
Digital Refrigerant Meter

RW-AMD-350

使用说明书 Operating Instructions



使用此仪表前，请认真阅读说明书。

Please read the Operating Instructions carefully before use.

使用安全

Safety in Use

1: 该仪器应由具有相关专业资质的人员使用操作！

Only the qualified technicians are allowed to use and operate this instrument.

2: 使用该仪器时，应穿戴好相应的防护衣具！

Always wear protective clothing in use of this instrument!

3: 人体直接接触制冷剂会产生对人体的伤害，操作时必须小心谨慎！

Special care is necessary in operation because it is harmful if people contact the refrigerant directly!

4: 仪表和软管内可能会残留少量的制冷剂，请谨慎操作并尽可能的回收残留制冷剂！

A handful of refrigerant might be remained in the instrument and hose. Be careful in operation and try to recover the residual refrigerant as much as possible!

5: 仪表与软管连接必须牢固，以防脱落导致制冷剂泄漏！

The connection between the instrument and the hose must be secured to prevent any leakage of refrigerant in case of disconnection of the joint!

6: 更换的电池请不要随意丢弃，以免造成环境污染！

Never discard wasted battery casually to prevent the environment from pollution!

下列情况下请更换相关配件

Replacement is required in following condition.

电池电压不足，电压不足会使测量准确度降低。

The replacement of the battery is required if the battery voltage is too low as the insufficient battery voltage will reduce the accuracy of measurement.

简述:

Introduction:

本仪表采用高精度压力传感器，数字温度传感器，大规模集成电路制作而成的数字冷媒表，含有多达 36 种制冷剂压力温度参数，主要用于制冷系统的维修与维护；它的优点在于测得的制冷系统的压力、冷凝温度、蒸发温度等参数一目了然，压力、温度测量准确。

It is a digital refrigerant meter which consists of high precision pressure sensor, digital temperature sensor and large scale integrated (LSI) circuit. As many as 36 refrigerant temperature parameters could be measured buy this meter. It is mainly used for the maintenance and service of the refrigeration system for its obvious advantages. The measurement of the pressure, condensation temperature and evaporation temperature of the refrigeration system are clear at a glance. The measurement of the pressure and temperature are accurate.

具有以下特点：

The features are as follows:

1、压力、温度大屏幕显示，多角度观察，数据清晰直观

Large screen display of pressure and temperature. Observation could be made in multiple angles and the data are clear at a glance.

2、外壳包胶防护，更耐用

The instrument housing is durable as it is protected by rubber.

3、含有 36 种制冷剂参数，方便用户使用

As many as 36 refrigerant parameters are available for a convenient use.

4、具有微功耗设计，电池使用寿命更长

Micro power consumption design for a longer battery service life.

5、可以测量高压、低压端压力，蒸发温度、冷凝温度和高低压端管路温度

Various measurements such as the pressure of high and low ends, evaporation temperature, condensation temperature and the temperature of high and low pressure piping.

6、计算过热度、过冷度

Calculation of the degree of overheating and the degree of supercooling.

7、可以检查管路是否泄漏

Inspection for leakage of piping.

8、可以检查真空度

Examination of vacuum.

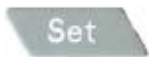
技术参数：

Technical Parameters:

压 力 PRESSURE	压 力 测 量 通 道 Pressure Measurement Channel	2
	压 力 测 量 范 围 Pressure Measurement Range	-0.1~4.2MPa（表压） -0.1~4.2MPa (Gauge)
	过 载 压 力 Overload Pressure	125%
	压 力 精 度 Accuracy of Pressure	1%
	压 力 单 位 Unit of Pressure	psi、bar、MPa、kPa、inHg
温 度 TEMPERATURE	温 度 测 量 通 道 Temperature Measurement Channel	2
	温 度 测 量 范 围 Temperature Measurement Range	-55~125℃
	温 度 精 度 Accuracy of Temperature	±0.5℃ (-10~85℃)
	温 度 单 位 Unit of Temperature	℃、°F

阀 体 VALVE BODY	阀 体 材 质 Material of Valve Body	铝			
	阀 体 接 口 Valve Body Connection	¼"M-Flare			
电气特性 ELECTRICAL PROPERTIES	供 电 电 压 Power Supply Voltage	6V（AA 电池四节） 6V (four AA batteries)			
	最 小 工 作 电 压 Minimum Working Voltage	3.6V			
	电 池 寿 命 Service Life of Battery	连续工作 120 小时（不含背光灯） Continuous working 120 h (backlight is excluded)			
制 冷 剂 REFRIGERANT	可选制冷剂种类 Selectable Refrigerants	R12 R23 R290 R402B R407C R414A R421A R424A R502	R13 R114 R401A R404A R408A R416A R422A R427A R503	R14 R123 R401B R406A R409A R417A R422B R434A R507	R22 R134a R402A R407A R410A R420A R422D R437A R718

按键 Push-Buttons



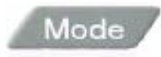
SET 用于设置压力和温度单位

Setting the unit of pressure and the unit of temperature.



R,STAR/STOP 用于制冷剂选择和管路泄漏检查

Selection of refrigerant and inspection for leakage of piping.



Mode 用于设置仪表使用模式

Setting operating mode of instrument.



