

ICS 17.220

N 22

# DB43

## 湖南省地方标准

DB43/T 1379.2—2014

### 变频电量测量仪器 分析仪

Variable frequency electric quantity measurement instruments Analyzer

# 目 次

# 前 言

1

0 1.5 kHz 35kV 7kA

2

GB/T 2423. 1	2	A
GB/T 2423. 2	2	B
GB/T 2423. 3	2	Cab
GB/T 2423. 5	2	Ea
GB/T 2423. 6	2	Eb
GB/T 2423. 10	2 :	Fc: (
GB 4208	IP	
GB/T 4857. 2	2	
GB/T 4857. 5		
GB 4943. 1	1	
GB/T 5080. 7		
GB 9254		
GB/T 9813		
GB/T 17626. 2		i dt I EC 61000-4-2: 1995
GB/T 17626. 3		i dt I EC 61000-4-3: 1995
GB/T 17626. 4		i dt I EC 61000-4-4: 1995
GB/T 17626. 5		i dt I EC 61000-4-5: 1995
GB/T 17626. 6		
GB/T 17626. 8		
GB/T 17626. 9		
GB/T 17626. 11		
I EC 60794		

3

3.1

variable frequency electric quantity

a

b

3.2

variable frequency electric quantity transducer

3.3

variable frequency electric quantity analyzer

3.4

variable frequency power standard source

3.5

THD total harmonic distortion coefficient  
THD

$$THD = \sqrt{\frac{G^2 - G_1^2}{G_1^2}}$$

G—  
G

G<sub>1</sub>—  
I

U

3.6

THF total harmonic factor  
THF

$$THF = \sqrt{\frac{G^2 - G_1^2}{G^2}}$$

G—  
G

G<sub>1</sub>—  
I

U

3.7

HVF harmonic voltage factor

HVF

$$HVF = \sqrt{\sum_{n=2}^H \frac{\left(\frac{U_n}{U_1}\right)^2}{n}}$$

3.8  $U_n$ — n  $U_1$ — H=13

HCF harmonic current factor

HCF

$$HCF = \sqrt{\sum_{n=2}^H \frac{\left(\frac{I_n}{I_1}\right)^2}{n}}$$

3.9  $I_n$ — n  $I_1$ — H=13

unbalance factor

3.10

fundamental wave power factor (displacement factor)

3.11

fundamental wave active power

$$P_1 = U_1 I_1 \cos \phi_1$$

3.12

power base accuracy class

1

3.13

phase angle difference accuracy class

50Hz 60Hz S1 S2 S3

4

4.1

110V 220V 380V 660/690V 750V 1000/1140V 3/3.3kV 6kV 10kV 20kV 25kV 35kV

4.2

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10A 12.5A 15A 20A 25A 30A 40A 50A 60A 75A

4.3

4.4

230/400V  
240/415V  
230/400V  $1 \pm 10\%$   
230/400V  
24V 48V 60V 110V 125V 220V 250V  
IEC IEC  
220/380V

4.5

DC 50Hz 60Hz

4.6

4.7

1/2

5

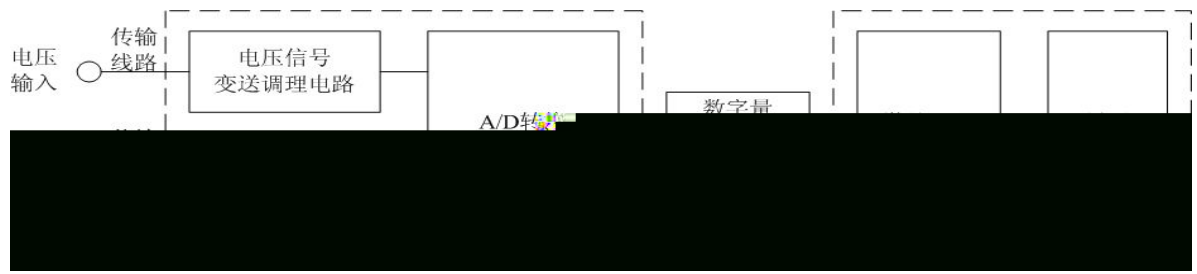
5.1

5.1.1

1

1

1



1

5.1.2

a

b

c

d

e

f

GB 4208

IP51

5.2

5.2.1

1

1

1

1

2

3

4

5

6

7

8



14		
15		
16		
17		
18	20	
19	20	
" "	" "	

5.2.2

5.2.3

USB

RS232/485      LAN    WLAN

5.2.4

5.2.5

15

5.3

5.3.1

15M

5.3.2

GB 4943.1    5.1

5.3.3

GB 4943.1    5.2

5.3.4

GB 4943.1 2.6

5.4

5.4.1


/

5.4.2

a

0.05 0.1 0.2 0.5 1

b

0.1 0.2 0.5 

2

		%FS
0.2	/	0.2
	/	0.2
0.5	/	0.5
	/	0.5
1	/	1
	/	1

3

	%FS	%FS	r			
				S1	S2	S3
0.1	0.1	0.1	5	2	1	0.5
0.2	0.2	0.2	10	5	2	1
0.5	0.5	0.5	20	10	5	2
1	1	1	50	20	10	5
2	2	2	100	50	20	10

