

Cutler-Hammer



DECLARATION OF CONFORMITY

The product :

Type reference : **WMS**

Trademark : **CUTLER-HAMMER**

Description : **Miniature Circuit Breakers**
Type B
6 to 60 A 1 ; 2 ; 3 and 4 pole
Type C
0.5 to 60 A 1 ; 2 ; 3 and 4 pole
Type D
0.5 to 40 A 1 ; 2 ; 3 and 4 pole

to which this declaration relates, complies with the technical characteristics given in annexes 1 to 13

according to : **- IEC 898 (1995)**

Date of issue : **Cutler-Hammer**

1st September, 2000

Jim Farley
Engineering Manger

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N° : CH.WMS.00.a

Annex 1

- rated operational voltage Ue : 240 / 415V AC
 - rated current In and tripping curve :
 - B ⇒ 6 to 63A
 - B ⇒ 0.5 to 63A
 - D ⇒ 0.5 to 40A
 - reference calibration temperature : 30°C
 - rated insulation voltage Ui : 500V~
 - altitude not exceeding : 2000 metres
 - rated impulse withstand voltage U imp : 4kV
 - degree of protection (NF C 20-010) : IP 20
 - degree of protection in enclosure : IP 40
 - ambient air temperature range : - 5°C / + 60°C
 - storage temperature : - 25°C / + 80°C
 - connection terminals : screw terminal
 - cable section (maxi) : rigid : 25 mm² flexible : 16 mm²
 - terminal torque (maxi) : 2.8 Nm
- **Breaking capacity according IEC 898**
 - Ics = : 7.5 kA
 - Icn = : 10 kA
 - **Breaking capacity according IEC 947-2**
 - Ics = : 7.5 kA
 - Icu = : 10 kA
 - distance of the grid : : 60 mm
 - I²t characteristic curve : [see Annexes 8, 9 and 10.](#)
 - current limitation curve : [see Annexes 11, 12 and 13.](#)
 - correction of rated current according to the frequency (only for magnetic tripping values) :

F (Hz)	16 ² / ₃ to 60 Hz	100 Hz	200 Hz	400 Hz
K	1	1.1	1.2	1.5
 - correction of rated current according to the number of juxtaposed MCBs :

n = number of MCBs	K
n = 2	1
3 ≤ n ≤ 4	0.95
4 ≤ n ≤ 6	0.9
6 ≤ n	0.85

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Annex 2

- correction of rated current according to the ambient air temperature :

Rated current	30 °C	35 °C	40 °C	45 °C	50 °C	55 °C	60 °C
0.5 A	0.5 A	0.48 A	0.46 A	0.44 A	0.42 A	-	-
1 A	1 A	0.96 A	0.92 A	0.88 A	0.84 A	0.8 A	0.76 A
2 A	2 A	1.92 A	1.84 A	1.76 A	1.68 A	1.6 A	1.52 A
3 A	3 A	2.88 A	2.76 A	2.64 A	2.52 A	2.4 A	2.28 A
4 A	4 A	3.84 A	3.68 A	3.52 A	3.36 A	3.2 A	3.04 A
5 A	5 A	4.8 A	4.6 A	4.4 A	4.2 A	4 A	3.8 A
6 A	6 A	5.76 A	5.52 A	5.28 A	5.04 A	4.8 A	4.56 A
7 A	7 A	6.72 A	6.44 A	6.16 A	5.88 A	5.6 A	5.32 A
8 A	8 A	7.68 A	7.36 A	7.04 A	6.72 A	6.4 A	6.08 A
10 A	10 A	9.6 A	9.2 A	8.8 A	8.4 A	8 A	7.6 A
13 A	13 A	12.5 A	12 A	11.4 A	10.9 A	10.4 A	9.9 A
15 A	15 A	14.4 A	13.8 A	13.2 A	12.6 A	12 A	11.4 A
16 A	16 A	15.4 A	14.7 A	14.1 A	13.4 A	12.8 A	12.2 A
20 A	20 A	19.2 A	18.4 A	17.6 A	16.8 A	16 A	15.2 A
25 A	25 A	24 A	23 A	22 A	21 A	20 A	19 A
30 A	30 A	28.8 A	27.6 A	26.4 A	25.2 A	24 A	22.8 A
32 A	32 A	30.7 A	29.4 A	28.2 A	26.9 A	25.6 A	24.3 A
40 A	40 A	38.4 A	36.8 A	35.2 A	33.6 A	32 A	30.4 A
50 A	50 A	48 A	46 A	44 A	42 A	40 A	38 A
60 A	60 A	57.6 A	55.2 A	52.8 A	50.4 A	48 A	45.6 A

