DATASHEET - FAZ-B20/3



Similar to illustration

Miniature circuit breaker (MCB), 20 A, 3p, characteristic: B

Part no.	**FAZ-B20/3**
Catalog No.	**278848**
Alternate Catalog No.	**FAZ-B20/3**
EL-Nummer (Norway)	**1695124**

Delivery program

Basic function			Miniature circuit-breakers
Number of poles			3 pole
Tripping characteristic			B
Application			Switchgear for industrial and advanced commercial applications
Rated current	I_n	A	20
Rated switching capacity acc. to IEC/EN 60947-2	I_{cu}	kA	15
Product range			FAZ

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	9.8
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 8.0

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])

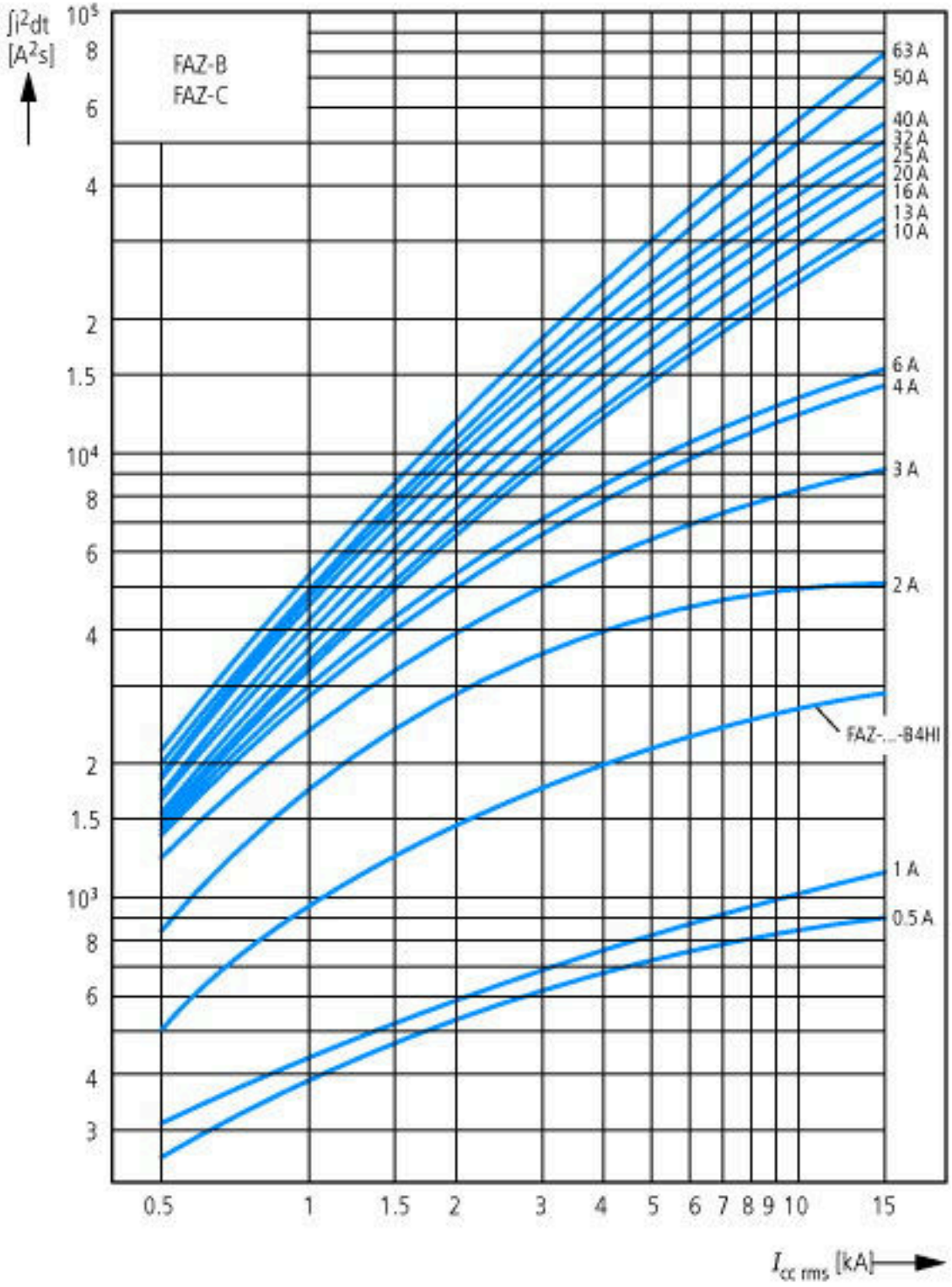
Built-in depth		mm	70.5
Release characteristic			B
Number of poles (total)			4
Number of protected poles			3
Rated current		A	20
Rated voltage		V	400
Rated insulation voltage Ui		V	440
Rated impulse withstand voltage Uimp		kV	4
Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V		kA	0
Voltage type			AC

Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V	kA	0
Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V	kA	25
Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V	kA	25
Frequency	Hz	50 - 60
Current limiting class		3
Flush-mounted installation		No
Concurrently switching neutral conductor		No
Over voltage category		3
Pollution degree		2
Additional equipment possible		Yes
Width in number of modular spacings		6
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
Explosion-proof		No

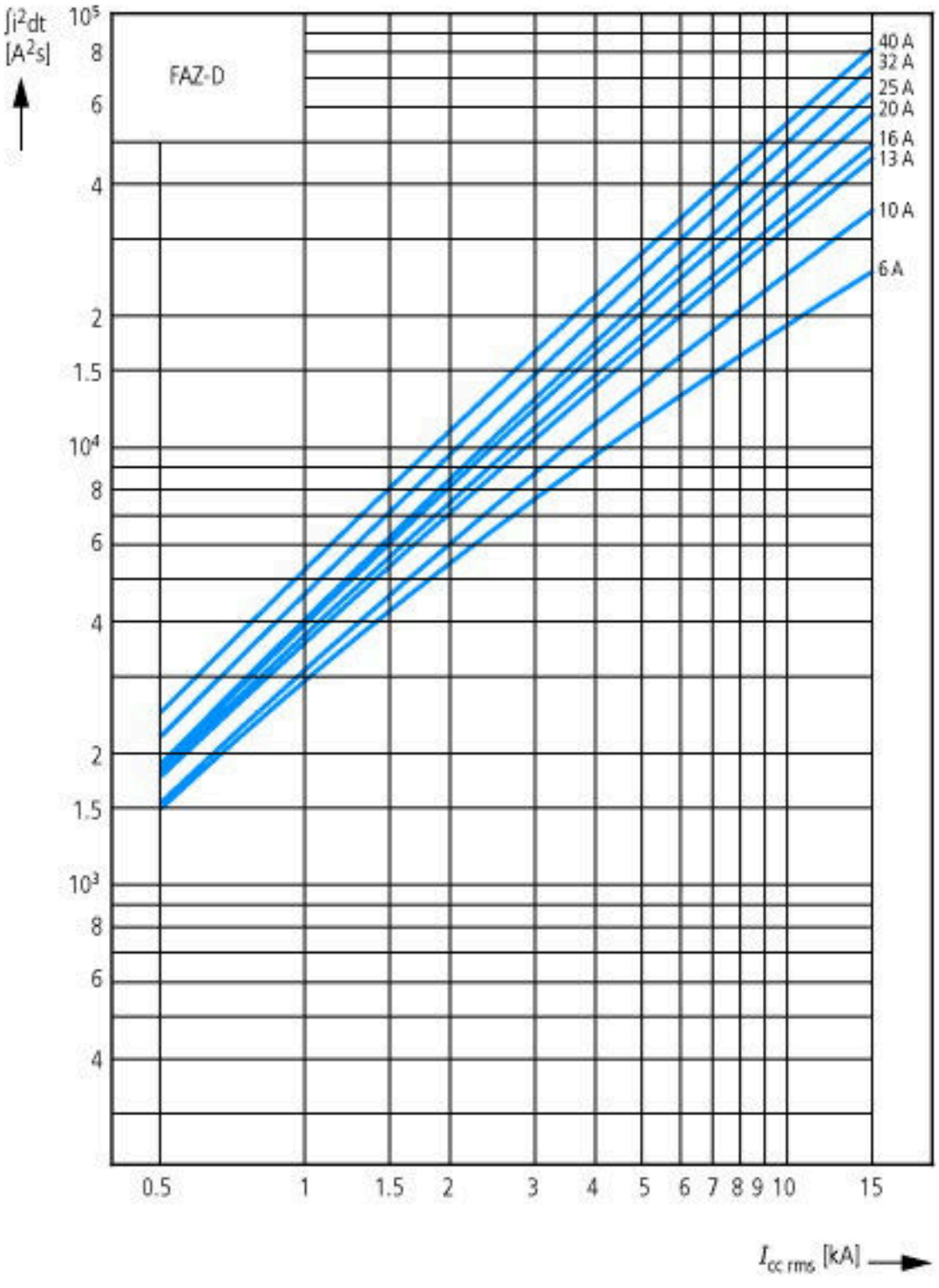
