## DATASHEET - FAZ-D40/1-NA

Part no.

(Norway)

No.

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



FAZ-D40/1-NA Catalog No. 102116 Alternate Catalog FAZ-D40/1-NA **EL-Nummer** 0001691641



Similar to illustration

#### **Delivery program**

Bonnon) program			
Basic function			Miniature circuit-breakers
Number of poles			1 pole
Tripping characteristic			D
Application			Switchgear for export to North America (UL-listed)
Rated current	I <sub>n</sub>	А	40
Rated switching capacity acc. to IEC/EN 60947-2	l <sub>cu</sub>	kA	15
Product range			FAZ-NA

#### **Technical data** Electrical

StandardsNew	Electrical			
Note     Name     Name <th< td=""><td>Standards</td><td></td><td></td><td></td></th<>	Standards			
Image: second	Rated operational voltage	U <sub>e</sub>	V	
Rate voltage according to IEC/EN 60947-2     Vn     VAC		U <sub>e</sub>	V AC	240
Rated voltage according to UL     Vn     VAC     Pace       Rated switching capacity acc. to IEC/EN 60947-2     Icu     KA     5       Characteristic     Icu     KA     5       Selectity Class     B, C, D     3       Ifrespan     Operations     2000       Direction of incoming supply     Selectity Class     se required       Mechanical     Selectity Class     se required       Standard front dimension     Man     5       Rounning width per pole     Man     15       Nounning     FE/FE/FE/FE/FE/FE/FE/FE/FE/FE/FE/FE/FE/F			V DC	60
Rated switching capacity acc. to IEC/EN 60947-2 Icu Kau F   Characteristic F F F   Selectivity Class B, C, D F F   Ifespan Operations F F F   Ifespan Operations se regired se regired   Mochanical F Main Selectivity Class se regired   Standard front dimension F Main Selectivity Class se regired   Mounting width per pole Main 15 Selectivity Class se regired   Selectivity Class F Main 15 Selectivity Class se regired   Inclosure height Main 105 Selectivity Class Selectivity Class Selectivity Class Selectivity Class   Segree of Protection F Main 17.7 Selectivity Class Selecti	Rated voltage according to IEC/EN 60947-2	Un	V AC	240/415
Characteristic   B, C, D     Selectivity Class   B, C, D     Selectivity Class   B, C, D     Iftespan   B, C, D     Iftespan   Control     Direction of incoming supply   Poperations     Brechanical   serguired     Mechanical   mm     Standard front dimension   mm     Enclosure height   mm     Mounting   Mm     Engree of Protection   mm     Terminals top and bottom   Fore and back-of-hand proof to BGVA2     Terminals torp and fixing screws   Nm     Tightening torque of fixing screws   Nm     Subard fixing screws   Nm	Rated voltage according to UL	Un	V AC	240
Selectivity Class   A sequence of the second seco	Rated switching capacity acc. to IEC/EN 60947-2	I <sub>cu</sub>	kA	15
Itespan Mark Itespan   Direction of incoming supply Operations >2000   Direction of incoming supply as required   Mechanical Image: Standard front dimension Image: Standard front dimension   Enclosure height Image: Standard front dimension Image: Standard front dimension   Mounting width per pole Image: Standard front dimension Image: Standard front dimension   Mounting width per pole Image: Standard front dimension Image: Standard front dimension   Mounting Image: Standard front dimension Image: Standard front dimension   Mounting width per pole Image: Standard front dimension Image: Standard front dimension   Mounting Image: Standard front dimension Image: Standard front dimension   Mounting Image: Standard front dimension Image: Standard front dimension   Terminals top and bottom Image: Standard front dimension Image: Standard front dimension   Terminal protection Image: Standard front dimension Image: Standard front dimension   Tightening torque of fixing screws Image: Standard front dimension Image: Standard front dimension   Tightening torque of fixing screws Image: Standard front dimension Image: Standard front dimension	Characteristic			B, C, D
