DATASHEET - FAZ-C20/2



Miniature circuit breaker (MCB), 20A, 2p, C-Char, AC

Part no.	**FAZ-C20/2**
Catalog No.	**278761**
Eaton Catalog No.	**FAZ-C20/2**
EL-Nummer (Norway)	**0001695169**

Powering Business Worldwide

Technical data

Electrical

Standards			IEC/EN 60947-2 IEC/EN 60898
Rated operational voltage	U_e	V	
	U_e	V AC	240/415
		V DC	60 (per pole)
Rated voltage according to UL	U_n	V AC	480Y/277
Rated switching capacity acc. to IEC/EN 60947-2	I_{cu}	kA	15
Breaking capacity according to UL		kA	10 (UL1077)
Max operational voltage according to IEC/EN 60947-2		V AC	440
Rated switching capacity according to IEC/EN 60947-2 (max operational voltage)	I_{cu}	kA	10
Rated service short-circuit breaking capacity according to IEC/EN 60947-2 (max operational voltage)	I_{cs}		7,5 kA
Rated voltage according to IEC/EN 60898-1	U_n	V AC	415
Rated switching capacity according to IEC/EN 60898-1	I_{cn}	kA	10
Rated service short-circuit breaking capacity according to IEC/EN 60898-1	I_{cs}		7,5 kA
Operational switching capacity		kA	7.5
Characteristic			B, C, D, K, S, Z
Max. back-up fuse		A gL/gG	125
Selectivity Class			3
lifespan			
Lifespan	Operations		> 10000
Direction of incoming supply			as required

Mechanical

Standard front dimension		mm	45
Enclosure height		mm	80
Mounting width per pole		mm	17.5
Mounting			IEC/EN 60715 top-hat rail
Degree of Protection			IP20, IP40 (when fitted)
Terminals top and bottom			Twin-purpose terminals
Terminal protection			Finger and back-of-hand proof to BGV A2
Terminal capacities		mm^2	
		mm^2	1 x 25
		mm^2	2 x 10
Thickness of busbar material		mm	0.8 … 2
Mounting position			As required

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	20
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	6.6
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P_{diss}	W	0
Operating ambient temperature min.		°C	-40

Operating ambient temperature max.	°C	75
		linear, per +1 °C, results in a 0.5% reduction of current carrying capacity
IEC/EN 61439 design verification		
10.2 Strength of materials and parts		
10.2.2 Corrosion resistance		Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects		Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation		Meets the product standard's requirements.
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions		Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES		Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances		Meets the product standard's requirements.
10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.
10.9 Insulation properties		
10.9.2 Power-frequency electric strength		Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage		Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material		Is the panel builder's responsibility.
10.10 Temperature rise		The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility		Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function		The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)

Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ecl@ss10.0.1-27-14-19-01 [AAB905014])