Approvals

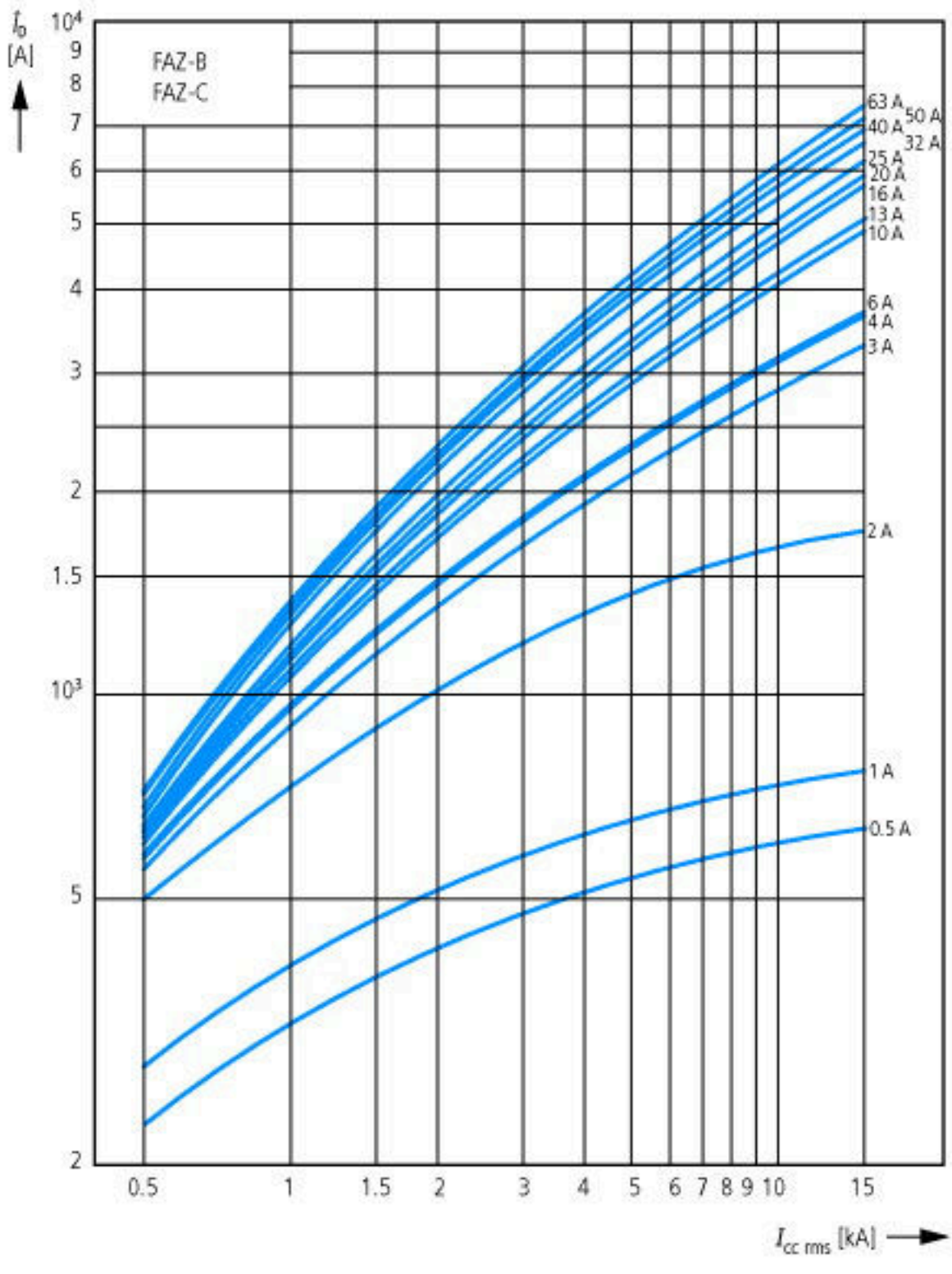
Product Standards		IEC/EN 60947-2; IEC/EN 60898; EN 45545-2; IEC 61373; UL 1077; CSA-C22.2 No. 235; CE marking
UL File No.		E177451
UL Category Control No.		QVNU2, QVNU8
CSA File No.		204453
CSA Class No.		3215-30
North America Certification		UL recognized, CSA certified
Conditions of Acceptability		Supplementary Protector only
Suitable for		Branch Circuits; not as BCPD
Current Limiting Circuit-Breaker		No
Max. Voltage Rating		480Y/277 VAC
Degree of Protection		IEC: IP20; UL/CSA Type: -

