



**Miniature circuit breaker (MCB), 20 A, 3p+N, characteristic: D**

**Part no.** FAZ-D20/3N  
**Catalog No.** 278999  
**Alternate Catalog No.** FAZ-D20/3N  
**EL-Nummer (Norway)** 0001691222

Similar to illustration

**Delivery program**

Basic function			Miniature circuit-breakers
Number of poles			3 pole+N
Tripping characteristic			D
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	
		V AC	240/415
		V DC	60 (per pole)
Rated switching capacity acc. to IEC/EN 60947-2	$I_{cu}$	kA	15
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	6.2

Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	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

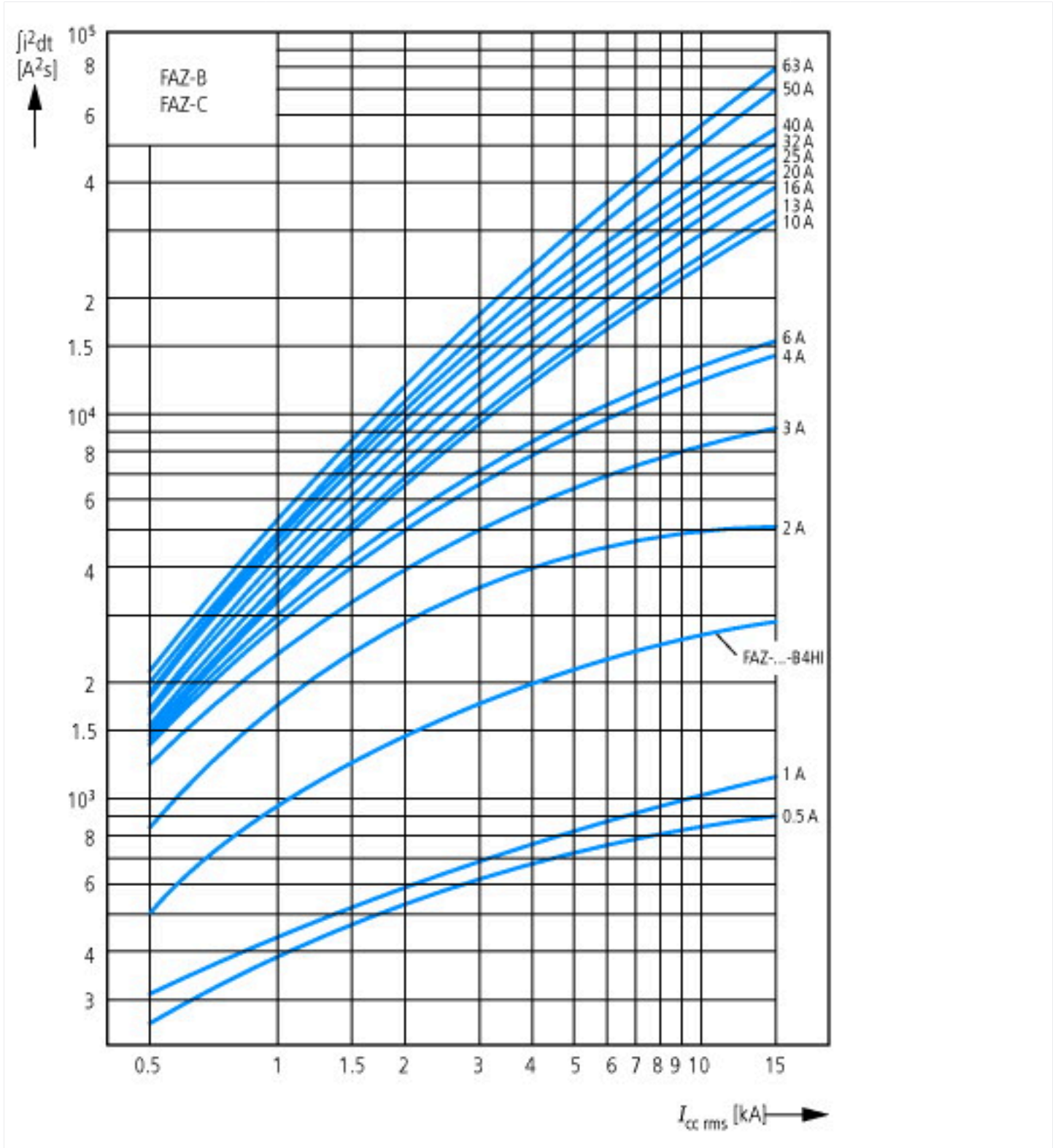
Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)

Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB)  
(ec1@ss10.0.1-27-14-19-01 [AAB905014])

Release characteristic			D
Number of poles (total)			4
Number of protected poles			3
Rated current		A	20
Rated voltage		V	400
Rated insulation voltage U <sub>i</sub>		V	440
Rated impulse withstand voltage U <sub>imp</sub>		kV	4
Rated short-circuit breaking capacity I <sub>cn</sub> EN 60898 at 230 V		kA	10
Rated short-circuit breaking capacity I <sub>cn</sub> EN 60898 at 400 V		kA	10
Rated short-circuit breaking capacity I <sub>cu</sub> IEC 60947-2 at 230 V		kA	15
Rated short-circuit breaking capacity I <sub>cu</sub> 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			Yes
Over voltage category			3
Pollution degree			2

Additional equipment possible		Yes
Width in number of modular spacings		4
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 <sup>2</sup>	1 - 25
Connectable conductor cross section solid-core	mm <sup>2</sup>	1 - 25

## Characteristics



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









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

## Dimensions



## Additional product information (links)

### AWA1220-1755 Circuit-breaker

AWA1220-1755 Circuit-breaker

[https://es-assets.eaton.com/DOCUMENTATION/AWA\\_INSTRUCTIONS/17550701.pdf](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>