## **DATASHEET - FAZ-D4/1N**

Miniature circuit breaker (MCB), 4 A, 1p+N, characteristic: D



Part no. FAZ-D4/1N Catalog No. 278689 Alternate Catalog FAZ-D4/1N No. EL-Nummer 1666772 (Norway)



Similar to illustration

#### **Delivery program**

Number of poles 1 pole+N   Tripping characteristic D   Application Switchgear for industrial and advanced commerciants   Rated current In A   Bated switching capacity acc. to IEC/EN 60947-2 Ieu kA 15	
Application   Switchgear for industrial and advanced comment     Rated current   In   A     Poted switching conscitutoes to IEC/EN 60047.3   In   IA	
Rated current In A 4	
Poted quitabing conseity ago to IEC/EN 600/7.2	cial applications
Peter avitable apparituate to IEC/EN 60047.2	
Rated switching capacity acc. to IEC/EN 60947-2 I <sub>cu</sub> kA 15	
Product range FAZ	

kA

15

 $\mathbf{I}_{\mathrm{cu}}$ 

#### **Technical data**

Electrical
Rated switching capacity acc. to IEC/EN 60947-2

# Design verification as per IEC/EN 61439

Jesign vernication as per IEC/EN 01459			
Fechnical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	А	4
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	1.6
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
C/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**

