

ADH816F

# RCBO 1P+N 4.5kA C-16A 30mA HI

Product	Datasheet

Number of protected poles 21 Number of poles 21 Type of pole 1P+H Curve 0 Connectivity Top connection alignement for modular devices Shifted termina Main electrical features Rated short circuit breaking capacity Icn AC 4,5 k/ according IEC60898-1 Rated operational voltage Ue 240 \ Frequency 50 H Voltage Rated insulation voltage 500 \ Max operating voltage 500 \ Max operating voltage 240 \ Rated insulation voltage 500 \ Max operating voltage 240 \ Rated insulation voltage 500 \ Max operating voltage 300 \ Electric current Rated residual operating current 30 m/ Rated current 16 / Withstand not tripping on 8-20 µs wave 3000 / Breaking and opening capacity 1cn AC thermal 1,13 / 1,45 li operation 5 / 10 li Rated short-circuit breaking capacity Icn under 4,5 k/ 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu under 2,5 k/ 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu under 4,5 k/ 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu under 24,5 k/ 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu under 24,5 k/ 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 5 / 10 li	Architecture	
Number of poles       21         Type of pole       1P+1         Curve       0         Connectivity       0         Top connection alignement for modular devices       Shifted termina         Main electrical features       4,5 k/         Rated short circuit breaking capacity Icn AC       4,5 k/         according IEC60898-1       240 V         Rated operational voltage Ue       240 V         Frequency       50 H         Voltage       240 V         Rated insulation voltage       240 V         Rated insulation voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       500 V         Rated insulation voltage       200 V         Rated insulation voltage       300 m/         Rated residual operating current       30 m/         Rated current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal operation       1,13 / 1,45 ln         Magnetic regulating current       5 / 10 ln         Rated short circuit breaking capacity Icu under       4,5 k/     <	Neutral position	lef
Type of pole       1P+1         Curve       0         Connectivity       0         Top connection alignement for modular devices       Shifted termina         Main electrical features       4,5 k/         Rated short circuit breaking capacity Icn AC       4,5 k/         according IEC60898-1       240 \rangle         Rated operational voltage Ue       240 \rangle         Frequency       50 H         Voltage       240 \rangle         Rated insulation voltage       500 \rangle         Max operating voltage       240 \rangle         Rated insulation voltage       500 \rangle         Rated insulation voltage       500 \rangle         Rated insulation voltage       240 \rangle         Rated insulation voltage       200 \rangle         Rated insulation voltage       30 m/         Rated residual operating current       30 m/         Rated current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal operation       1,13 / 1,45 li         operation       5 / 10 li         Rated short circuit breaking capacity Icn under       2,5 k/         230V AC I	Number of protected poles	1
Curve (Curve (Curve (Curve )) Connectivity Top connection alignement for modular devices Shifted termina Main electrical features Rated short circuit breaking capacity Icn AC 4,5 k/ according IEC60898-1 Rated operational voltage Ue 240 V Frequency 50 H Voltage Rated insulation voltage 500 V Max operating voltage 500 V Max operating voltage 4000 V Electric current 30 m/ Rated current 30 m/ Rated current 16 / Withstand not tripping on 8-20 µs wave 3000 / Breaking and opening capacity Icn under 2,5 k/ min/maxi threshold value of the AC thermal 1,13 / 1,45 II operation 11,13 / 1,45 II operation 2,5 k/ Magnetic regulating current 5 / 10 II Rated short circuit breaking capacity Icn under 2,5 k/ 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu 6 k/ Rated ultimate short-circuit breaking capacity Icu 6 k/	Number of poles	2 F
Connectivity         Top connection alignement for modular devices       Shifted termina         Main electrical features       Main electrical features         Rated short circuit breaking capacity Icn AC according IEC60898-1       4,5 k/ according IEC60898-1         Rated operational voltage Ue       240 V         Frequency       50 H         Voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       400 V         Rated residual operating current       30 m/         Rated residual operating current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal operation       1,13 / 1,45 II         Magnetic regulating currrent       5 / 10 II         Rated short circuit breaking capacity Icn under       4,5 k/         230V AC IEC 60898-1       4,5 k/         Rated ultimate short-circuit breaking capacity Icu under       6 k/         230V AC IEC 608947-2       6 k/         Rated ultimate short-circuit breaking capacity Icu       6 k/	Type of pole	1P+N
