



**Miniature circuit breaker (MCB), 50A, 1p, D-Char**

**Part no.** AZ-3N-D50  
**Catalog No.** 211817  
**Alternate Catalog No.** AZ-3N-D50

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	50
Rated switching capacity acc. to IEC/EN 60947-2	$I_{cu}$	kA	25
Product range			AZ

**Technical data**

**Electrical**

Standards			IEC/EN 60947-2
Rated operational voltage	$U_e$	V	
	$U_e$	V AC	230/400
	$U_e$	V DC	60 (per pole)
Rated switching capacity acc. to IEC/EN 60947-2	$I_{cu}$	kA	25
Operational switching capacity		kA	20
Characteristic			Similar: D, C
Max. back-up fuse		A gL/gG	200
Selectivity Class			Compliant with Class 3
lifespan			
	Lifespan	Operations	> 10000
Direction of incoming supply			as required

**Mechanical**

Standard front dimension		mm	45
Enclosure height		mm	90
Mounting width per pole		mm	27
Mounting			IEC/EN 60715 top-hat rail
Degree of Protection			IP20, IP40 (when fitted)
Terminals top and bottom			Lift terminals
Terminal protection			Finger and back-of-hand proof to BGV A2
Terminal capacities		mm <sup>2</sup>	
		mm <sup>2</sup>	2.5 ... 50

**Design verification as per IEC/EN 61439**

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	50
Heat dissipation per pole, current-dependent	$P_{vid}$	W	0
Equipment heat dissipation, current-dependent	$P_{vid}$	W	5.1
Static heat dissipation, non-current-dependent	$P_{vs}$	W	0
Heat dissipation capacity	$P_{diss}$	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
			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) (ec@ss10.0.1-27-14-19-01 [AAB905014])			
Release characteristic			D
Number of poles (total)			4
Number of protected poles			3
Rated current	A		50
Rated voltage	V		400
Rated insulation voltage $U_i$	V		440
Rated impulse withstand voltage $U_{imp}$	kV		4
Rated short-circuit breaking capacity $I_{cn}$ EN 60898 at 230 V	kA		0
Rated short-circuit breaking capacity $I_{cn}$ EN 60898 at 400 V	kA		0
Rated short-circuit breaking capacity $I_{cu}$ IEC 60947-2 at 230 V	kA		25
Rated short-circuit breaking capacity $I_{cu}$ IEC 60947-2 at 400 V	kA		25
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			6
Built-in depth	mm		75
Degree of protection (IP)			IP20
Ambient temperature during operating	°C		-25 - 55
Connectable conductor cross section multi-wired	mm <sup>2</sup>		2.5 - 50
Connectable conductor cross section solid-core	mm <sup>2</sup>		2.5 - 50

# Characteristics



Let-through energy  $\int i^2 dt$





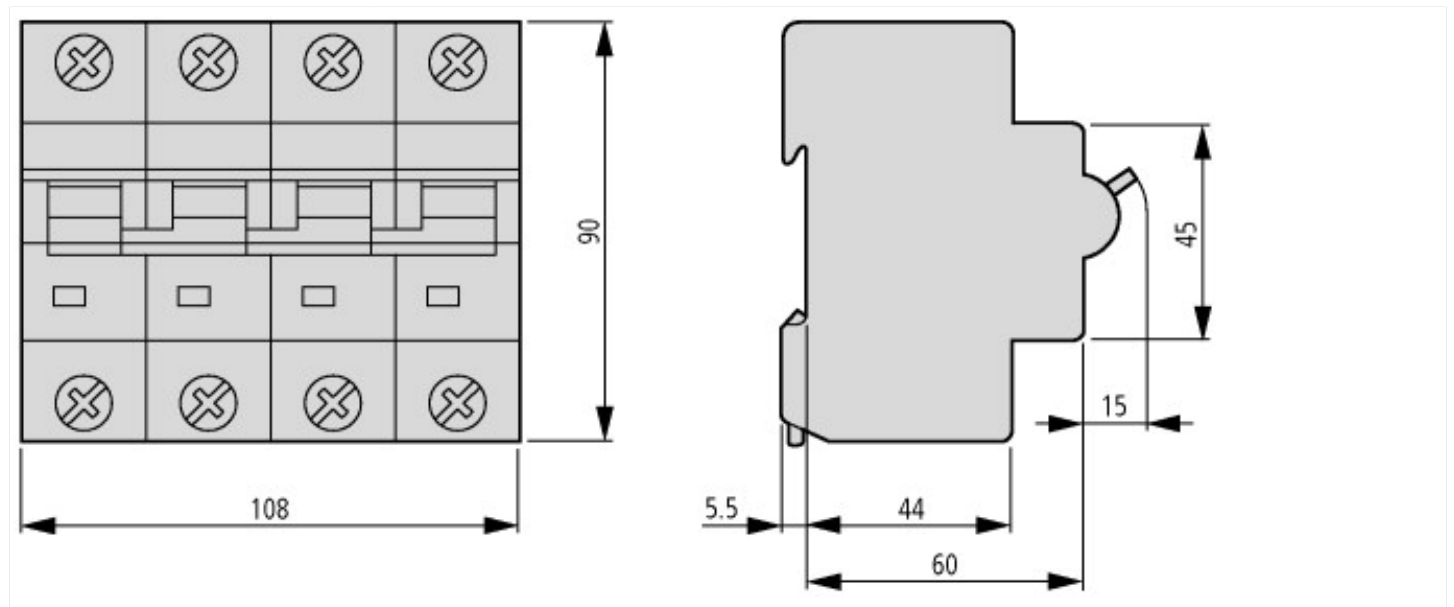
Let-through current  $i_D$





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

## Dimensions



## Additional product information (links)

### AWA1220-1755 Miniature circuit-breakers

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[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/17550701.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/17550701.pdf)