer's request		
P	普通型 Normal	防爆等级 Explosion proof classification	
D	隔爆型 Explosive-proof		
B	本安型 Essential-proof		
01	标准型 (温度<120℃) Standard	电极形式 detector type	
02	高温型 (温度<180℃) High Temp		
03	平板型 Flat type		
04	柔性探头 Soft detector		
05	耐腐型 Proof-errosion		
□□□	开关长度(mm)length		
WD-UDK-247 □ - □ - □ - □ - □ - □ - □ - □ - □			
★ 其他特殊要求可在订货时注明! Other special requirement remark in order!			

例：射频导纳开关供电电压24VDC，标准灵敏度，带0-60秒延时可调，一体式结构，介质温度80℃，过程连接为DN50 PN1.6法兰，隔爆型，防爆等级：dIICT4-CT6，探杆长500mm。

选型为：UDK-247-2A1Y4D01-500

Example: RF admittance switch power supply 24 VDC, standard sensitivity, with 0-60 seconds delay time adjustable, integrated, medium temperature 80 °C, the process connection DN50 PN1.6, flameproof, explosion-proof level: dIICT4 - CT6, probe is 500 mm length.

Model is: UDK-247-2A1Y4D01-500

电极选型 Electrode selection

电极编号 Detector No.	电极形式和典型应用 Detector type& apply	工作温度和工作压力 Operation Temp&Press	长度 length	电极直径和材质 Detector diameter & material	安装连接形式 install
01	标准型standard 用于液体、轻浆体、颗粒（密度≥240kg/m3） Used for liquid、slurry、TSP	121℃/1.38MPa	457mm（18"）	9.5mm/316ss和PTFE	3/4"NPT
02	高温型high Temp 用于液体、轻浆体、颗粒（密度≥240kg/m3） Used for liquid、slurry、TSP	180℃/1.38MPa	457mm（18"）	9.5mm/316ss和PTFE	3/4"NPT
03	平板探头plate type 用于料槽料斗堵塞检测，低料位 Used for silo、hopper jamming、low material level	121℃/0.7MPa		φ165mm（DN50） /304ss和PTFE	嵌装 Setting-in
04	柔性探头soft detector 用于高/低料位插入长度>15m的场合 Used in high/low material level length >15m circumstance	82℃/常压	15m	4.7mm/304ss和橡胶	1"NPT
05	耐腐蚀型proof erosion 用于液体、轻浆体、颗粒（密度≥240kg/m3） Used for liquid、slurry、TSP	121℃/1.38MPa	457mm（18"） 914mm（36"）	9.5mm/316ss和PTFE	3/4"NPT

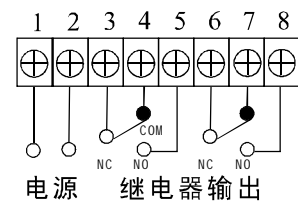
备注：以上为标准长度，可根据用户要求开关长度生产。

Remark: above is standard length, detail length is decided by customer.

推荐选型安装 Recommend selection of installation

- 1、在测非导电介质时，可以为水平或垂直安装。如需垂直安装时，要求探头至少深入被测控制点10cm左右，介质的相对介电常数需>3.5。
- 2、在测导电液体、泥浆或界面检测时，可以水平垂直安装。探头与物料接触位置即报警位置。
- 3、在测粉末和颗粒装物料时，可以水平或垂直安装，但探头穿过容器时，保护电极应比容器壁上的积料厚度长出2"。如用户需要，我们可以提供材质为Teflon或Kyanr材料的防腐探头(采用涂层法兰连接)。

接线端子图 Terminal diagram



1. When measuring the non-conductive medium, can be horizontal or vertical installation. For vertical installation, the probe is required into measured control points at least 10 cm. The relative dielectric constant should be > 3.5.
2. In the conductive liquid, mud or interface detection, can be installed in a horizontal vertical. The position which probe and material contact is the alarm position.
3. In the measurement of powder and particle materials, can be installed in a horizontal or vertical, but when the probe through the container, the length of the protecting electrode should be longer 2" than the thickness of acculated material on the vessel wall. If you need, we can provide the anti-corrosion probe which is Teflon or Kyanr material(with flange coated).