

## MCB 80-100-125A 10KA

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Designation	Ref	Terasaki	Code	EAN				
Breaker 1P 10KA C-80A 1.5M / TDHC1080	Validated	104312	4547560104312	1	36	piece		
Breaker 1P 10KA D-80A 1.5M / TDHD1080	Validated	104428	4547560104428	1	36	piece		
Breaker 1P 10KA C-100A 1.5M / TDHC1100	Validated	104305	4547560104305	1	36	piece		
Breaker 1P 10KA D-100A 1.5M / TDHD1100	Validated	104435	4547560104435	1	36	piece		
Breaker 1P 10KA C-125A 1.5M / TDHC1125	Validated	104329	4547560104329	1	36	piece		
Breaker 1P 10KA D-125A 1.5M / TDHD1125	Validated	104442	4547560104442	1	36	piece		
Breaker 2P 10KA C-80A 3M / TDHC2080	Validated	104336	4547560104336	1	24	piece		
Breaker 2P 10KA D-80A 3M / TDHD2080	Validated	104459	4547560104459	1	24	piece		
Breaker 2P 10KA C-100A 3M / TDHC2100	Validated	104343	4547560104343	1	24	piece		
Breaker 2P 10KA D-100A 3M / TDHD2100	Validated	104466	4547560104466	1	24	piece		
Breaker 2P 10KA C-125A 3M / TDHC2125	Validated	104350	4547560104350	1	24	piece		
Breaker 2P 10KA D-125A 3M / TDHD2125	Validated	104473	4547560104473	1	24	piece		
Breaker 3P 10KA C-80A 4,5M / TDHC3080	Validated	104367	4547560104367	1	12	piece		
Breaker 3P 10KA D-80A 4,5M / TDHD3080	Validated	104480	4547560104480	1	12	piece		
Breaker 3P 10KA C-100A 4,5M / TDHC3100	Validated	104374	4547560104374	1	12	piece		
Breaker 3P 10KA D-100A 4,5M / TDHD3100	Validated	104497	4547560104497	1	12	piece		
Breaker 3P 10KA C-125A 4,5M / TDHC3125	Validated	104381	4547560104381	1	12	piece		
Breaker 3P 10KA D-125A 4,5M / TDHD3125	Validated	104503	4547560104503	1	12	piece		
Breaker 4P 10KA C-80A 6M / TDHC4080	Validated	104398	4547560104398	1	12	piece		
Breaker 4P 10KA D-80A 6M / TDHD4080	Validated	104510	4547560104510	1	12	piece		
Breaker 4P 10KA C-100A 6M / TDHC4100	Validated	104404	4547560104404	1	12	piece		
Breaker 4P 10KA D-100A 6M / TDHD4100	Validated	104527	4547560104527	1	12	piece		
Breaker 4P 10KA C-125A 6M / TDHC4125	Validated	104411	4547560104411	1	12	piece		
Breaker 4P 10KA D-125A 6M / TDHD4125	Validated	104534	4547560104534	1	12	piece		