1/2

5.5

4

4

4

		-	
1		± 10	50%
2		± 10%	0%
3		± 10%	0%
4		(1 3)min (30 35)min	50%
5		0.4kA/m	50%

a  
b  
c  
d

5.6

5.6.1

IEC 60794

5.6.2

5.7

5.8

2 3

3dB

5.9

$tr = 0.35/BW$   
tr  
BW

BW  
Hz tr s

50μs

7kHz

5.10

5.10.1

GB 9254

5.10.2

5

6

5

EUT	A	B
		50%

6

		GB/T 17626.4	2kV/5kHz	B
		GB/T 17626.11	/	A
		GB/T 17626.4	2kV/5kHz	B
		GB/T 17626.6	80 1000 MHz 30V/m 80% 1kHz	B
		GB/T 17626.4	4kV / 5kHz	B
		GB/T 17626.6	0.15 80 MHz 10V/m 80% 1kHz	B
		GB/T 17626.11	/	A
		GB/T 17626.5	4kV 1.2μ s/50μ s	A
		GB/T 17626.3	80 1000 MHz 30V/m 80% 1kHz	B
		GB/T 17626.8	100A/m	B
		GB/T 17626.9	1000A/m	B

5.11

5.11.1

7

1× 10<sup>-9</sup>

7

		0 45
		-40 55
		40% 90% 40
		40% 90% 40
		86kPa 106kPa

5.11.2

8 11

10

## 8

	Hz	5 35
	oct/min	1
		0.15mm
		0.15mm
	min	10± 0.5
	(Hz)	5 35 5
		0.15mm
	(oct/min)	1
		2

## 9

(m/s <sup>2</sup> )	(ms)		
150	11	x y z	3

## 10

(m/s <sup>2</sup> )	(ms)	
50	16	1000± 10

## 11

(kg)	(mm)
15	1000
15 30	800
30 40	600
40 45	500
45 50	400
>50	300

5.12

MBF

MBF

2000h

6

6.1

a	+15	+35
b	45%	75%
c	86kPa	106kPa

6.2

5.1.2

6.3

6.4

6.4.1

5.3.1

6.4.2

GB 4943.1 5.1

GB 4943.1 5A

6.4.3

GB 4943.1 5.2

GB 4943.1 5B 5C

6.4.4

GB 4943.1 2.6

0.1

6.5

6.5.1

a

b 12

12

	30min

c

d

13

13

	15 30 0 45	± 1 —
		× 100
		± 1%
		± 1%
		± 1%
		± 2%
		0 65Hz 40A/m

6.5.2

a

b

c

1/4

6.5.3



	50Hz	60Hz	1	2
3		5		
6.5.4				
6.5.3				3
3				2
6.6				
6.6.1				
5.5	4		GB/T 2423.1	GB/T 2423.2
5min	4		8h 16h	1 /10min
6.6.2				
5.5	4			4
6.6.3				
5.5	4			4
6.6.4				
5.5	4			
6.6.5				
5.5	4		4	
6.7				
6.8				

6.9

3

3dB

6.10

10

6.11

6.11.1

GB 9254

A

6.11.1.1

GB 9254 5.1

GB 9254 5.2

6.11.1.2

GB 9254 6.1

6.11.2

6.11.2.1

GB/T 17626.2  
10

2  
10

1s 4kV 8kV

6.11.2.2

GB/T 17626.3

2

80 1000 MHz

3V/m

6.11.2.3

GB/T 17626.4  
1 0.5kV

2

1kV

6.11.2.4

	GB/T 17626.5	5	60s	2	1kV	-	2kV	-
6.11.2.5	GB/T 17626.6	3Vrms	1	2	150kHz	80MHz	150kHz	80MHz 1Vrms
6.11.2.6	GB/T 17626.8			5	100A/m		x y z	
6.11.2.7	GB/T 17626.9			5	1000A/m		x y z	
6.11.2.8	GB/T 17626.11	(10ns	2	25	1.	95μm	0.5	10s
	GB/T 17626.11	30%μm			(500ns	3		
	GB/T 17626.11		3		95μm		250	(5s
								10s
6.12								
6.12.1								
6.12.1.1	GB/T 2423.1"	Ad"				7		2h
		2h						
6.12.1.2	GB/T 2423.1"	Ab"		7				
	16h	2h						
6.12.1.3	GB/T 2423.2"	Bd"				7		

		2h			2h
6.12.1.4					
	GB/T 2423. 2"	Bd"	7		
	16h	2h			
6.12.1.5					
	GB/T 2423. 3"	Ca"	7		
		2h		2h	
6.12.1.6					
	GB/T 2423. 3"	Ca"			48h
	2h				
6.12.2					
6.12.2.1					
	GB/T 2423. 10'	Fc"			
		8		3	
a					
			3		
b					
c					
	8			8	
d					
6.12.2.2					
	GB/T 2423. 5"	Ea"			9
6.12.2.3					

6.12.2.4

GB/T 4857.2

4h

GB/T 4857.5 11

6.13

6.13.1

			187	242	V	
25%	50%		25%			
			0.7	1	/min	25
						7

1:1

3

0.2m

6.13.2

GB/T 5080.7

GB/T 9813 B

6.13.3

7

7.1

7.2

a

b

c

7.3

a

b

c

2

d

e

14

1		5.1	6.2		
2		5.2	6.3		
3		5.3	6.4		
4		5.4	6.5		
5		5.5	6.6		
6		5.6	6.7		
7		5.7	6.8		
8		5.8	6.9		
9		5.9	6.10		
10		5.10	6.11		
11		5.11	6.12		
12		5.12	6.13		
" "		" "			

7.4

7.5

8

8.1

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“ ” “ ” “ ” “ ”

GB/T 191