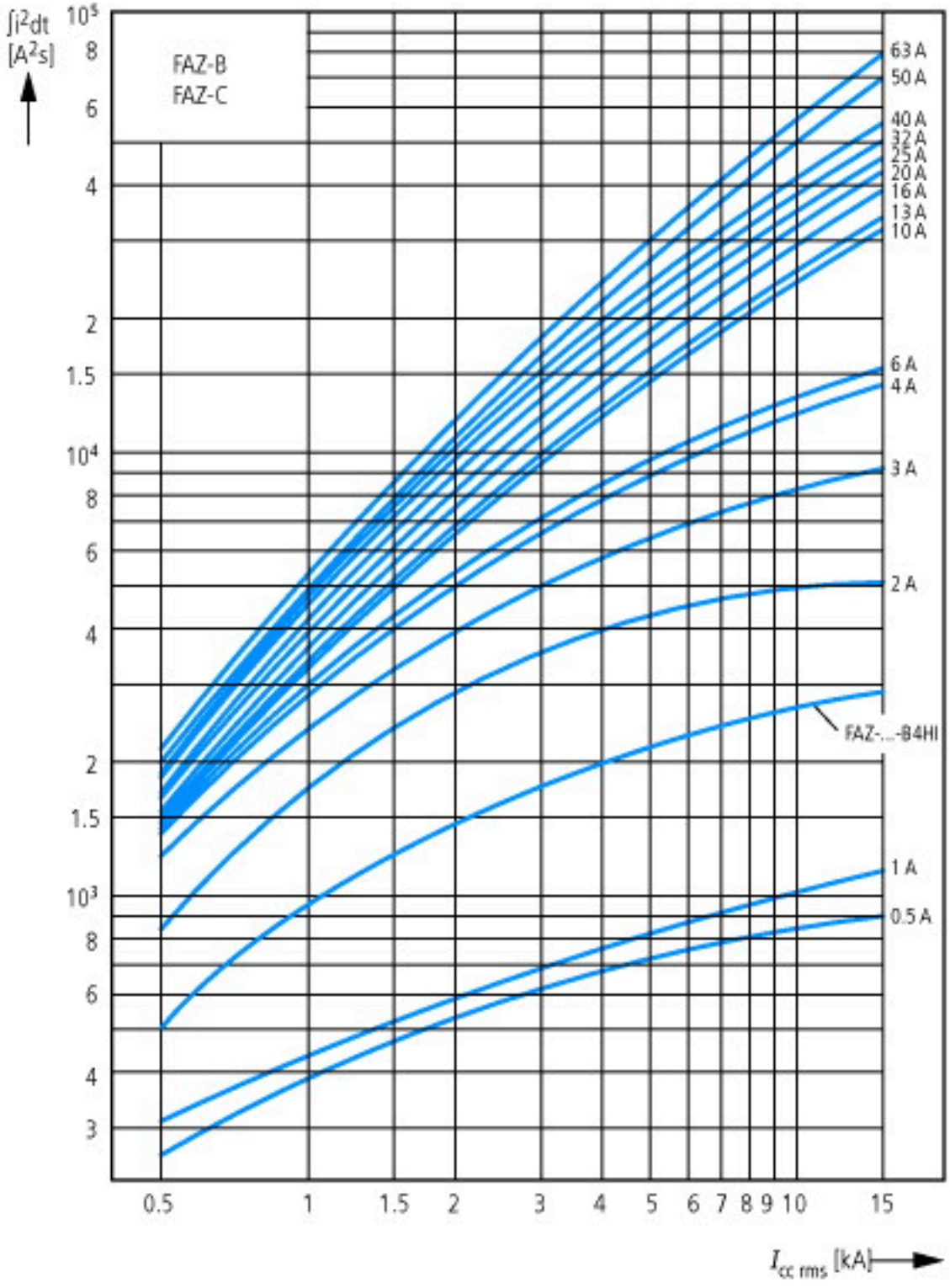
Release characteristic		C
Number of poles (total)		2
Number of protected poles		2
Rated current	A	20
Rated voltage	V	400
Rated insulation voltage Ui	V	440
Rated impulse withstand voltage Uimp	kV	4
Rated short-circuit breaking capacity Icn EN 60898 at 230 V	kA	10
Rated short-circuit breaking capacity Icn EN 60898 at 400 V	kA	10
Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V	kA	15
Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V	kA	15
Voltage type		AC
Frequency	Hz	50 - 60
Current limiting class		3
Suitable for flush-mounted installation		No
Concurrently switching N-neutral		No
Over voltage category		3
Pollution degree		2
Additional equipment possible		Yes
Width in number of modular spacings		2
Built-in depth	mm	70.5
Degree of protection (IP)		IP20

Ambient temperature during operating		°C	-25 - 75
Connectable conductor cross section multi-wired		mm^2	1 - 25
Connectable conductor cross section solid-core		mm^2	1 - 25