### 3. Characteristics

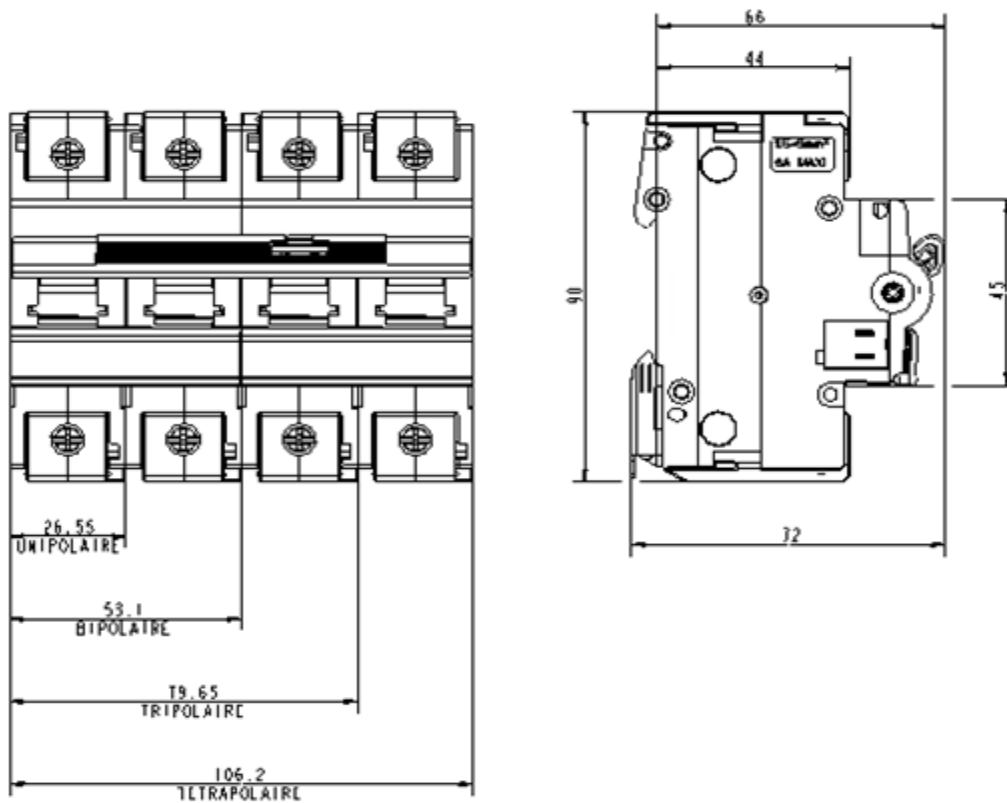
### 10 KA - Curve B ; C ; D

Characteristics					
Series	TD3 XA				
Rating current	80A - 100A - 125A				
Rating current 30°C > 70°C	see derating table				
Type of pole	1 P	2 P	3 P	4 P	
Number of poles	1 P	2 P	3 P	4 P	
Factory pole number	1	2	3	4	
Number of modules	1,5	3	4,5	6	
Electrical characteristics					
Total power loss under IN	80A	5 W	10 W	15 W	20 W
	100A	5,5 W	11 W	16,5 W	22 W
	125A	8 W	16 W	24 W	32 W
Dissipated energy with cable	80A	8,2 W	16,4 W	24,6 W	32,8 W
	100A	9,1 W	18,1 W	27,2 W	36,3 W
	125A	11,9 W	23,8 W	35,7 W	47,6 W
Power loss per pole at rated current	80A	5 W		Z = 0,78125 mΩ	
	100A	5,5 W		Z = 0,55 mΩ	
	125A	8 W		Z = 0,512 mΩ	
Common electrical characteristics					
Voltage rating in AC	1P : 240 / 415 V		3P : 415 V		
Frequency	50 / 60 Hz				
Curve : tripping curve at 30°C	B		C		D
AC thermal operation threshold - min/max	lth1	1,13 (898) 1,05 (947)	1,13 (898) 1,05 (947)	1,13 (898) 1,05 (947)	
	lth2	1,45 (898) 1,3 (947)	1,45 (898) 1,3 (947)	1,45 (898) 1,3 (947)	
AC mag operating threshold - min/max	lrm1	3.In (60 898)	5.In (60 898)	10.In (60 898)	
	lrm2	5.In (60 898)	10.In (60 898)	20.In (60 898)	
	lrm	4In (60 947)	7/8In (60 947)	11/12In (60 947)	
Rated insulation voltage	500 V				
Rated impulse withstand voltage : Uimp	6 kV				
Breaking capacity : Icn	10 KA (EN 60898)				
Breaking capacity on 1 pole with 400V NF 60947-2 I <sub>c1P_400</sub>	4,5 KA (IEC 947-2)		3 KA (EN 60898)		
Breaking capacity on 1 pole with 415V NF 60947-2 I <sub>c1P_415</sub>	4,5 KA (IEC 947-2)		3 KA (EN 60898)		
Breaking capacity with 230V NF EN 60947-2 I <sub>cu_230</sub>	10 KA				
Breaking capacity with 240V NF EN 60947-2 I <sub>cu_240</sub>	10 KA				
Breaking capacity with 400V NF EN 60947-2 I <sub>cu_400</sub>	10 KA				
Breaking capacity with 415V NF EN 60947-2 I <sub>cu_415</sub>	10 KA				

Short circuit capacity - IEC 947.2 50Hz Ics_947	75% ( or 7,5 kA )			
Short circuit current : breaking capacity with DC current (L/R = 15 ms)	Voltage 60 V DC (cal. 80A to 125A): 5kA (1P) 10 KA (2P)			
	Voltage 125 V DC (cal. 80A to 125A) : 5kA (1P) 10 KA (2P)			
	Voltage 250 V DC (cal. 80A to 125A) : 10 KA (2P)			
Electric endurance in number of cycles (EN 60898)	4,000			
Electric endurance in number of cycles (IEC 60947-2)	Disj.80-100A : 1,500		Disj.125A : 1,000	
Mechanical endurance in number of operations (898 and 947-2)	10,000			
Operating temperature	-5 à +60°C			
Storage temperature	-25 à +80°C			
Calibration temperature	30°C (898)		40°C (947-2)	
Tropicalisation	95% humidity rate at 55°C			
Protection index IP	20			
Altitude	2 000 m			
Air humidity protection	all climats			
Correction factor of rating current for 2 devices placed side-by-side	1			
Correction factor of rating current for 3 devices placed side-by-side	1			
Correction factor of rating current for 4 and 5 devices placed side-by-side	1			
Correction factor of rating current for 6 devices placed side-by-side	1			
<b>Connecting</b>				
type of connection	Cage clamp			
Connection capacity with flexible cable	35 mm <sup>2</sup>			
Connection capacity with rigid cable	70 mm <sup>2</sup>			
Terminal torque	3,5 à 5 Nm			
Case material	Thermoplastic (Polyamide) compliance with IEC 695-2-1			
Mechanism	free tripping			
<b>Installation</b>				
Mounting	Din rail EN50.022-35			
Mouting position	Performances not affected if installed vertically, horizontally or flat			
Supply	Feed either top or bottom			
<b>Weight and dimensions</b>	<b>1 P</b>	<b>2 P</b>	<b>3 P</b>	<b>4 P</b>
Weight of devices	240 gr	475 gr	712 gr	950 gr
Width of installed product	26 mm	53 mm	80 mm	106 mm
Height of installed product	90 mm			
Length in mm	72 mm			
Depth of installed product	66 mm			
<b>Labels</b>				
Packaging label design	DISJONCTEUR - MCB - LEITUNGSSCHUTZSCHALTER			
CE marking on label	Yes			

## 4. Dimensions and Logistic

### 4.1. Dimensions



### 4.2. Dimensions, weight and packaging

No. of poles	Weight (g)	Dimensions (mm)			Overpackaging quantity
		Length (A)	Height (B)	Width (C)	
1PP	256	72	90	26,5	36
2PP	491	72	90	53	24
3PP	747	72	90	80	12
4PP	989	72	90	106	12

## 5. Connectings

Possible wire sections

<b>Rigid cables</b>		
section	mini :	10mm <sup>2</sup>
	maxi :	certified possible
		50mm <sup>2</sup> 70mm <sup>2</sup>
<b>Flexible cables with cable end sleeve</b>		
section	mini :	10mm <sup>2</sup> +sleeve
	maxi :	certified possible
		35mm <sup>2</sup> 50mm <sup>2</sup>

### Tightening torque

nominal torque : 3 - 5Nm  
Tool : PZ2 screwdriver

## 6. Temperature Derating

### 6.1. Derating of the MCB according to the temperature

The MCBs are designed and calibrated for their rated current. They operate within their given thermal time/current zone at 30°C.

Testing is carried out with the breaker mounted singly mounted on a vertical plate at 30°C.

If the circuit breaker is required to operate in other conditions some factors have to be applied to the standard data.