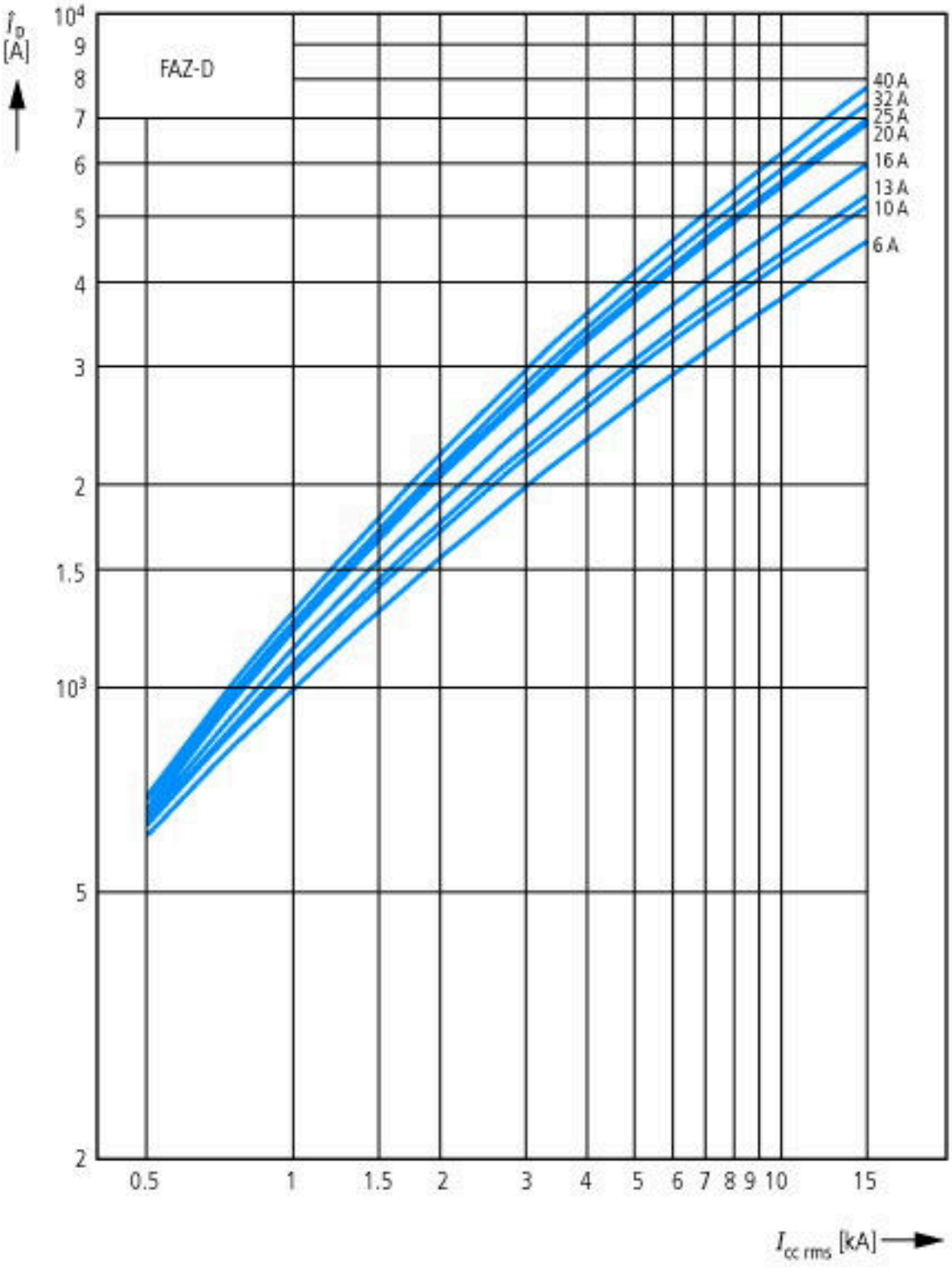
Characteristics

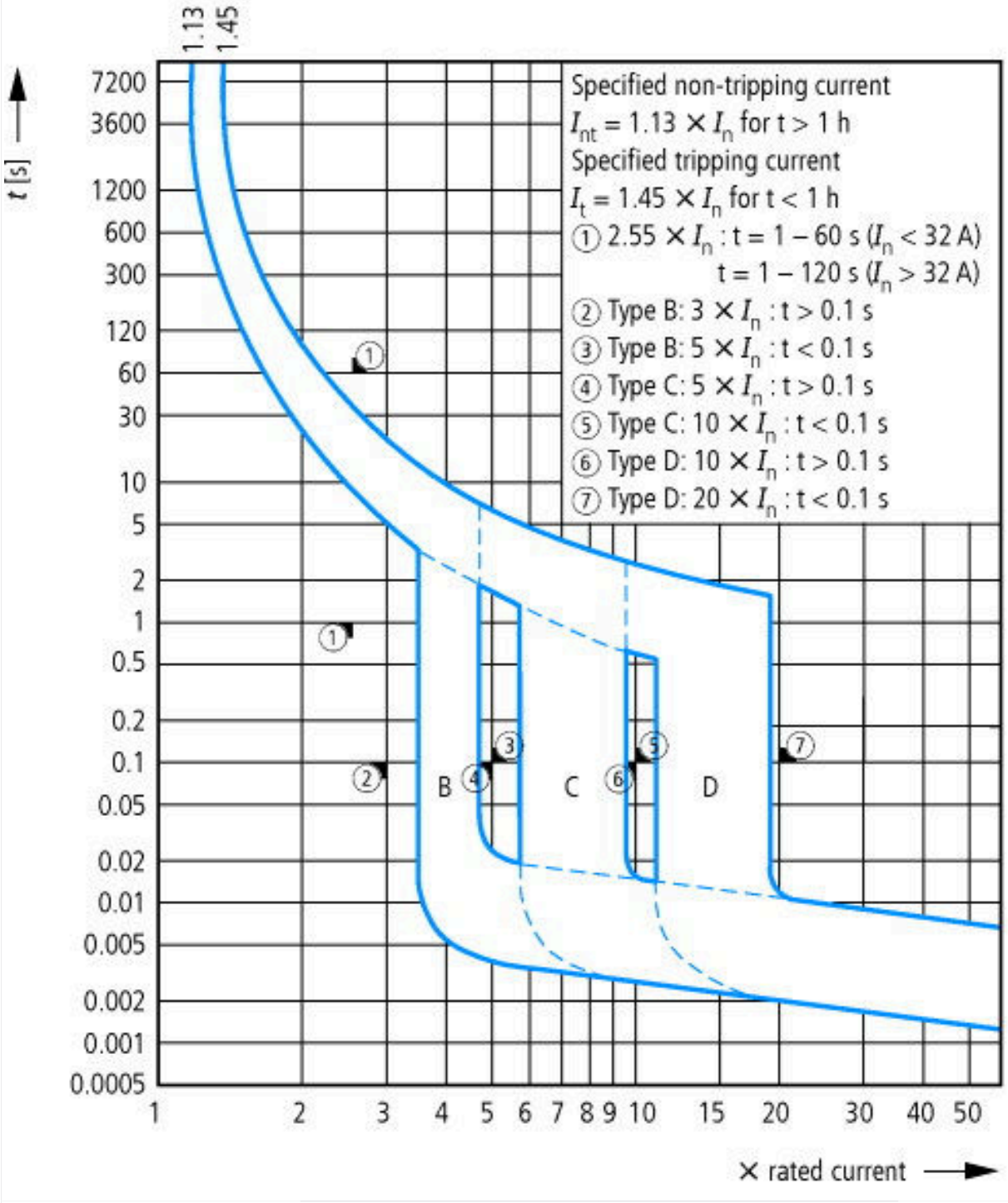


Let-through energy I^2t
According to IEC/EN 60898


∫i²dt
[A²s]
FAZ-D
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
I cc rms [kA]