- dissipated power and impedance :

Rated current	Single pole		Multiple pole	
	P (W)	R (mΩ)	P (W)	R (mΩ)
0.5 A	1.3	5200	1.3	5200
1 A	1.5	1500	1.5	1500
2 A	1.75	438	1.75	438
3 A	2	222	2	222
4 A	2.2	138	2.2	138
5 A	2.35	94	2.35	94
6 A	2.5	69	2.5	69
7 A	2.65	54	2.65	54
8 A	2.75	43	2.75	43
10 A	1.8	18	1.8	18
13 A	2.2	13	2.2	13
15 A	2.5	11.1	2.4	10.7
16 A	2.6	10.2	2.5	9.8
20 A	3	7.5	2.8	7
25 A	3.5	5.6	3.2	5.1
30 A	4	4.4	3.6	4
32 A	4.1	4	3.7	3.6
40 A	4.6	2.9	4.2	2.6
50 A	5	2	4.5	1.8
60 A	5.2	1.4	4.7	1.3

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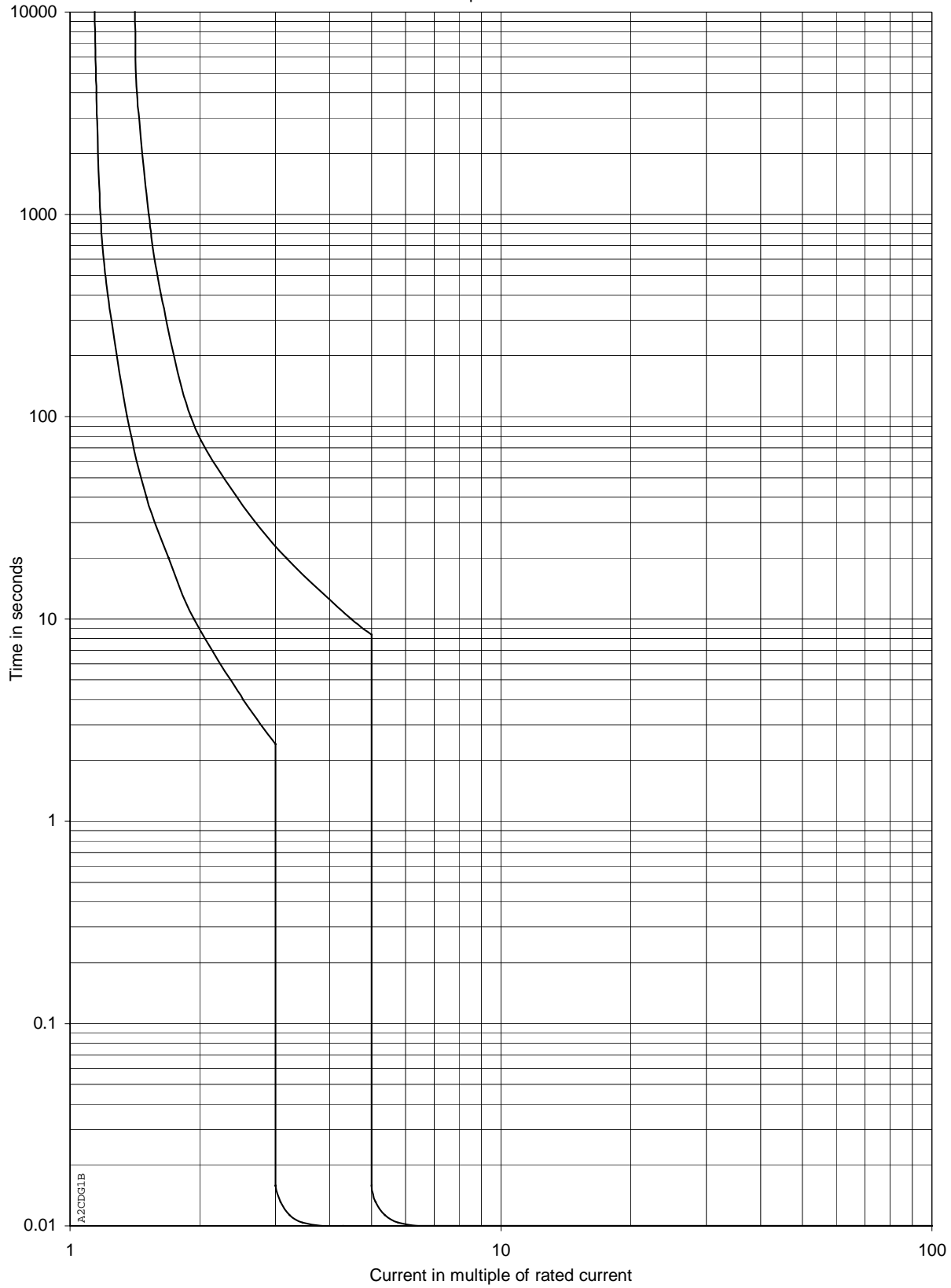
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Annex 4

