

## DATASHEET - FAZ-B40/1



## Miniature circuit breaker (MCB), 40A, 1p, B-Char, AC

**Part no.** FAZ-B40/1  
**Catalog No.** 278539  
**Alternate Catalog No.** FAZ-B40/1  
**EL-Nummer (Norway)** 0001695107

**EATON**  
 Powering Business Worldwide™

Similar to illustration

## Delivery program

Basic function			Miniature circuit-breakers
Number of poles			1 pole
Tripping characteristic			B
Application			Switchgear for industrial and advanced commercial applications
Rated current	$I_n$	A	40
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 voltage according to UL	$U_n$	V AC	277
Rated switching capacity acc. to IEC/EN 60947-2	$I_{cu}$	kA	15
Breaking capacity according to UL		kA	5 (UL1077)
Max operational voltage according to IEC/EN 60947-2		V AC	254
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	240
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 <sup>2</sup>	
		mm <sup>2</sup>	1 x 25

	mm <sup>2</sup>	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 <sub>n</sub>	A	40
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	3.4
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

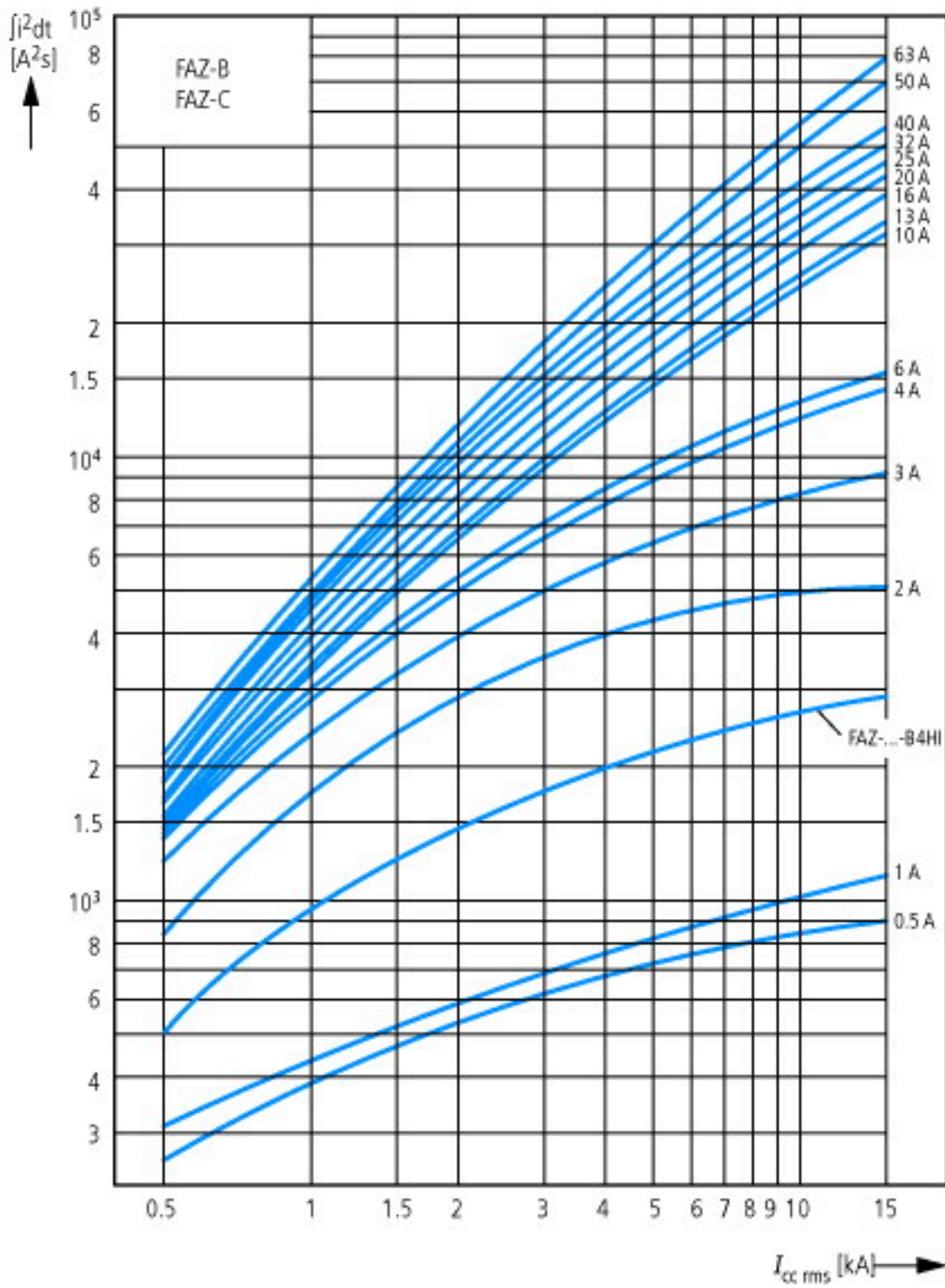
Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)			
Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ecl@ss10.0.1-27-14-19-01 [AAB905014])			
Release characteristic			B
Number of poles (total)			1
Number of protected poles			1
Rated current		A	40
Rated voltage		V	230
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 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		1
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

## 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		277 VAC; 48 VDC
Degree of Protection		IEC: IP20; UL/CSA Type: -

Characteristics



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





Let-through current  $i_p$   
According to IEC/EN 60898





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

Dimensions





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