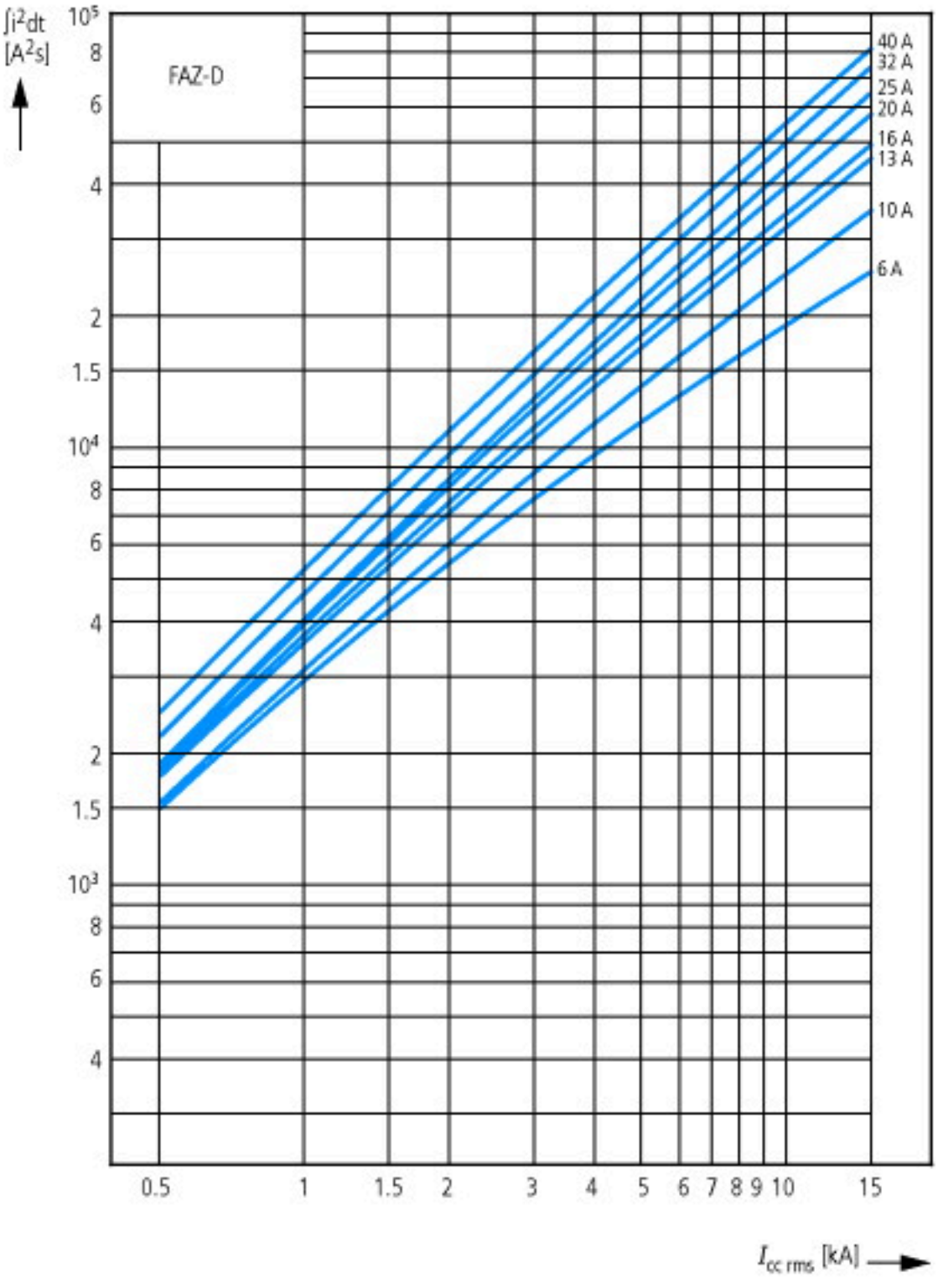
Approvals

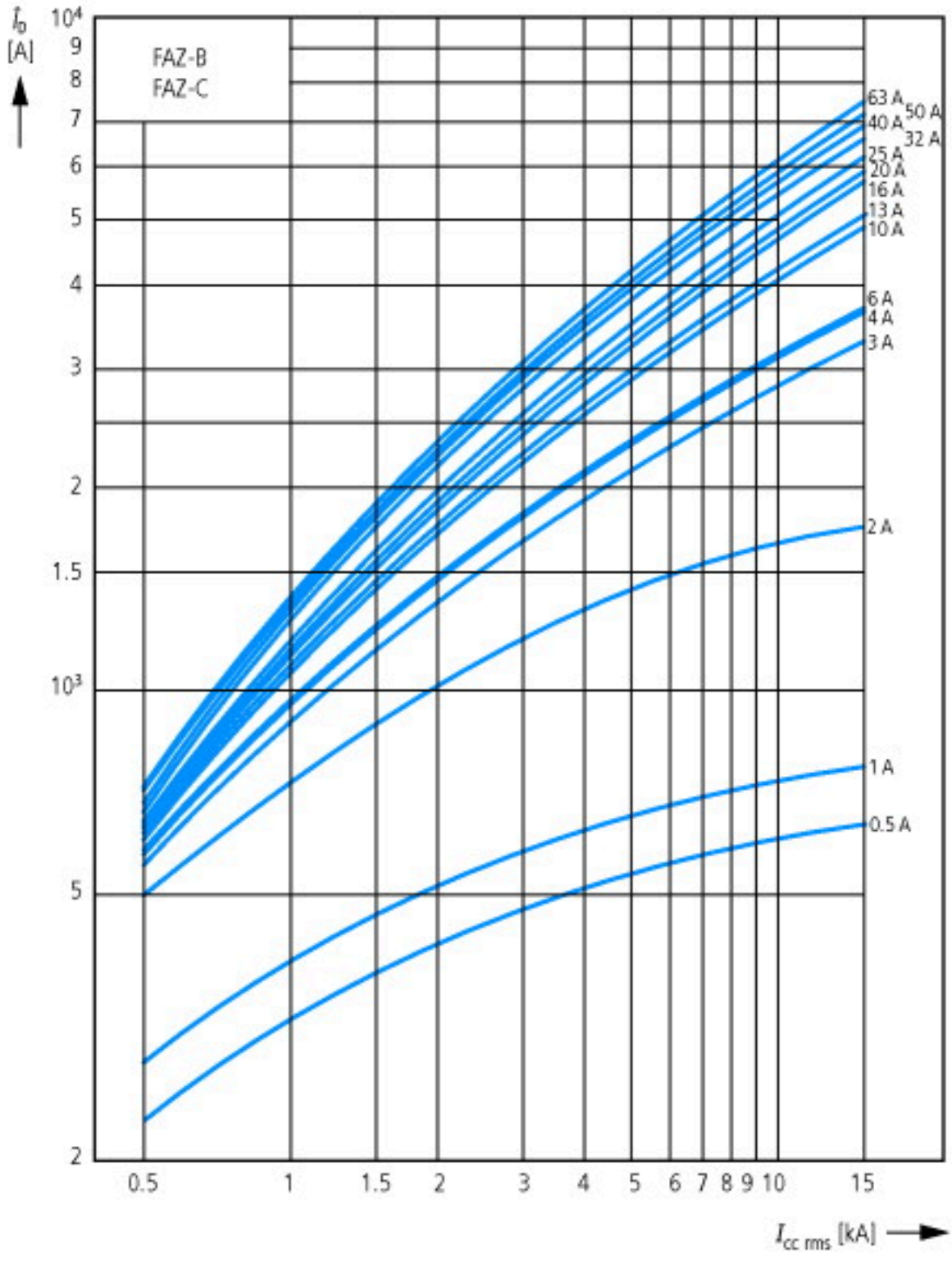
Product Standards			IEC/EN 60947-2; IEC/EN 60898; UL 1077; CSA-C22.2 No. 235; CE marking
UL File No.			E177451
UL Category Control No.			QVNU2, QVNU8
CSA File No.			204453
CSA Class No.			3215-30
North America Certification			UL recognized, CSA certified
Conditions of Acceptability			Supplementary Protector only
Suitable for			Branch Circuits; not as BCPD
Current Limiting Circuit-Breaker			No
Max. Voltage Rating			480Y/277 VAC; 96 VDC
Degree of Protection			IEC: IP20; UL/CSA Type: -