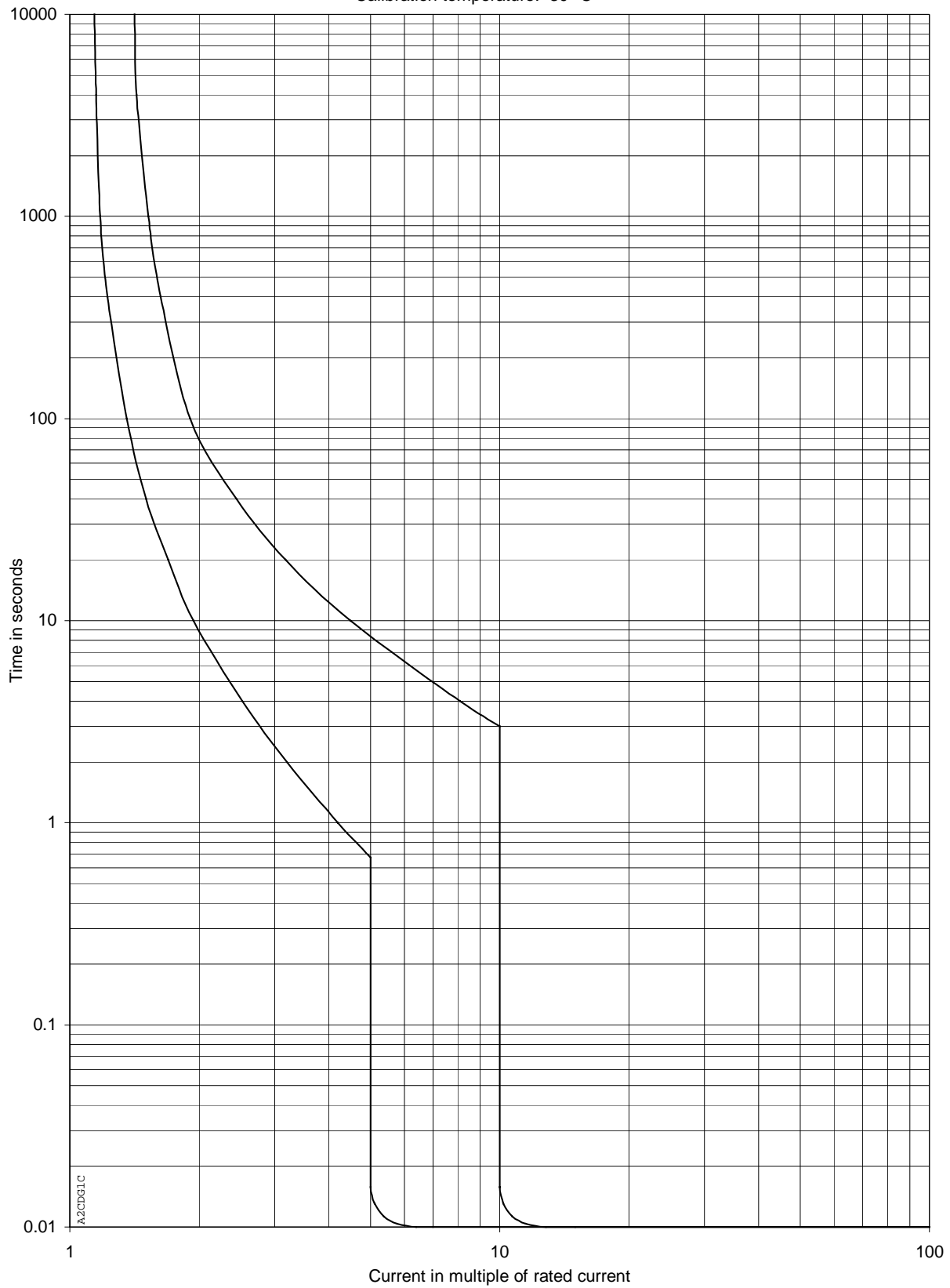
- discrimination between two circuit -breakers (table 2/2) :