For example if the circuit breaker is required to operate in an ambient temperature higher than 30°C it will require less current to trip. Correction factors are given in the following charts

#### Temperature correction

Temperature	80A		100A		125A	
	In (A)	In T°	In (A)	In T°	In (A)	In T°
-5	95.1		121.1		144.3	
0	93.1		118.3		141.7	
5	91.0		115.5		139.0	
10	88.9		112.5		136.3	
15	86.8		109.5		133.6	
20	84.6		106.5		130.8	
25	82.3		103.3		127.9	
30	80.0	In_30	100.0	In_30	125.0	In_30
35	77.6	In_35	96.6	In_35	121.9	In_35
40	75.1	In_40	93.1	In_40	118.9	In_40
45	72.6	In_45	89.4	In_45	115.7	In_45
50	70.0	In_50	85.6	In_50	112.4	In_50
55	67.2	In_55	81.6	In_55	109.1	In_55
60	64.4	In_60	77.5	In_60	105.6	In_60



## 6.2. Magnetic tripping for MCB with AC current

### Magnetic tripping range for MCCB 80-100-125A

		Courbe B		Courbe C		Courbe D	
	<i>Norm</i>		947		947		947
80 A	I <sub>r</sub>		4.I <sub>n</sub>		8.I <sub>n</sub>		14 I <sub>n</sub>
100 A	I <sub>r</sub>		4.I <sub>n</sub>		8.I <sub>n</sub>		12,5.I <sub>n</sub>
125 A	I <sub>r</sub>		4.I <sub>n</sub>		7.I <sub>n</sub>		11.I <sub>n</sub>

		Courbe B		Courbe C		Courbe D	
	<i>Norm</i>	898	947	898	947	898	947
	I <sub>m1</sub>	3.I <sub>n</sub>	0,8. I <sub>r</sub>	5.I <sub>n</sub>	0,8. I <sub>r</sub>	10.I <sub>n</sub>	0,8. I <sub>r</sub>
	I <sub>m2</sub>	5.I <sub>n</sub>	1,2.I <sub>r</sub>	10.I <sub>n</sub>	1,2.I <sub>r</sub>	20.I <sub>n</sub>	1,2.I <sub>r</sub>

## 6.3. Derating of the MCB according the DC current

### Derating for the MCB 80A according the DC current factor to I<sub>n</sub>

		Curve B		Curve C		Curve D	
	<i>Norm</i>	898	947	898	947	898	947
	I <sub>m1</sub>	4,2.I <sub>n</sub>	4,5.I <sub>n</sub>	7,1.I <sub>n</sub>	9,1.I <sub>n</sub>	14,1.I <sub>n</sub>	14,7.I <sub>n</sub>
	I <sub>m2</sub>	7,1.I <sub>n</sub>	6.8.I <sub>n</sub>	14,1.I <sub>n</sub>	13,6.I <sub>n</sub>	28,3.I <sub>n</sub>	22,1.I <sub>n</sub>

### Derating for the MCB 100A according the DC current factor to I<sub>n</sub>

		Curve B		Curve C		Curve D	
	<i>Norm</i>	898	947	898	947	898	947
	I <sub>m1</sub>	4,2.I <sub>n</sub>	4,5.I <sub>n</sub>	7,1.I <sub>n</sub>	7,9.I <sub>n</sub>	14,1.I <sub>n</sub>	14,1.I <sub>n</sub>
	I <sub>m2</sub>	7,1.I <sub>n</sub>	6.8.I <sub>n</sub>	14,1.I <sub>n</sub>	11,9.I <sub>n</sub>	28,3.I <sub>n</sub>	21,2.I <sub>n</sub>

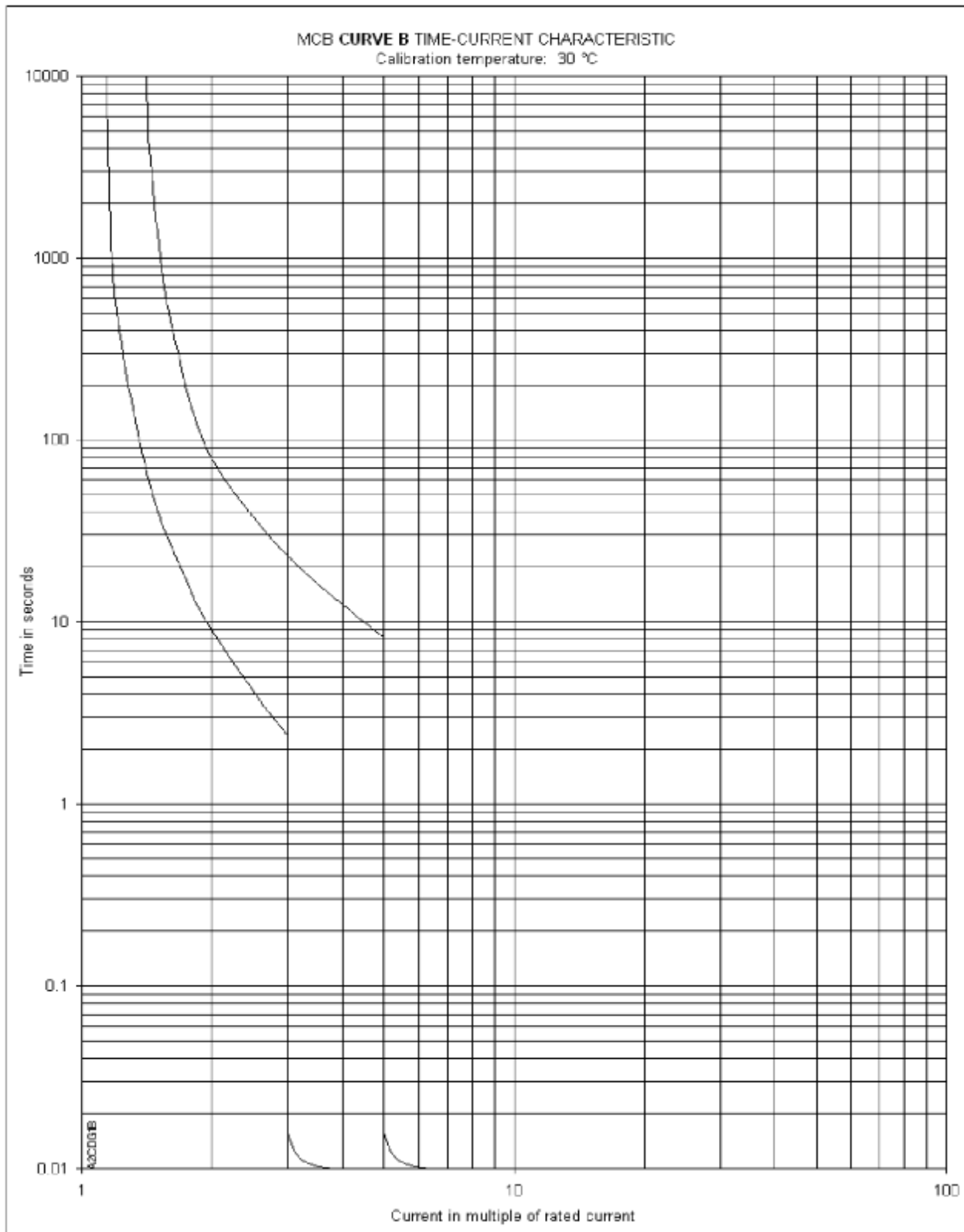
### Derating for the MCB 125A according the DC current factor to I<sub>n</sub>