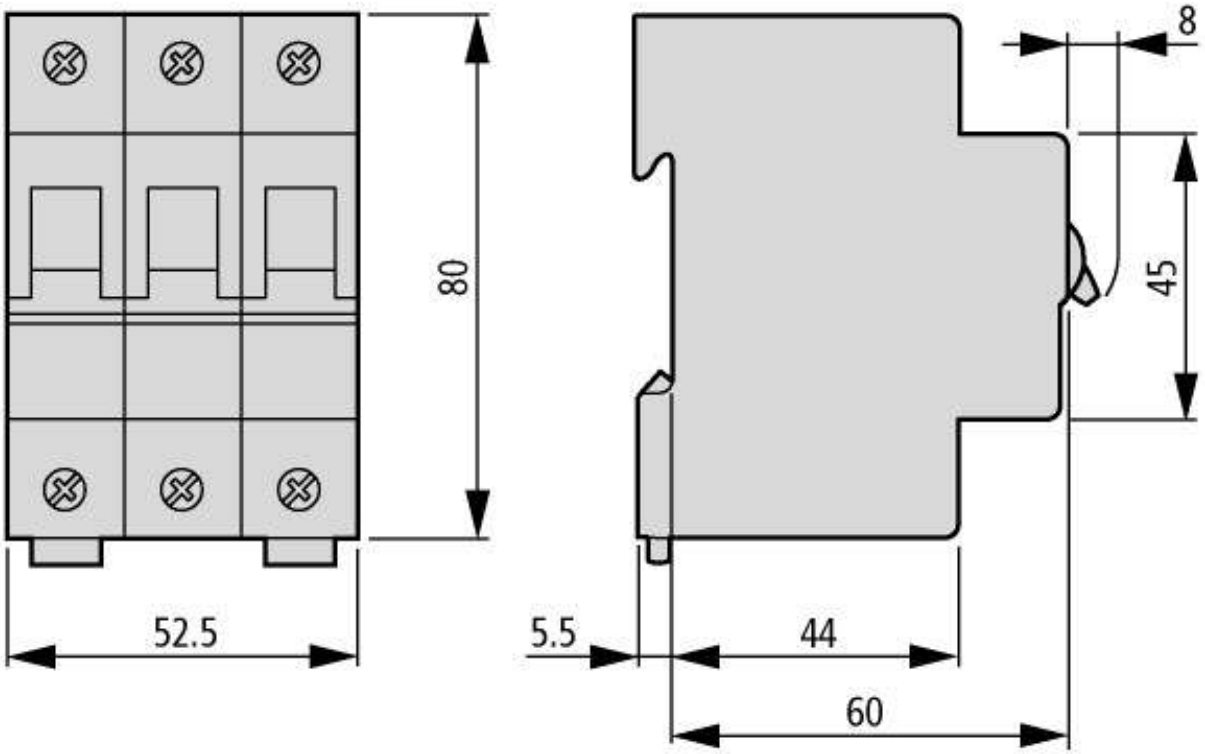

I_n [A]
10^4
9
8
7
6
5
4
3
2
1.5
10^3
5
2
FAZ-B
FAZ-C
63 A
50 A
40 A
32 A
25 A
20 A
16 A
13 A
10 A
6 A
4 A
3 A
2 A
1 A
0.5 A
0.5
1
1.5
2
3
4
5
6
7
8
9
10
15
$I_{cc\ rms}$ [kA]


I_a [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



Additional product information (links)

AWA1220-1755 Circiut-breaker	
AWA1220-1755 Circiut-breaker	https://es-assets.eaton.com/DOCUMENTATION/AWA_INSTRUCTIONS/17550701.pdf
Temperature dependency, derating	https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table FAZ.pdf

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