Lifespan   Operations   >20000     Direction of incoming supply   as required     Mechanical   sequired     Standard front dimension   mm   45     Enclosure height   mm   105     Mounting width per pole   mm   17.7     Mounting   E/CKN 60715 top-hat rail   120     Degree of Protection   Forminals top and bottom   Forminals top and bottom   Forminals top and bottom     Terminal protection   Forminal protection   Figer and back-of-hand proof to BGV A2   Figer and back-of-hand proof to BGV A2     Tightening torque of fixing screws   N/m   Singar Adw Singa Si	Selectivity Class			3
Pirection fincoming supply     Rechanical     as required       Mechanical     mm     45       Standard front dimension     mm     105       Enclosure height     mm     17.7       Mounting width per pole     Mm     16C/IS 06715 top-hat rail       Mounting     EC/EN 60715 top-hat rail     105       Terminals top and bottom     EC/EN 60715 top-hat rail     105       Terminal protection     EC/EN 60715 top-hat rail     105       Terminal protection     Figer and back-of-hand proof to BGV A2     105       Tightening torque of fixing screws     M/m     Killer and Screws     Killer and Screws	lifespan			
Mechanical       Standard front dimension     mm     45       Enclosure height     mm     105       Mounting width per pole     mm     17.7       Mounting     Ferce of Protection     Ferce of Protection     Ferce of Protection       Terminals top and bottom     Ferce of Fixing screws     Ferce of Fixing screws     Ferce of Fixing screws	Lifespan	Operations		> 20000
Standard front dimensionmm45Enclosure heightmm105Mounting width per polemm17.7MountingIC/EN 60715 top-hat railDegree of ProtectionICOICOTerminals top and bottomICOICOTerminal protectionICOFinger and back-of-hand proof to BGV A2Tightening torque of fixing screwsICOICOTightening torque of fixing screws<				as required
Enclosure heightmm105Mounting width per polemm17.7MountingICEN 60715 top-hat railDegree of ProtectionICEN 60715 top-hat railTerminals top and bottomICEN 60715 top-hat railTerminal protectionICEN 60715 top-hat protection BGV A2Tightening torque of fixing screwsICEN 60715 top-hat protection	Mechanical			
Mounting width per pole mm 17.7   Mounting IEC/EN 60715 top-hat rail   Degree of Protection IEO/EN 60715 top-hat rail   Terminals top and bottom Twin-purpose terminals   Terminal protection IEO/EN 60715 top-hat nail   Tightening torque of fixing screws Mm Imm   Tightening torque of fixing screws Mm Imm	Standard front dimension		mm	45
Mounting   IEC/EN 60715 top-hat rail     Degree of Protection   IEC/EN 60715 top-hat rail     Terminals top and bottom   IEC/EN 60715 top-hat rail     Terminal protection   IEC/EN 60715 top-hat rail     Terminal protection   IEC/EN 60715 top-hat rail     Tightening torque of fixing screws   IEC/EN 60715 top-hat rail     Image: Screws   Image: Screws	Enclosure height		mm	105
Degree of Protection   IP20, IP40 (when fitted)     Terminals top and bottom   Twin-purpose terminals     Terminal protection   IP20, IP40 (when fitted)     Tightening torque of fixing screws   IP20, IP40 (when fitted)     W/m   max. 2.4     UL:   #18-12 AWG: 2.4 Nm (21 lb-in)     #18-12 AWG: 2.8 Nm (25 lb-in)   #6 AWG: 4 Nm (36 lb-in)	Mounting width per pole		mm	17.7
Terminals top and bottom Image: Constraint of the sector	Mounting			IEC/EN 60715 top-hat rail
Terminal protection Finger and back-of-hand proof to BGV A2   Tightening torque of fixing screws N/m max. 2.4 UL: #18-12 AWG: 2.4 Nm (21 lb-in) #10-8 AWG: 2.8 Nm (25 lb-in) #6 AWG: 4 Nm (36 lb-in)	Degree of Protection			IP20, IP40 (when fitted)
Tightening torque of fixing screws   N/m   max. 2.4 UL: #18-12 AWG: 2.4 Nm (21 lb-in) #10-8 AWG: 2.8 Nm (25 lb-in) #6 AWG: 4 Nm (36 lb-in)	Terminals top and bottom			Twin-purpose terminals
UL: #18-12 AWG: 2.4 Nm (21 lb-in) #10-8 AWG: 2.8 Nm (25 lb-in) #6 AWG: 4 Nm (36 lb-in)	Terminal protection			Finger and back-of-hand proof to BGV A2
Mounting position As required	Tightening torque of fixing screws		N/m	UL: #18-12 AWG: 2.4 Nm (21 lb-in) #10-8 AWG: 2.8 Nm (25 lb-in)
	Mounting position			As required