#### Déclassement en courant continu du disjoncteur 125A en multiple de I<sub>n</sub>

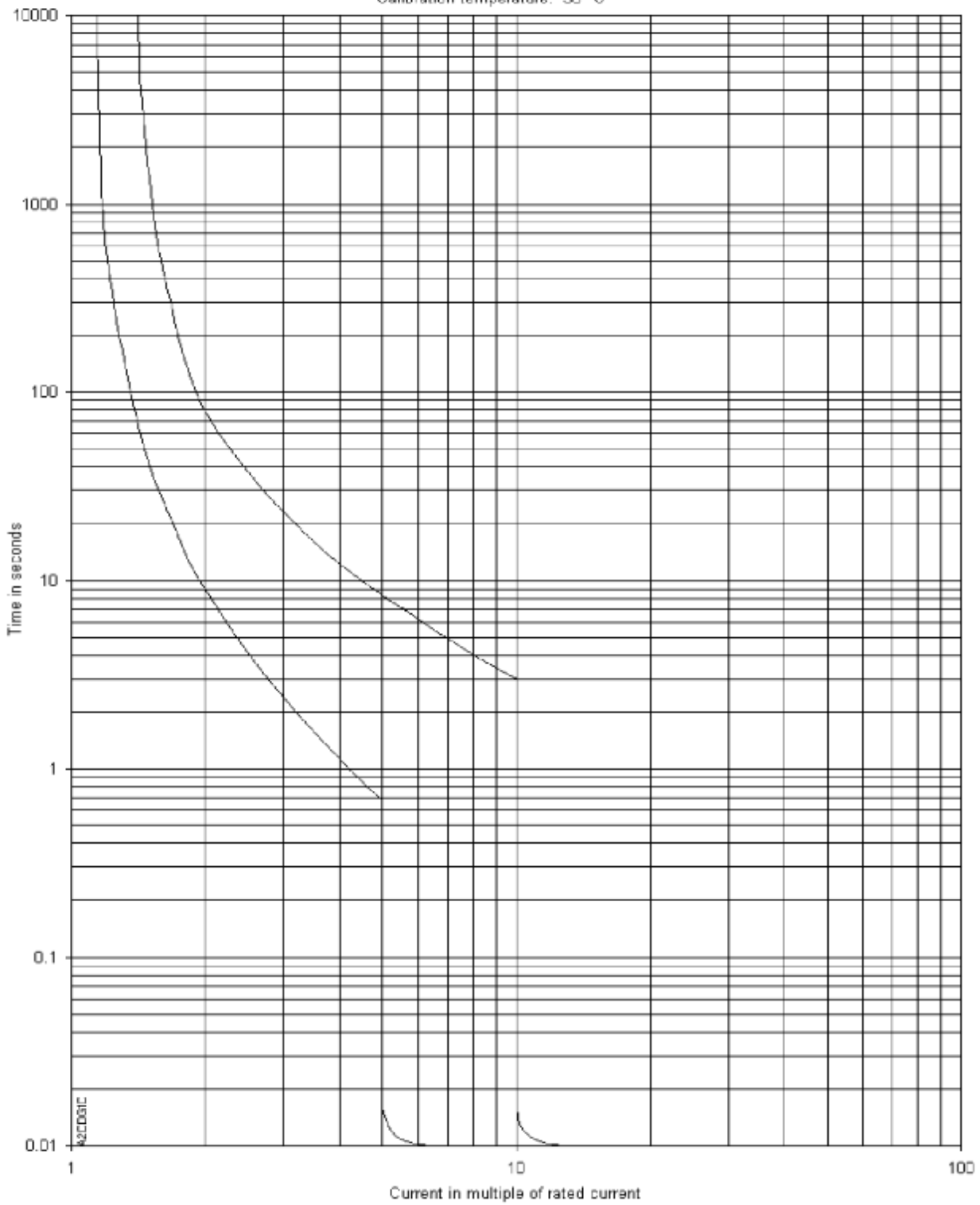
		Curve B		Curve C		Curve D	
	<i>Norm</i>	898	947	898	947	898	947
	I <sub>m1</sub>	4,2.I <sub>n</sub>	4,5.I <sub>n</sub>	7,1.I <sub>n</sub>	7,9.I <sub>n</sub>	14,1.I <sub>n</sub>	12,5.I <sub>n</sub>
	I <sub>m2</sub>	7,1.I <sub>n</sub>	6.8.I <sub>n</sub>	14,1.I <sub>n</sub>	11,9.I <sub>n</sub>	28,3.I <sub>n</sub>	18,7.I <sub>n</sub>