Release hareinsiteIINuber of potected polesIINuber of potected polesIIRated uruntIIRated nuber of potected polesIIRated nuber of poles<	Circuit breakers and fuses (EG000020) / Miniature circuit breaker (MCB) (EC000042)				
Numer of poles (trail)Image of a set of a					
Number of protected polesImage: sector of the s	Release characteristic		D		
Rate durint     A     A       Rate during     V     30       Rate disulation voltage Ui     V     40       Rate disulation voltage Uin     V     40       Rate disulation voltage Uin     V     40       Rate disort-circuit breaking capacity Icn EK 60988 at 200 V     KA     10       Rated short-circuit breaking capacity Icn EK 60987-2 at 200 V     KA     10       Rated short-circuit breaking capacity Icn EK 60947-2 at 200 V     KA     15       Notage type     KA     50     60       Voltage type     KA     50     60       Voltage type     KA     50     60       Suitable for flush-mounted installation     KA     50     60       Concurrently switching N-neutral     KA     50     60       Pollution degree     KA     50     60       Additional equipment possible     KA     50     60       Voltage type     S     50     60     60     60     60     60     60     60     60     60     60     60     60	Number of poles (total)		2		
Rated violage   V   3     Rated insulation voltage Uin   V   40     Rated insulation voltage Uinp   V   40     Rated insulation voltage Uinp   V   40     Rated short-circuit breaking capacity Lon E06098 at 200 V   K   10     Rated short-circuit breaking capacity Lon E06097-2 at 200 V   K   10     Rated short-circuit breaking capacity Lon E06097-2 at 200 V   K   10     Voltage type   K   10   10     Notage type   K   10   10   10     Voltage type   K   10	Number of protected poles		1		
Rated insultion voltage Uin     V     40       Rated inspulse withstand voltage Uinp     K0     4       Rated inspulse withstand voltage Uinp     K0     4       Rated short-circuit breaking capacity Ion EN 60989 at 230 V     K0     10       Rated short-circuit breaking capacity Ion EN 60989 at 400 V     K0     10       Rated short-circuit breaking capacity Ion EC 60947-2 at 200 V     K0     10       Voltage type     K0     50     50       Voltage type     K0     60     50       Current limiting class     50-60     50     50       Sutable for flush-mounted installation     K1     50     50       Courrently switching N-neutral     K1     50     50       Over voltage category     K1     50     50       Pollution degree     K     K1     50       Vidt in number of modular spacings     K1     50     50       Degree of protection (IP)     K0     50     50       Additional quip gorating     K2     F0     50       Degree of protection (IP)     K0     50	Rated current	А	4		
Rated impulse withs and voltage Uimp     KV     4       Rated short-circuit breaking capacity loc EK 60898 at 20 V     KA     0       Rated short-circuit breaking capacity loc EK 60987-2 at 20 V     KA     0       Rated short-circuit breaking capacity loc EK 60987-2 at 20 V     KA     0       Rated short-circuit breaking capacity loc EK 60947-2 at 20 V     KA     0       Voltage type     Fraguency     G     0       Voltage type     Fraguency     So 60     0       Suble for flush-mounted installation     Fraguency     So 60     0       Nourge category     Fraguency     So 60     0     0       Nourge category     Fraguency     So 60     0     0     0       Nourge category     Fraguency     So 60     0 <td>Rated voltage</td> <td>V</td> <td>230</td>	Rated voltage	V	230		
Rated short-circuit breaking capacity lon EN 60898 at 230 V   kA   0     Rated short-circuit breaking capacity lon EN 60898 at 400 V   kA   0     Rated short-circuit breaking capacity lon EN 60898 at 400 V   kA   0     Rated short-circuit breaking capacity lon EN 60898 at 400 V   kA   0     Rated short-circuit breaking capacity lon EN 60894 at 230 V   kA   0     Rated short-circuit breaking capacity lon EN 60894 at 230 V   kA   0     Voltage type   KA   0   0     Voltage type   KA   0   0     Frequency   KB   0   0   0     Current limiting class   KB   0   0   0   0     Suitable for flush-mounted installation   KB   S   0	Rated insulation voltage Ui	V	440		
Rated short-circuit breaking capacity Icu EK 60898 at 400 V   KA   i     Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V   KA   is     Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V   KA   is     Voltage type   KA   is     Voltage type   Concommentation   KA   is     Current limiting class   Solo   Solo   Solo     Suitable for flush-mounted installation   Max   is   Solo     Concurrently switching N-neutral   Max   is   Solo     Over voltage category   Max   is   Solo     Pollution degree   Max   is   Solo     Suit-in depth   Max   is   Solo     Built-in depth   Max   is   Solo     Suit-in depth   Max   is   Solo     Solo   Max   Solo   Solo     Solo   Solo   Solo   Solo     Solo   Solo   Solo   Solo     Solo   Solo   Solo   Solo     Solo   Solo   Solo   Solo     Solo	Rated impulse withstand voltage Uimp	kV	4		
Rated short-circuit breaking capacity leu IEC 60947-2 at 230 V   KA   5     Rated short-circuit breaking capacity leu IEC 60947-2 at 400 V   KA   5     Voltage type   C   AC     Frequency   KA   5     Current limiting class   S   60     Suitable for flush-mounted installation   F   6     Concurrently switching N-neutral   No   S     Over voltage category   S   3     Pollution degree   S   S     Additional equipment possible   Manual   S     Width in number of modular spacings   Manual   S     Built-in depth   Manual   S     Degree of protection (IP)   Manual   T     Ambient temperature during operating   C   S   S     Connectable conductor cross section multi-wired   manual   S   S	Rated short-circuit breaking capacity Icn EN 60898 at 230 V	kA	10		
Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V   KA   5     Voltage type   C   C     Frequency   E   So - 60   So - 60     Current limiting class   So - 60   So - 60   So - 60     Suitable for flush-mounted installation   So - 60	Rated short-circuit breaking capacity Icn EN 60898 at 400 V	kA	10		
Voltage typeACFrequency50 - 60Current limiting class50 - 60Suitable for flush-mounted installation50 - 60Concurrently switching N-neutralNoOver voltage category50 - 60Pollution degree2Additional equipment possibleYesWitth in number of modular spacings60 - 60Built-in depth70Loger of protection (IP)60 - 60Ambient temperature during operating°CConcetable conductor cross section multi-wiredmm²I condectable conductor cross section multi-wiredmm²	Rated short-circuit breaking capacity Icu IEC 60947-2 at 230 V	kA	15		
Frequency   Frequency   50-60     Current limiting class   3     Suitable for flush-mounted installation   No     Concurrently switching N-neutral   Yes     Over voltage category   Sector     Pollution degree   Sector     Additional equipment possible   Yes     Witht in number of modular spacings   Yes     Built-in depth   Sector     Degree of protection (IP)   Mem     Ambient temperature during operating   Concurrent     Concurcently winding construction   Tota     Sector   Sector     Built-in depth   Tota     Degree of protection (IP)   Yes     Ambient temperature during operating   Conc     Sector   Sector     Sector   Sector     Sector   Sector     Sector   Sector     Sector   Sector     Ambient temperature during operating   Tota     Sector   Sector     Sector   Sector     Sector   Sector     Sector   Sector     Sector   Sector	Rated short-circuit breaking capacity Icu IEC 60947-2 at 400 V	kA	15		
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   Yes     Buit-in depth   Yes     Degree of protection (IP)   Yes     Ambient temperature during operating   Yes     Connectable conductor cross section multi-wired   Yes     Yes   Yes	Voltage type		AC		
Suitable for flush-mounted installation   No     Soucurrently switching N-neutral   Yes     Over voltage category   3     Pollution degree   2     Additional equipment possible   Yes     Width in number of modular spacings   Yes     Built-in depth   Mo     Degree of protection (IP)   Mo     Ambient temperature during operating   Yes     Connectable conductor cross section multi-wired   Yes     Total   Yes	Frequency	Hz	50 - 60		
Concurrently switching N-neutralMainMainOver voltage category3Pollution degree3Additional equipment possibleYesWidth in number of modular spacingsYesBuilt-in depthMainDegree of protection (IP)YesAmbient temperature during operatingYesConnectable conductor cross section multi-wiredYesImmediate of modular space of protection (IP)YesAmbient temperature during operatingYesImmediate of modular space of protection (IP)YesImmediate of modular space of protection multi-wiredYesImmediate of mediate of temperature during operatingYesImmediate of mediate of temperature during operatingYesImmediate of temperature during operat	Current limiting class		3		
Over voltage category   Image: Sector Sector Multi-wired   Image: Sector Sector Sector Sector Sector Sector Multi-wired   Image: Sector S	Suitable for flush-mounted installation		No		
Pollution degree2Additional equipment possibleYesWidth in number of modular spacingsmmBuilt-in depthmmDegree of protection (IP)IP0Ambient temperature during operatingcConnectable conductor cross section multi-wiredmm²125	Concurrently switching N-neutral		Yes		
Additional equipment possible Yes   Width in number of modular spacings 2   Built-in depth mm 70.5   Degree of protection (IP) P20   Ambient temperature during operating C° 25.75   Connectable conductor cross section multi-wired mm <sup>2</sup> 1.25	Over voltage category		3		
Width in number of modular spacings P   Built-in depth mm   Degree of protection (IP) 70.5   Ambient temperature during operating c   Connectable conductor cross section multi-wired mm²	Pollution degree		2		
Built-in depth mm 70.5   Degree of protection (IP) P20   Ambient temperature during operating °C -25 - 75   Connectable conductor cross section multi-wired mm² 1 - 25	Additional equipment possible		Yes		
Degree of protection (IP) IP20   Ambient temperature during operating °C -25 - 75   Connectable conductor cross section multi-wired mm² 1 - 25	Width in number of modular spacings		2		
Ambient temperature during operating °C -25 - 75   Connectable conductor cross section multi-wired mm <sup>2</sup> 1 - 25	Built-in depth	mm	70.5		
Connectable conductor cross section multi-wired mm <sup>2</sup> 1 - 25	Degree of protection (IP)		IP20		
	Ambient temperature during operating	°C	-25 - 75		
Connectable conductor cross section solid-core mm <sup>2</sup> 1 - 25	Connectable conductor cross section multi-wired	mm²	1 - 25		
	Connectable conductor cross section solid-core	mm²	1 - 25		

# Additional product information (links)

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Temperature dependency, derating	https://www.eaton.com/content/dam/eaton/technicaldocumentation/technical-data-tables/Derating table
	FA7 ndf