## Miniature circuit breaker (MCB), 50A, 3p, C-Char

Powering Business Worldwide\*

Part no. AZ-3-C50 211791

**EL Number** 1601058

(Norway)

(Norway)	
General specifications	5 . 10 . 0
Product name	Eaton Moeller series xEffect - AZ MCB
Part no.	AZ-3-C50
EAN	4015082117917
Product Length/Depth	90 millimetre
Product height	75 millimetre
Product width	81 millimetre
Product weight	0.678 kilogram
Compliances	RoHS conform
Certifications	IEC/EN 60947-2 IEC 61373 EN45545-2
Product Tradename	xEffect - AZ MCB
Product Type	MCB
Product Sub Type	None
Delivery program	
Application	Switchgear for industrial and advanced commercial applications xEffect - Switchgear for industrial and advanced commercial applications
Number of poles	Three-pole
Number of poles (total)	3
Number of poles (protected)	3
Tripping characteristic	С
Release characteristic	С
Amperage Rating	50 A
Туре	AZ Miniature circuit breaker
Technical Data - Electrical	Williada Concurs of Carcin
Voltage type	AC
Voltage rating	230 V AC / 400 V AC
Voltage rating at DC	60 V DC (per pole)
Rated operational voltage (Ue) - max	400 V
Rated insulation voltage (Ui)	440 V
Rated impulse withstand voltage (Uimp)	4 kV
Frequency rating - min	50 Hz
Frequency rating - max	60 Hz
Rated switching capacity (IEC/EN 60947-2)	25 kA
Operational switching capacity	20 kA
Rated short-circuit breaking capacity (EN 60898) at 230 V	0 kA
Rated short-circuit breaking capacity (EN 60898) at 400 V	0 kA
Rated short-circuit breaking capacity (IEC 60947-2) at 230 V	25 kA
Rated short-circuit breaking capacity (IEC 60947-2) at 400 V	25 kA
Admissible back-up fuse - max	200 A gL/gG
Selectivity class	3
Lifespan, electrical	10000 operations
Overvoltage category	III
Pollution degree	2
Direction of incoming supply	As required
Technical Data - Mechanical	
Frame	45 mm

Facility with	00 mm
Enclosure width  Width in number of modular spacings	90 mm 4.5
Built-in depth	75 mm
Mounting width per pole	27 mm
Mounting width	27 mm
Mounting Method	Top-hatrail IEC/EN 60715
Degree of protection	IP40 (when fitted) IP20
Terminals (top and bottom)	Lift terminals
Connectable conductor cross section (solid-core) - min	2.5 mm <sup>2</sup>
Connectable conductor cross section (solid-core) - max	50 mm <sup>2</sup>
Connectable conductor cross section (multi-wired) - min	2.5 mm <sup>2</sup>
Connectable conductor cross section (multi-wired) - max	50 mm <sup>2</sup>
Terminal capacity (control cable)	2.5 mm <sup>2</sup> - 50 mm <sup>2</sup>
Terminal protection	Finger and hand touch safe, DGUV VS3, EN 50274
Design verification as per IEC/EN 61439 - technical data	
Rated operational current for specified heat dissipation (In)	50 A
Heat dissipation per pole, current-dependent	0 W
Equipment heat dissipation, current-dependent	15.4 W
Static heat dissipation, non-current-dependent	0 W
Heat dissipation capacity	0 W
Ambient operating temperature - min	-25 °C
Ambient operating temperature - max	55 °C
Design verification as per IEC/EN 61439	
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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	11.1
	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
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  10.10 Temperature rise	Is the panel builder's responsibility.  The panel builder is responsible for the temperature rise calculation. Eaton will
10.11 Short-circuit rating	provide heat dissipation data for the devices.  Is the panel builder's responsibility. The specifications for the switchgear must be
10.12 Electromagnetic compatibility	observed.  Is the panel builder's responsibility. The specifications for the switchgear must be
10.13 Mechanical function	observed.  The device meets the requirements, provided the information in the instruction
Additional information	leaflet (IL) is observed.
Current limiting class	3
Features	Additional equipment possible
Special features	Ambient temperature hint: a 1 °C increase results in a 0.5% linear reduction of current carrying capacity
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## **Technical data ETIM 9.0**