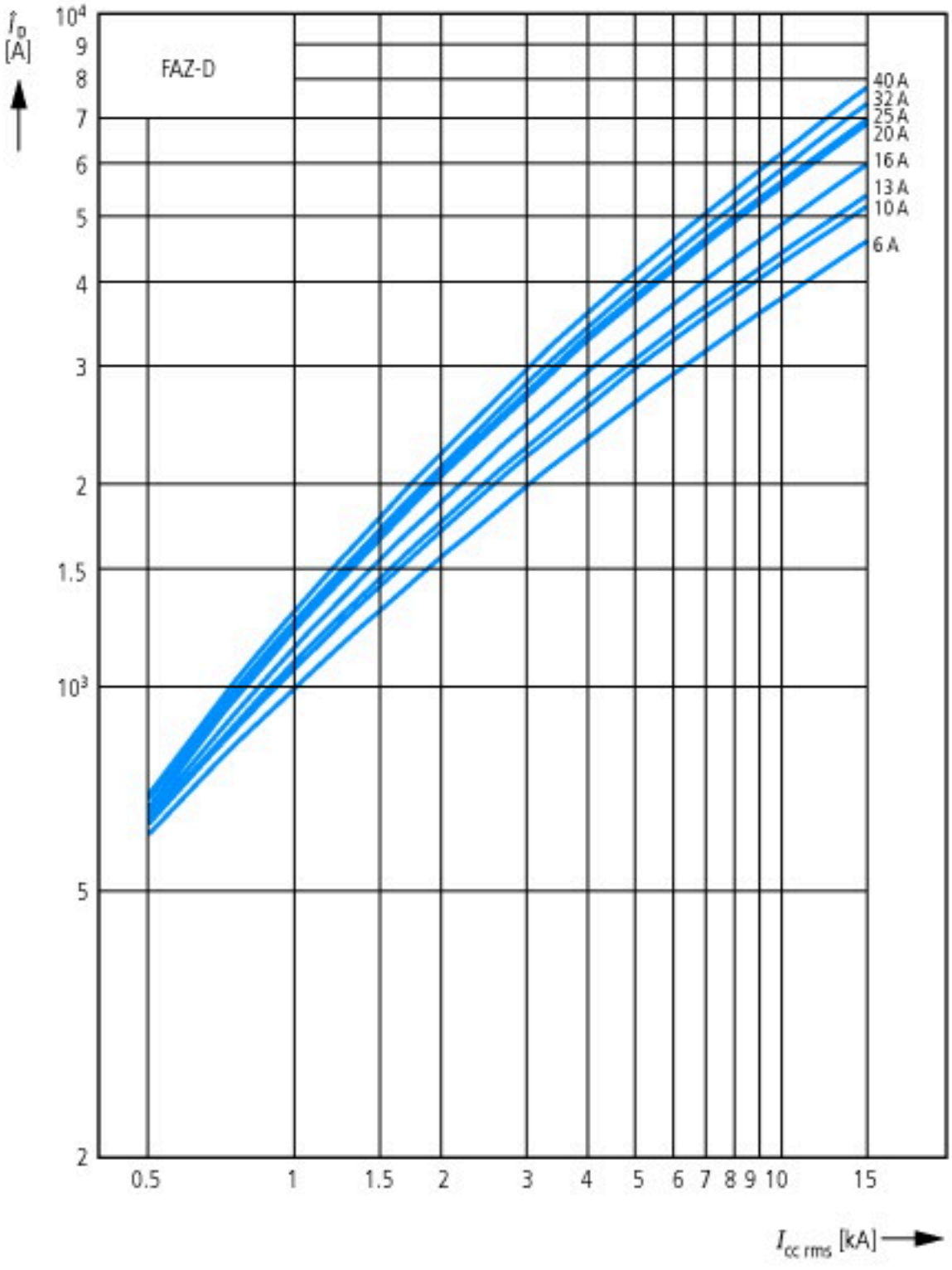
Characteristics

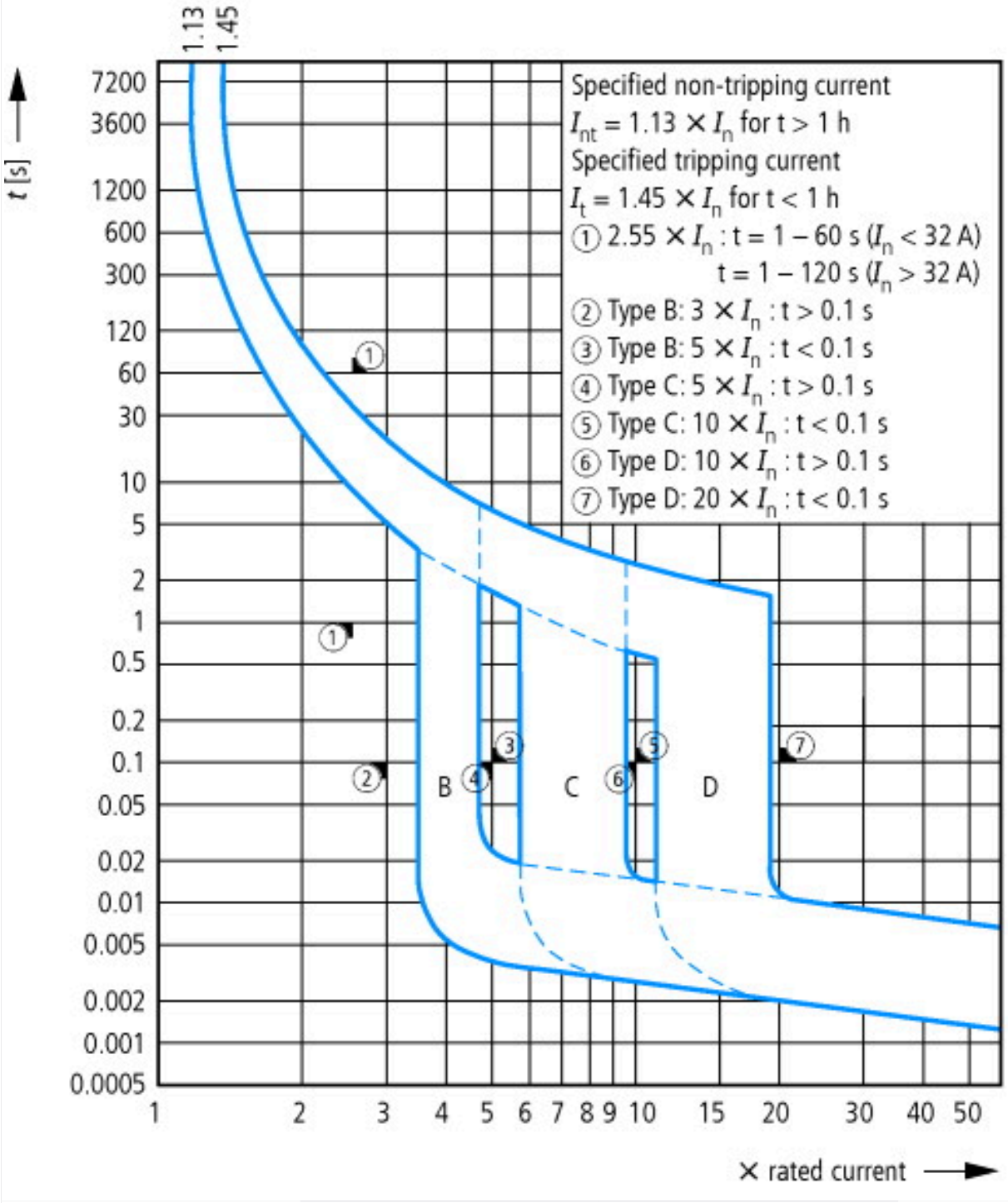


Let-through energy I^2t
According to IEC/EN 60898


∫i²dt
[A²s]
FAZ-D
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
$I_{cc\ rms}$ [kA]