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	40
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0

Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	3.9
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.	· uiss	°C	-25
Operating ambient temperature max.		°C	75
		U	/s linear, per +1 °C, results in a 0.5% reduction of current carrying capacity
IEC/EN 61439 design verification			ineal, per +1 C, results in a 0.5% reduction of current carrying capacity
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)

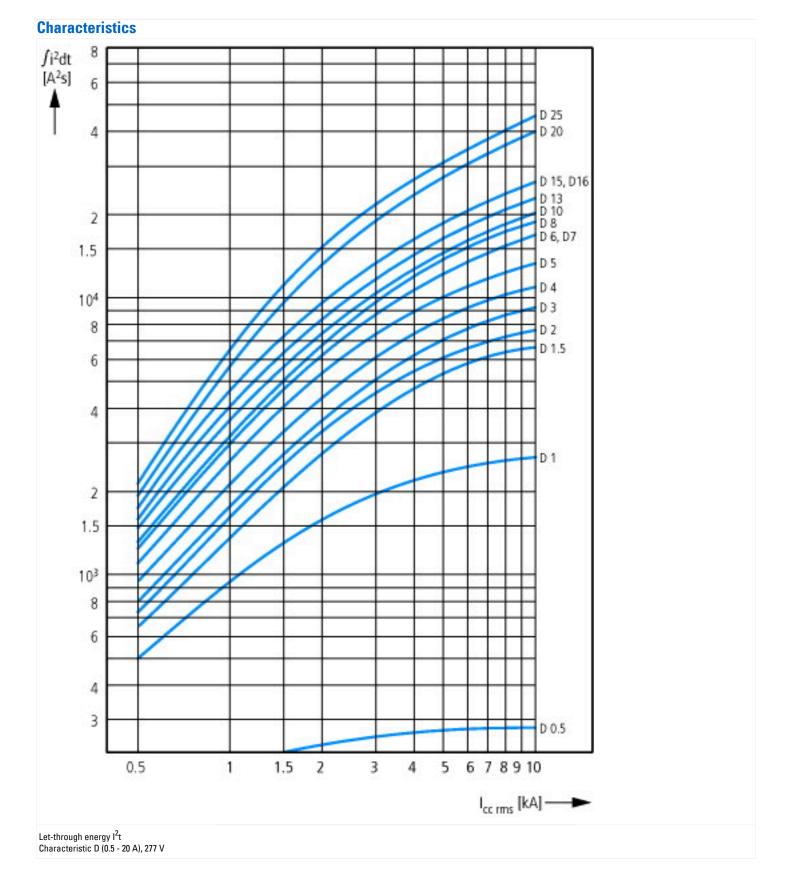
Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ecl@ss10.0.1-27-14-19-01 [AAB905014])

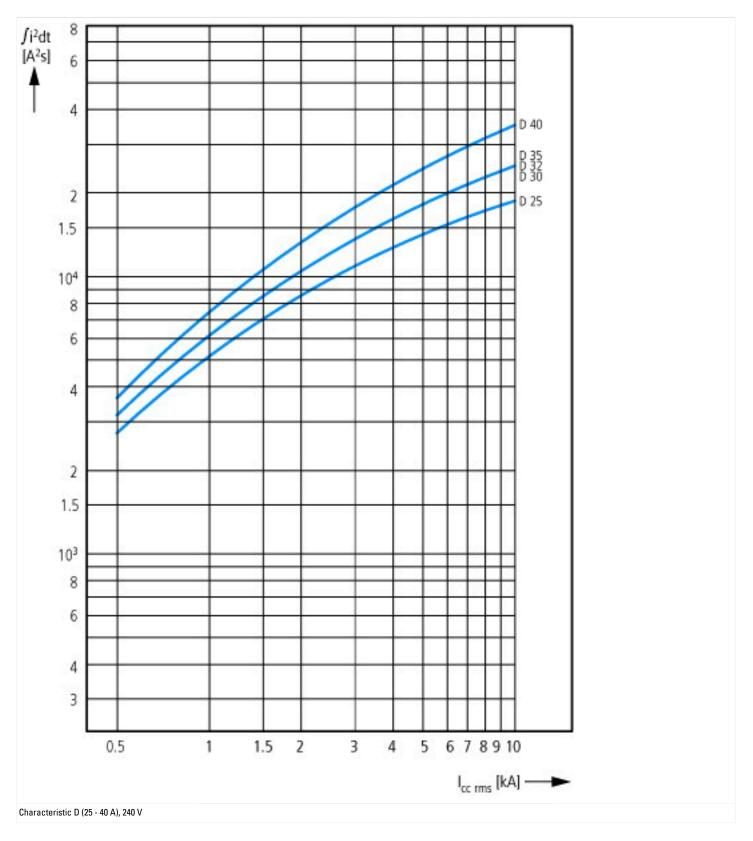
(eci@ss10.0.1-27-14-19-01 [AAB905014])		
Release characteristic		D
Number of poles (total)		1
Number of protected poles		1
Rated current	А	40
Rated voltage	V	240
Rated insulation voltage Ui	V	440
Rated impulse withstand voltage Uimp	kV	4
Rated short-circuit breaking capacity Icn EN 60898 at 230 V	kA	0
Rated short-circuit breaking capacity Icn EN 60898 at 400 V	kA	0
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	n	nm	70.5
Degree of protection (IP)			IP20
Ambient temperature during operating	٥	°C	-25 - 75
Connectable conductor cross section multi-wired	n	nm²	1 - 25
Connectable conductor cross section solid-core	n	nm²	1 - 25

## **Approvals**

Product Standards	IEC/EN 60947-2; UL 489; CSA-C22.2 No. 5-09; CE marking
UL File No.	E235139
UL Category Control No.	DIVQ
CSA File No.	204453
CSA Class No.	1432-01
North America Certification	UL listed, CSA certified
Specially designed for North America	Yes, suitable as BCPD
Suitable for	Feeder circuits, branch circuits
Current Limiting Circuit-Breaker	Yes
Max. Voltage Rating	> 32 A
Degree of Protection	IEC: IP20, UL/CSA Type: -





## Additional product information (links)

Temperature dependency, derating

https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table FAZ-NA-RT.pdf