

## MCCB X160 3P 40kA 160A

## HNA160U

## Architecture

Type of case   Fixed built-in   Number of poles   3 P   Type of pole   3P3D    Functions   Functions    Complete device with protection unit   yes   Trip Unit   TM A/F   Integrated earth fault protection   no    Controls and indicators   Motor drive integrated   no    Main electrical features   Frequency   50/60 Hz   Rated operational voltage   Ue   220/415 V    Voltage   Rated insulation voltage   690 V   Rated impulse withstand voltage   8000 V   With under voltage release   no    Electric current   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 400V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   Breaking capacity on 1 pole with 400 V NF 60947-2   51 kA   Breaking capacity on 1 pole with 400 V NF 60947-2   9 kA   Rated ultimate short-circuit breaking capacity   Lu   45 kA   under 230V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   45 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   45 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ultimate short-circuit breaking capacity   Lu   40 kA   under 240V AC IEC 60947-2   Rated ul	Type of order	Toggle
Functions  Complete device with protection unit yes Trip Unit TM A/F Integrated earth fault protection no  Controls and indicators  Motor drive integrated no  Main electrical features  Frequency 50/60 Hz Rated operational voltage Ue 220/415 V  Voltage  Rated insulation voltage 690 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2 Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2		Fixed built-in
Functions  Complete device with protection unit yes Trip Unit TM A/F Integrated earth fault protection no  Controls and indicators  Motor drive integrated no  Main electrical features  Frequency 50/60 Hz Rated operational voltage Ue 220/415 V  Voltage  Rated insulation voltage 690 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2 Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	•	3 P
Complete device with protection unit Trip Unit Integrated earth fault protection  Controls and indicators  Motor drive integrated  Main electrical features  Frequency Frequency Frequency Frequency Fated operational voltage Ue  Voltage  Rated insulation voltage Rated impulse withstand voltage With under voltage release  Electric current  Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2 Rated service breaking capacity on 1 pole with 230 V NF 60947-2 Breaking capacity on 1 pole with 400 V NF 60947-2 Breaking capacity on 1 pole with 400 V NF 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu	Type of pole	3P3D
Trip Unit TM A/F Integrated earth fault protection no  Controls and indicators  Motor drive integrated no  Main electrical features  Frequency 50/60 Hz Rated operational voltage Ue 220/415 V  Voltage  Rated insulation voltage 690 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	Functions	
Integrated earth fault protection no  Controls and indicators  Motor drive integrated no  Main electrical features  Frequency 50/60 Hz Rated operational voltage Ue 220/415 V  Voltage  Rated insulation voltage 690 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	Complete device with protection unit	yes
Controls and indicators  Motor drive integrated no  Main electrical features  Frequency 50/60 Hz Rated operational voltage Ue 220/415 V  Voltage  Rated insulation voltage 690 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	•	TM A/F
Motor drive integrated no  Main electrical features  Frequency 50/60 Hz Rated operational voltage Ue 220/415 V  Voltage  Rated insulation voltage 690 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	Integrated earth fault protection	no
Main electrical features  Frequency Rated operational voltage Ue  Voltage  Rated insulation voltage Rated impulse withstand voltage Rated impulse withstand voltage Rated impulse withstand voltage Rated impulse withstand voltage Rough With under voltage release  Rough V  Rated ultimate short-circuit breaking capacity Icu under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 Breaking capacity on 1 pole with 400 V NF 60947-2 Pated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2	Controls and indicators	
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Rated operational voltage Ue 220/415 V  Voltage  Rated insulation voltage 690 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	Main electrical features	
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Rated insulation voltage 8000 V Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	Rated operational voltage Ue	220/415 V
Rated impulse withstand voltage 8000 V With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	Voltage	
With under voltage release no  Electric current  Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA		690 V
Electric current  Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	•	8000 V
Rated ultimate short-circuit breaking capacity Icu 40 kA under 400V AC IEC 60947-2 Rated service breaking capacity Ics AC according IEC 50 % 60947-2 Breaking capacity on 1 pole with 230 V NF 60947-2 51 kA Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	With under voltage release	no
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Breaking capacity on 1 pole with 400 V NF 60947-2 9 kA Rated ultimate short-circuit breaking capacity Icu 85 kA under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 85 kA under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	60947-2	50 %
Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA		51 kA
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under 240V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 40 kA	under 230V AC IEC 60947-2	85 kA
· · · · ·		85 kA
	- · · · · ·	40 kA



Technical Properties	
Rated ultimate short-circuit breaking capacity Icu	25 kA
under 440V AC IEC 60947-2	
Rated ultimate short-circuit breaking capacity Icu	6 kA
under 690V AC IEC 60947-2	
Thermal protection nob setting xIN	0,63/0,8/1
Current correction factors	
Correction factor of rating current for 2 devices placed side-by-side	
Correction factor of rating current for 3 devices placed side-by-side	l1
Correction factor of rating current for 4 and 5 devices	1
placed side-by-side	
Correction factor of rating current for 6 devices placed	11
side-by-side	
Power	
Power loss per pole at In	14,6 W
Power loss per pole at 0.63*In	5,7 W
Power loss per pole at 0.8*In	8,9 W
Total power loss under IN	43,8 W
Total power loss at 0.63*In	17,1 W
Total power loss at 0.8*In	26,7 W
Tripping  Trippede	TM
Tripmode time of response when opening	10 ms
time of response when opening	101115
Endurance	
Electric endurance in number of cycles	1000
Number of mechanical operations	4000
Installation, mounting	
Tightening torque	6Nm
DIN rail mounting with optional adaptator	yes
Connection	
Connection cross-sect. rigid cable	4 / 95mm²
Connection cross-sect. flexible cable	4 / 70mm²
Connection	Front connection
type of connection	with screw
Settings	
Range of the magnetic adjustment	1600 A
Equipment	
Motor drive optional	no
·	

Use cases	
Category of use	А
Standards	
Standard text	IEC 60947-2
European directive WEEE	concerned
Safety	
Protection index IP	IP4X
Use conditions	
Altitude	2000 m
Storage temperature	-35 to 70 °C
Air humidity protection	for all climates