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@ss13-27-14-19-01

Bullt-in depth Release characteristic Number of poles (total) Number of protected poles Rated current Rated voltage Rated current Rated windsup voltage Ui Rated insulation voltage Ui Rated insulation voltage Uimp Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V Voltage type Rated short-circuit breaking capacity Icn according to EC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 240 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V	Electric engineering, automation, process control engineering / Electrical installation, device / Miniature circuit breaker system (MCB) / Miniature circuit breaker (MCB) (ecl@ss13-27-14-19-01 [AAB905019])				
Number of poles (total) Number of protected poles Rated current Rated current Rated voltage Rated voltage Rated insulation voltage Ui Rated insulation voltage Uimp Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V Voltage type Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V Rated short-circuit breaking capacity Icn according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 240 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 240 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 240 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 240 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 240 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 240 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60948-2 at 200 V Rated short-circuit breaking capacity Icu according to	Built-in depth	mm	75		
Number of protected poles         3           Rated current         A         50           Rated voltage         V         400           Rated insulation voltage Uin         V         440           Rated impulse withstand voltage Uimp         kV         4           Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V         kA         0           Voltage type         AC         AC           Rated short-circuit breaking capacity Icu according to EN 60898 at 400 V         kA         0           Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V         kA         25           Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V         kA         25           Frequency         H2         50 - 60           Power loss         W         No           Current limiting class         3         3           Flush-mounted installation         No         No           Concurrently switching neutral conductor         No         No           Over voltage category         3         2           Pollution degree         2         4           Additional equipment possible         Yes           Width in number of modular spacings         4,5	Release characteristic		C		
Rated current Rated voltage Rated insulation voltage Ui Rated insulation voltage Uimp Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V Voltage type Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V Rated short-circuit breaking capacity Icu according to EN 60898 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC	Number of poles (total)		3		
Rated voltage V 400 Rated insulation voltage Ui Rated impulse withstand voltage Uimp	Number of protected poles		3		
Rated insulation voltage Ui Rated impulse withstand voltage Uimp Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V Voltage type Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V R	Rated current	Α	50		
Rated impulse withstand voltage Uimp  Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V  Voltage type  Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V  Rated short-circuit breaking capacity Icn according to IEC 60947-2 at 230 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V	Rated voltage	V	400		
Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V  Voltage type  Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V  Frequency  Power loss  Current limiting class  Flush-mounted installation  Concurrently switching neutral conductor  Over voltage category  Pollution degree  Additional equipment possible  Width in number of modular spacings  Degree of protection (IP)  Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V  RA  25  3  3  4  5  6  7  8  8  9  4  9  8  4  9  8  8  9  8  9  8  9  8  9  8  9  8  9  9	Rated insulation voltage Ui	V	440		
Voltage type       AC         Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V       kA       0         Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V       kA       25         Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V       kA       25         Frequency       Hz       50 - 60         Power loss       W       W         Current limiting class       3       3         Flush-mounted installation       No       No         Concurrently switching neutral conductor       No       No         Over voltage category       3       3         Pollution degree       2       2         Additional equipment possible       Yes         Width in number of modular spacings       4.5         Degree of protection (IP)       IP20	Rated impulse withstand voltage Uimp	kV	4		
Rated short-circuit breaking capacity Icu according to EN 60898 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V RA 25 Frequency Power loss W Current limiting class Current limiting class Flush-mounted installation Concurrently switching neutral conductor No Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Degree of protection (IP)  RA 25  RA 2	Rated short-circuit breaking capacity Icn according to EN 60898 at 230 V	kA	0		
Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 200 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Rated short-circuit breaking capacity Icu according to ICu Constant Short-circuit breaking capacity Icu ac	Voltage type		AC		
Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V Frequency Hz 50 - 60  Power loss W Current limiting class Flush-mounted installation Concurrently switching neutral conductor No Over voltage category Pollution degree Q Additional equipment possible Width in number of modular spacings Degree of protection (IP)  RA 25  Expending to IEC 60947-2 at 400 V RA 25  No  3  2  4.5  IP20	Rated short-circuit breaking capacity Icn according to EN 60898 at 400 V	kA	0		
Frequency Power loss W Current limiting class Flush-mounted installation No Concurrently switching neutral conductor Over voltage category Pollution degree Additional equipment possible Width in number of modular spacings Degree of protection (IP)  Hz 50 - 60  No  3  2  Additional equipment possible Yes  4.5  IP20	Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 230 V	kA	25		
Power loss  Current limiting class  Flush-mounted installation  Concurrently switching neutral conductor  Over voltage category  Additional equipment possible  Width in number of modular spacings  Degree of protection (IP)  Width in stallation  No  No  2  4.5  IP20	Rated short-circuit breaking capacity Icu according to IEC 60947-2 at 400 V	kA	25		
Current limiting class  Flush-mounted installation  Concurrently switching neutral conductor  Over voltage category  Pollution degree  Additional equipment possible  Width in number of modular spacings  Degree of protection (IP)  3  Yes  H20  IP20	Frequency	Hz	50 - 60		
Flush-mounted installation  Concurrently switching neutral conductor  Over voltage category  3  Pollution degree  2  Additional equipment possible  Width in number of modular spacings  Degree of protection (IP)  No  Yes  IP20	Power loss	W			
Concurrently switching neutral conductor  Over voltage category  3  Pollution degree  2  Additional equipment possible  Width in number of modular spacings  Degree of protection (IP)  No  2  4.5  IP20	Current limiting class		3		
Over voltage category  3 Pollution degree 2 Additional equipment possible Yes Width in number of modular spacings 4.5 Degree of protection (IP) IP20	Flush-mounted installation		No		
Pollution degree 2 Additional equipment possible Yes Width in number of modular spacings 4.5 Degree of protection (IP) IP20	Concurrently switching neutral conductor		No		
Additional equipment possible  Yes  Width in number of modular spacings  4.5  Degree of protection (IP)  IP20	Over voltage category		3		
Width in number of modular spacings 4.5  Degree of protection (IP) IP20	Pollution degree		2		
Degree of protection (IP)	Additional equipment possible		Yes		
	Width in number of modular spacings		4.5		
Authoritan and design	Degree of protection (IP)		IP20		
Ambient temperature during operating	Ambient temperature during operating	°C	-25 - 55		
Connectable conductor cross section multi-wired mm <sup>2</sup> 2.5 - 50	Connectable conductor cross section multi-wired	mm²	2.5 - 50		
Connectable conductor cross section solid-core mm <sup>2</sup> 2.5 - 50	Connectable conductor cross section solid-core	mm²	2.5 - 50		
Explosion-proof No	Explosion-proof		No		