Values in kA		UPSTREAM																					
Type	Rated current	WMSxDxx																					
		1 A	2 A	3 A	4 A	5 A	6 A	7 A	8 A	10 A	13 A	15 A	16 A	20 A	25 A	30 A	32 A	40 A	50 A	60 A			
DOWNSTREAM	WMSxBxx	6 A								0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		7 A								0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9			
		8 A									0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9			
		10 A										0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9			
		13 A											0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9			
		15 A												0.3	0.38	0.45	0.48	0.6	0.75	0.9			
		16 A													0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		20 A														0.38	0.45	0.48	0.6	0.75	0.9		
		25 A															0.38	0.45	0.48	0.6	0.75	0.9	
		30 A																0.48	0.6	0.75	0.9		
		32 A																	0.6	0.75	0.9		
		40 A																		0.6	0.75	0.9	
	50 A																			0.75	0.9		
	60 A																				0.9		
	WMSxCxx	0.5 A	0.015	0.03	0.045	0.06	0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		1 A		0.03	0.045	0.06	0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		2 A			0.045	0.06	0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		3 A				0.06	0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		4 A					0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		5 A						0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		6 A							0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		7 A								0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		8 A									0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		10 A										0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		13 A											0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		15 A												0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		16 A													0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		20 A														0.3	0.38	0.45	0.48	0.6	0.75	0.9	
		25 A															0.38	0.45	0.48	0.6	0.75	0.9	
		30 A																0.38	0.45	0.48	0.6	0.75	0.9
		32 A																	0.48	0.6	0.75	0.9	
		40 A																		0.6	0.75	0.9	
	50 A																			0.6	0.75	0.9	
	60 A																				0.75	0.9	
	WMSxDxx	0.5 A	0.015	0.03	0.045	0.06	0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
		1 A			0.045	0.06	0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
2 A					0.06	0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9			
3 A						0.075	0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9			
4 A							0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9			
5 A								0.09	0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
6 A									0.11	0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
7 A										0.12	0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
8 A											0.15	0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
10 A												0.2	0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
13 A													0.23	0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
15 A														0.24	0.3	0.38	0.45	0.48	0.6	0.75	0.9		
16 A															0.3	0.38	0.45	0.48	0.6	0.75	0.9		
20 A																0.3	0.38	0.45	0.48	0.6	0.75	0.9	
25 A																	0.38	0.45	0.48	0.6	0.75	0.9	
30 A																		0.38	0.45	0.48	0.6	0.75	0.9
32 A																			0.48	0.6	0.75	0.9	
40 A																				0.6	0.75	0.9	

MCB CURVE B TIME-CURRENT CHARACTERISTIC
Calibration temperature: 30 °C



MCB CURVE C TIME-CURRENT CHARACTERISTIC
Calibration temperature: 30 °C



MCB CURVE D TIME-CURRENT CHARACTERISTIC
Calibration temperature: 30 °C