#### 6.4. Curve - Courbes

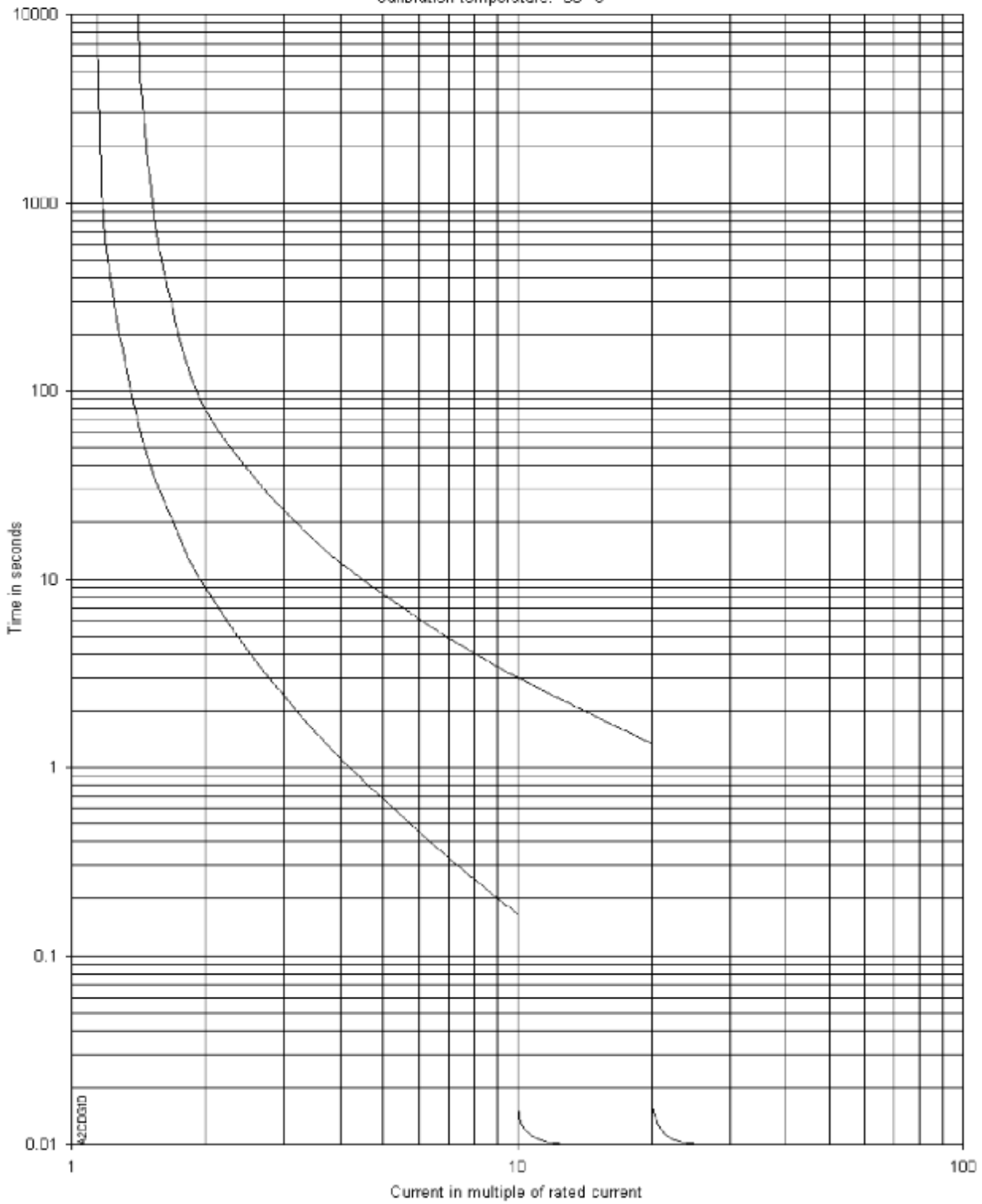
##### Tripping curve at 30°C Type B, C and D