P=0 用于清除压力漂移值（需按下约 2 秒）

Clear off pressure drift value (Push down about 2 seconds)



用于开关背光灯和开关机（开关机时需要按下约 2 秒）

Turn on or turn off the backlight. Turn on or turn off the instrument. (Push down about 2 seconds to turn on and turn off the instrument)



用来翻页或用于设置大气压力时数据加 1 或减 1

Page up and page down. Add 1 or subtract 1 in the setting of atmospheric pressure.

符号说明：

Description of Symbols:

温度单位 Unit of Temperature: $^{\circ}\text{C}$ 、 $^{\circ}\text{F}$

压力单位 Unit of Pressure: MPa、kPa、bar、psi、inHg

Pabs: 绝对压力 Absolute Pressure

Prel: 相对压力 Relative Pressure

EV 、 t_0 : 蒸发温度 Evaporation Temperature

C_0 、 t_c : 冷凝温度 Condensation Temperature

t_{0h} 、 t_{cu} : 高低压端实测温度 Measured Temperature at High and Low Pressure Ends

SH : 过热度 Degree of Overheating

SC : 过冷度 Degree of Supercooling

hh: mm: 检漏时间 Time of Leakage Detection

ΔP : 泄漏模式及泄漏压力 Mode of Leakage and Leakage Pressure

VAC: 真空模式 Mode of Vacuum




使用前准备：





Preparation Before Use

- 1、 将 4 节 AA 电池（5 号）按照正负极方向正确装入电池盒，开机检查电池电量。如果电量太低，无法开机，请更换电池！当电池电量不足时，仪表会显示电池电量不足符号。

Put four AA batteries into the battery pack with correct positive pole and negative pole. Turn on the instrument and check the battery voltage. If the battery voltage is too low to turn on the instrument, replace the batteries immediately! The instrument will indicate the symbol of shortage of power when the battery voltage is too low.




2、 制冷剂选择 Selection of Refrigerant

在制冷模式下，使用  键，制冷剂型号开始闪烁，再使用  或  键，选择您所需要的制冷剂型号，按  键，停止闪烁，制冷剂选择结束。

In the mode of cooling, push down the button  and the type of refrigerant starts to flicker. Then push down the button  or the button  to select the desired type of refrigerant. Push down the button , the flicker is ceased and the selection of refrigerant is completed.




3、 压力温度单位设置 Setting Unit of Pressure and Unit of Temperature

使用  键，配合  或  键，用来设置到您所需要的压力单位与温度单位。

Push down the button  and the button  or the button  to set the desired unit of pressure and the desired unit of temperature.

4、 当地大气压力设定 Setting Local Atmospheric Pressure

继续使用  键，配合  或  键，设置当地大气压力，使用它，可以使您使用绝对压力与相对压力。

Continue to push down the button  and the button  or the button  to set the desired local atmospheric pressure. You could use Absolute Pressure or Relative Pressure.

5、 模式选择 Selection of Mode

使用  键，可以用来设置仪表的使用模式。

使用的模式有：制冷、制热、查漏、真空

Push down the button to set the operating mode of the instrument.

The available operating modes are: Cooling, Heating, Leakage Detection and Vacuum.

提示：

Prompt:

电池电量不足时，会出现电池电量不足的符号

The instrument indicates the symbol of shortage of power when the battery voltage is too low.

压力超量程时会出现 ---提示

The prompt --- indicates the over-range of pressure

按键按下时，伴有蜂鸣器提示音

The buzzer prompt tone is accompanied when any button is pushed down.

使用：

Operating:

将仪表按照您的使用习惯设置好后，连接好相关的管道及设备，就可以投入使用。在使用过程中，将仪表连接入制冷设备。开机，仪表会自动进入用户上次结束时的界面，按下相关按键，观察制冷设备的压力、蒸发温度、冷凝温度、高压端实测温度、低压端实测温度、过热度、过冷度及检测设备是否泄漏。

注意：要观察过热度与过冷度时，须配合两只外部温度传感器。

After the desired operating condition is set well and the instrument is connected with the related piping and equipment, the digital refrigerant meter could be put into operation. Connect the instrument with the refrigeration equipment. Turn on the instrument and the meter will enter the operator's last completed operating interface automatically. Push down the desired buttons and observe the refrigeration equipment pressure, the evaporation temperature, the condensation temperature, the measured temperature of the high pressure end, the measured temperature of the low pressure end, the degree of overheating and the degree of supercooling. Also, it will inspect the equipment for any leakage.

Cautions: Two outside temperature sensors are required in the observation of the degree of overheating and the degree of supercooling.

仪表的维护及保养：

Maintenance and Service of Instrument:

仪表长时间不用时，请将电池取出，以免造成仪表损坏

When the instrument does not use for a long time, it should take out the batteries to prevent the meter from damage.

接口螺纹在不用时应加盖保护帽，防止损伤螺纹

When the instrument does not use, the connection thread should be capped to prevent the thread from damage.

本仪表不适用于腐蚀性液体，特别不适用氨及含氨的制冷剂

The instrument is not suitable to any corrosive liquid, especially, ammonia and any ammoniated refrigerant.

开关阀门时，不要用过猛力，以防损坏密封件

Never open or close the valve with sudden force to prevent the sealing element from damage.

软管属易损件，应经常检查其老化情况，并及时予以更换

The hose is a wearing part. Check the hose for its aging condition and replace it promptly.

建议定期检查仪表的密封情况

It is recommended to check the sealing condition of the instrument periodically.

仪表应存放在干燥处，以防受潮

Always store the instrument in a dry place to prevent it from moistu