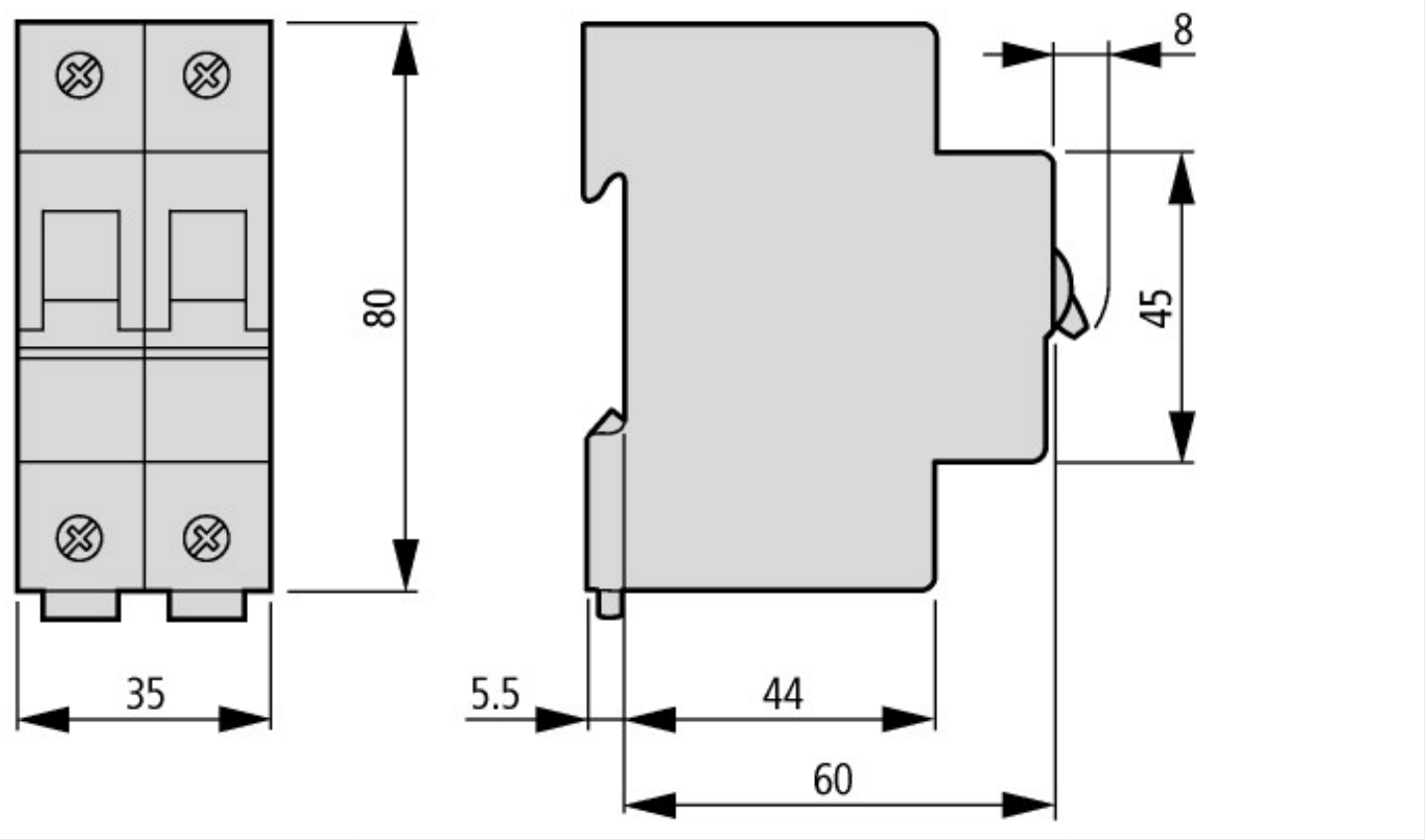

I_b [A]
FAZ-B
FAZ-C
63 A
50 A
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
4 A
3 A
2 A
1 A
0.5 A
$I_{cc\ rms}$ [kA]


$\hat{I}_o$ [A]
FAZ-D
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
10^4
9
8
7
6
5
4
3
2
1.5
10^3
5
2
0.5
1
1.5
2
3
4
5
6
7
8
9
10
15
$I_{cc\ rms}$ [kA]



Tripping characteristic at 30 °C:
B, C, D to IEC/EN 60898

Dimensions



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