

Industrial Control Equipment Data Applications

1. Determine the device address

1.1. BR-CON Series

Switch Number	1	2	3	4	5	6	7	8
ON	1	2	4	8	16	32	64	128
OFF	0	0	0	0	0	0	0	0

The switch address is shown at the back of the unit, it represents the unit's address. There are 8 switches set as position 1 to 8, represent combination of 1, 2, 4, 8, 16, 32, 64 and 128. For example, if the switches 1 and 4 is 'ON', the unit address is $1+0+0+8+0+0+0+0=9$ and 9 is the address of this unit.

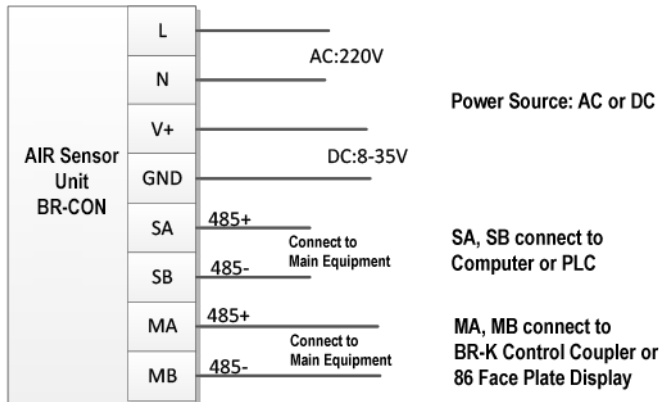
1.2. BR-K Series

Please refer to the K series instruction manual, "Advance Address Setting" section for the unit address setting.

2. Wiring Ports Diagram

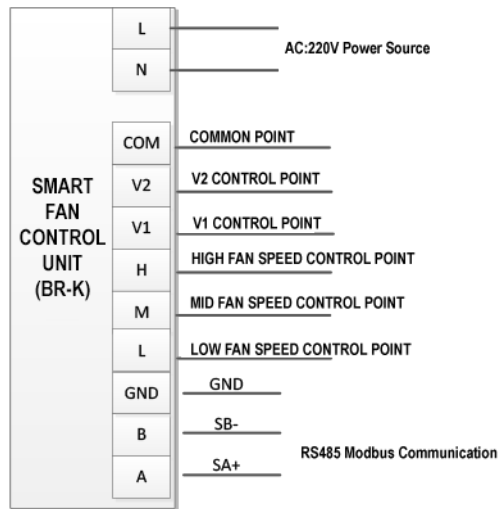
2.1. BR-CON Series

L & N connect to 220V AC power supply, SA & SB wire to RS485+ and RS485- respectively.



2.2. BR-K Series

L & N connect to 220V AC power supply, A & B wire to RS485+ and RS485- respectively.



3. Communication Command

3.1. Serial Port Setting

RS485 communication type, 9600 Baud rate, No odd parity, communication data with CRC check code.

3.2. Protocol (Please refer to Bramc-Modbus Control Protocol)

Using standard MODBUS, support 03 and 16 commands to support group control

Register address	Minimum value	Defaults	Maximum value	Parameter	Remarks
0	0		255	Equipment model	0: CON Series 1: K Series
1	0	0	1000	Temperature	Temp. = (Value-500)/10 °C
2	0	0	999	Humidity	RH=Value/10
3	0	0	999	PM1.0	0~999 ug/m3
4	0	0	999	PM2.5	0~999 ug/m3
5	0	0	999	PM10	0~999 ug/m3
6	0	0	247	VOC	Correspond (0~247) / 100 mg/m3
7	0	0	2000	CO2	0~2000 PPM
8	0	0	2000	CO	(0~2000)/10 PPM
9	0	0	5000	Formaldehyde	(0~5000)/1000 mg/m ³
10	0	0	65535	Purification Filter Life Span	0-65535 Hours
11	0	0		Wind Speed Current Output Status	0:Closed 1:Low 2:Mid 3:High

3.3. Example of Command

When the device address is 2, the computer sends the hexadecimal data "02 03 00 01 00 09 D4 3F" "Query the No. 2 air probe data from the first to the ninth register"

Data Analysis

02 - Device address

03 - No. 3 command order to read device data

00 01 - Start address

00 09 - End address

D4 3F - Check value

The device return hex code "02 03 12 02 55 01 12 01 5F 02 20 02 E0 00 01 02 26 FF FF FF FF EB 32"

Data Analysis

02 - Device address

03 - No.3 command order to read device data

12 - Data length

02 55 - Register address 1 data, temperature value

01 12 - Register address 2 Data, humidity value

01 5F - Register address 3 Data, PM1.0

02 20 - Register address 4 Data, PM2.5

02 E0 - Register address 5 Data, PM10

00 01 - Register address 6 Data, VOC

02 26 - Register address 7 Data, Carbon Dioxide

FF FF - Register address 8 Data, Carbon Monoxide

FF FF - Register address 9 Data, Formaldehyde

EB 32 - check value