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

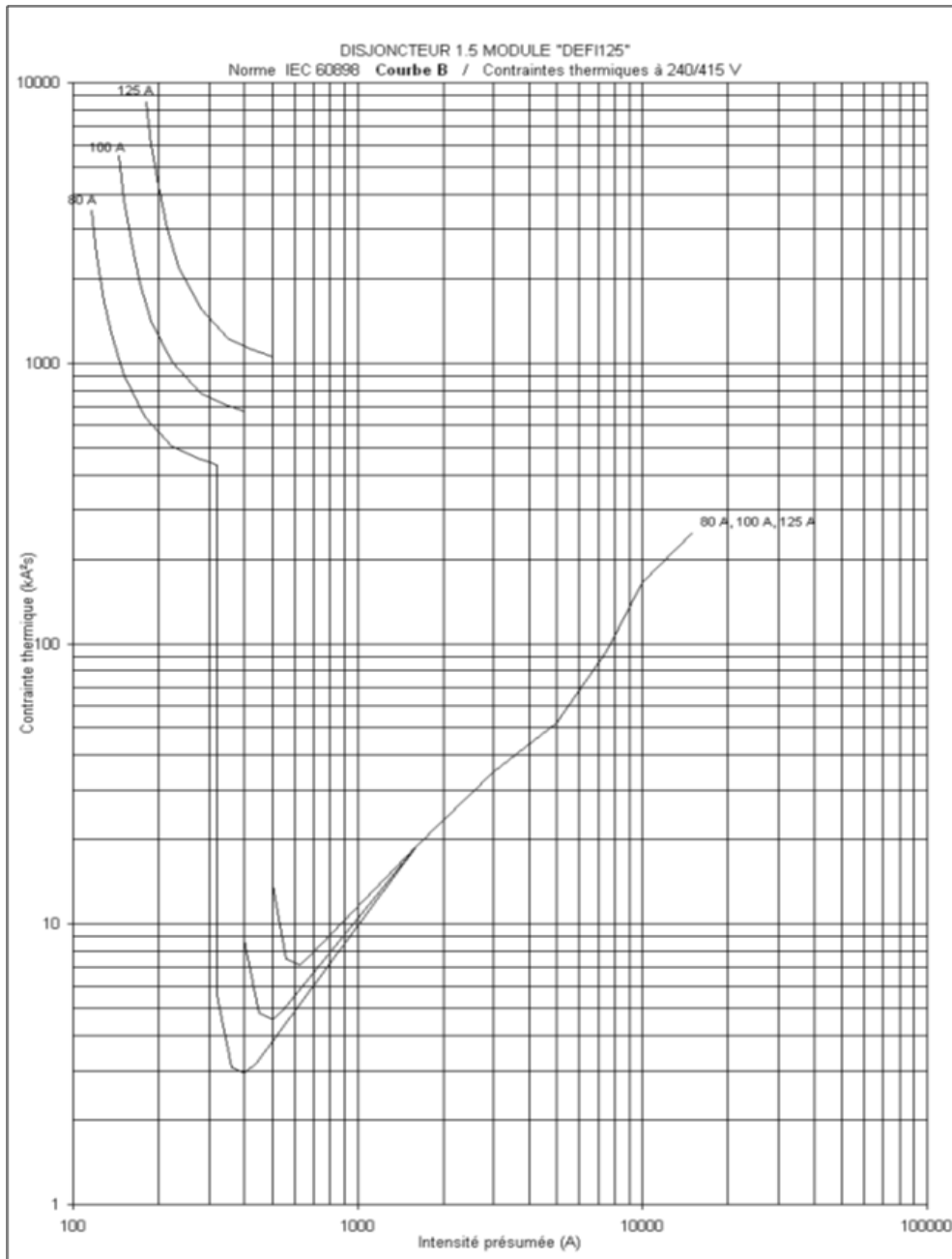


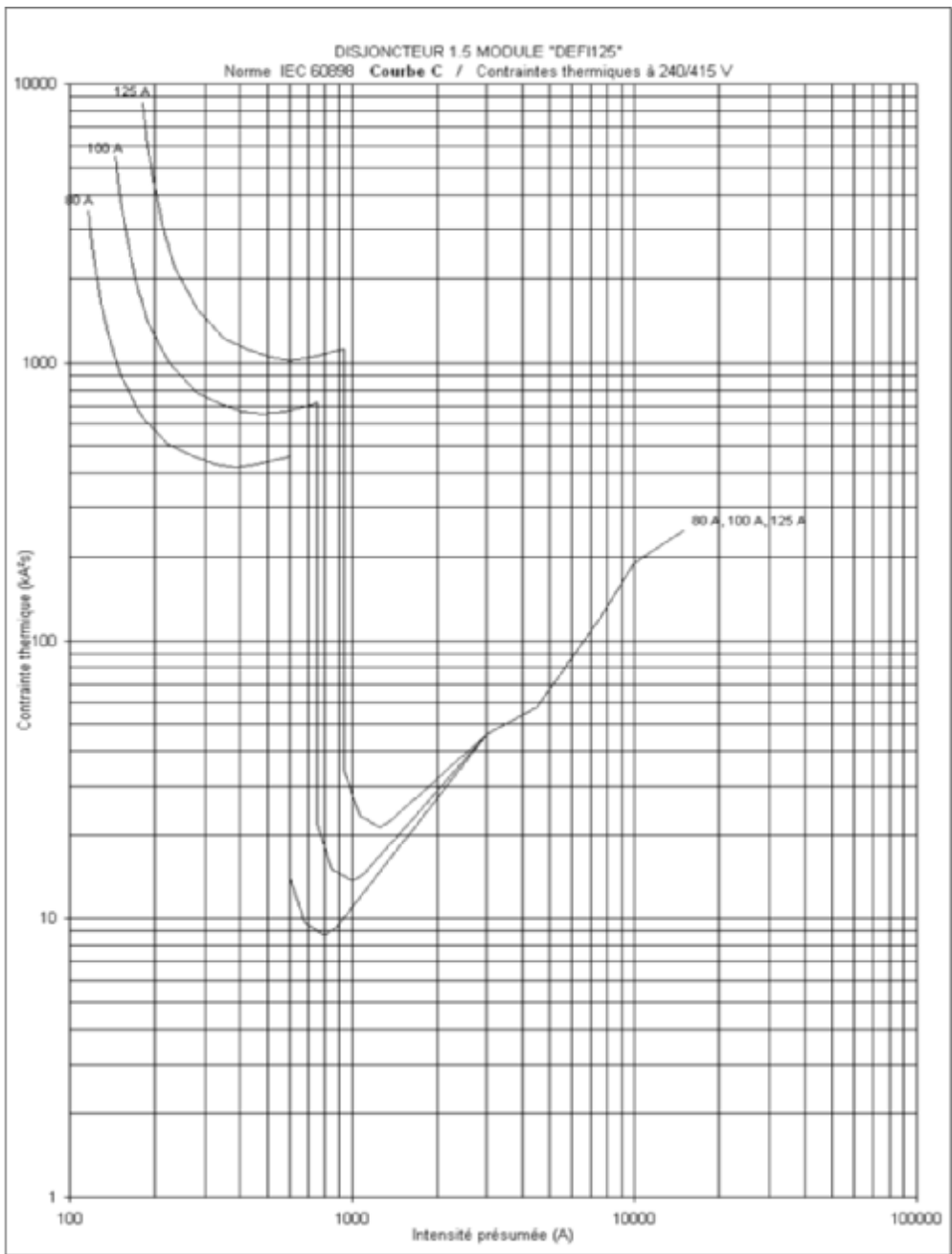
MCB CURVE D TIME-CURRENT CHARACTERISTIC  
Calibration temperature: 30 °C

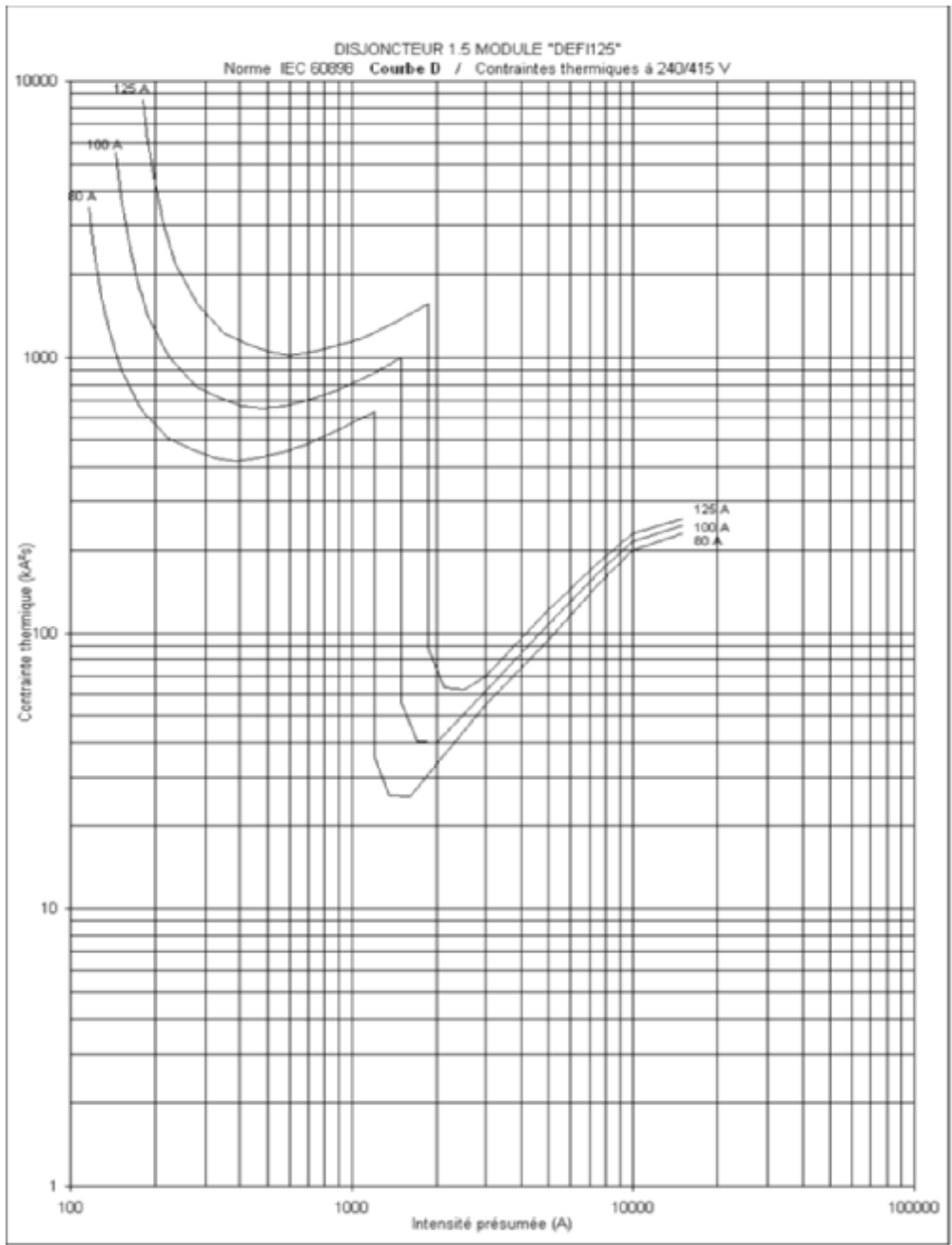


# Thermal constraints at 240/415V Type B,C and D

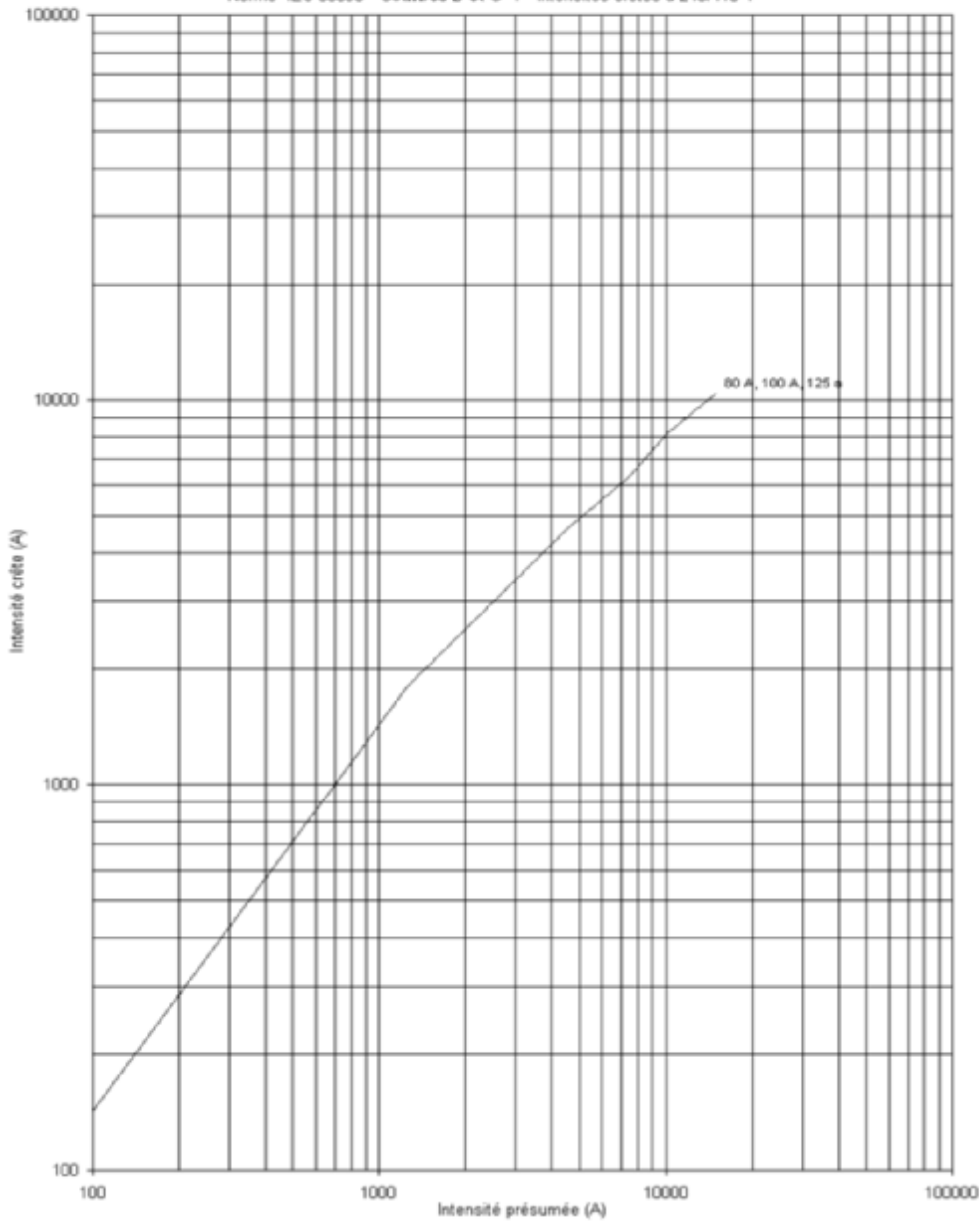
Contraintes thermiques





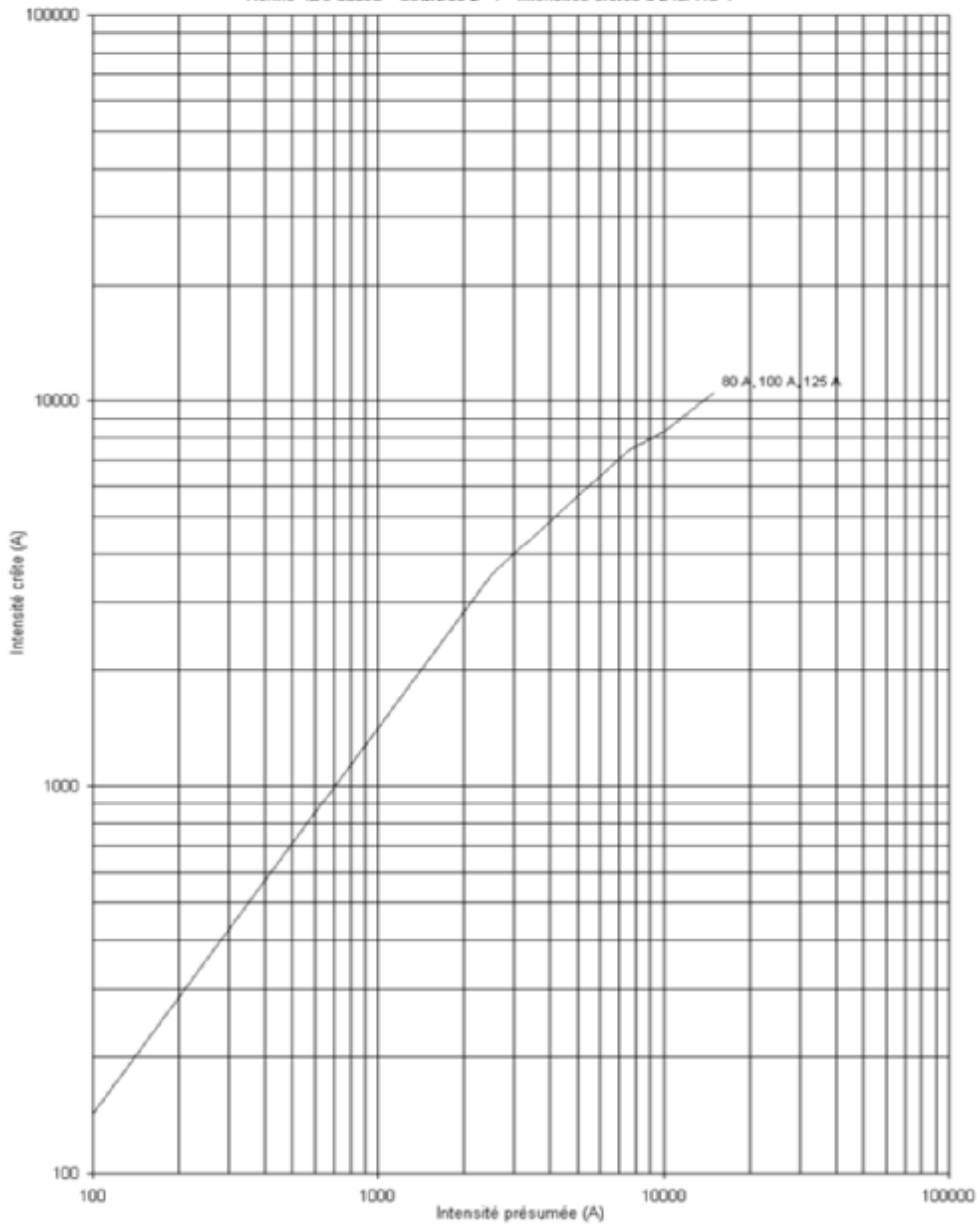


DISJONCTEUR 1.5 MODULE "DEF125"  
Norme IEC 60898 Courbes B et C / Intensités crêtes à 240/415 V





DISJONCTEUR 1.5 MODULE "DEFI125"  
Norme IEC 60898 **Courbes D** / Intensités crêtes à 240/415 V



## 7. Product Marking

### Front markings