Top connection alignement for modular devices       Shifted terminal         Main electrical features       4,5 k/         Rated short circuit breaking capacity Icn AC       4,5 k/         according IEC60898-1       240 V         Rated operational voltage Ue       240 V         Frequency       50 H         Voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       500 V         Bated encode       30 m/         Rated inpulse withstand voltage       30 m/         Rated current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal       1,13 / 1,45 lu         operation       1,13 / 1,45 lu         Magnetic regulating current       5 / 10 lu         Rated short circuit breaking capacity Icn under       4,5 k/         230V AC according IEC60898-1       4,5 k/         Rated ultimate short-circuit breaking capacity Icu       6 k/         under 230V AC IEC 60947-2       6 k/	Curve	C
Main electrical features         Rated short circuit breaking capacity Icn AC according IEC60898-1         Rated operational voltage Ue       240 V         Frequency       50 H         Voltage       8         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       500 V         Max operating voltage       240 V         Rated insulation voltage       300 V         Bated residual operating current       30 m/         Rated current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal       1,13 / 1,45 lu         operation       1,13 / 1,45 lu         Magnetic regulating current       5 / 10 lu         Rated short circuit breaking capacity Icu under       4,5 k/         230V AC according IEC60898-1       4,5 k/         Rated short circuit breaking capacity Icu under       4,5 k/         230V AC IEC 60947-2       6 k/ <td>Connectivity</td> <td></td>	Connectivity	
Rated short circuit breaking capacity Icn AC 4,5 k/ according JEC60898-1 Rated operational voltage Ue 240 \ Frequency 50 H: Voltage Rated insulation voltage 240 \ Max operating voltage 240 \ Rated insulation voltage 240 \ Rated impulse withstand voltage 240 \ Rated impulse withstand voltage 4000 \ Electric current Rated residual operating current 30 m/ Rated current 16 / Withstand not tripping on 8-20 µs wave 3000 / Breaking and opening capacity A, 5 k/ min/maxi threshold value of the AC thermal 1,13 / 1,45 II operation 5 / 10 II Rated short circuit breaking capacity Icn under 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu 6 k/ under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu	Top connection alignement for modular devices	Shifted termina
according IEC60898-1 Rated operational voltage Ue 240 \ Frequency 50 H Voltage Rated insulation voltage 500 \ Max operating voltage 240 \ Rated insulation voltage 400 \ Rated impulse withstand voltage 400 \ Electric current Rated residual operating current 30 m/ Rated current 16 / Withstand not tripping on 8-20 µs wave 3000 / Breaking and opening capacity 4,5 k/ min/maxi threshold value of the AC thermal 1,13 / 1,45 II operation 5 / 10 II Rated short circuit breaking capacity Icu under 230V AC IEC 6098-1 Rated ultimate short-circuit breaking capacity Icu	Main electrical features	
Frequency       50 H         Voltage       500 N         Rated insulation voltage       500 N         Max operating voltage       240 N         Rated impulse withstand voltage       4000 N         Electric current       30 m/         Rated residual operating current       30 m/         Rated current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal operation       1,13 / 1,45 In         Magnetic regulating currrent       5 / 10 In         Rated short circuit breaking capacity Icn under 230V AC according IEC60898-1       4,5 k/         Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2       6 k/         Rated ultimate short-circuit breaking capacity Icu       6 k/		4,5 kA
Voltage         Rated insulation voltage       500 M         Max operating voltage       240 M         Rated impulse withstand voltage       4000 M         Electric current         Rated residual operating current       30 m/         Rated current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal operation       1,13 / 1,45 µ         Magnetic regulating currrent       5 / 10 µ         Rated short circuit breaking capacity Icn under       4,5 k/         230V AC according IEC60898-1       4,5 k/         Rated ultimate short-circuit breaking capacity Icu       6 k/         Rated ultimate short-circuit breaking capacity Icu       6 k/	Rated operational voltage Ue	240 V
Rated insulation voltage500 MMax operating voltage240 MRated impulse withstand voltage4000 MElectric current30 m/Rated residual operating current30 m/Rated current16 /Withstand not tripping on 8-20 μs wave3000 /Breaking and opening capacity4,5 k/min/maxi threshold value of the AC thermal1,13 / 1,45 Inoperation5 / 10 InRated short circuit breaking capacity Icn under4,5 k/230V AC according IEC60898-14,5 k/Rated ultimate short-circuit breaking capacity Icu6 k/ated ultimate short-circuit breaking capacity Icu6 k/	Frequency	50 Hz
Max operating voltage240 VRated impulse withstand voltage4000 VElectric current4000 VRated residual operating current30 m/Rated current16 /Withstand not tripping on 8-20 µs wave3000 /Breaking and opening capacity4,5 k/min/maxi threshold value of the AC thermal1,13 / 1,45 lioperation5 / 10 liRated short circuit breaking capacity Icn under4,5 k/230V AC according IEC60898-16 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/	Voltage	
Rated impulse withstand voltage4000 VElectric current30 m/Rated residual operating current30 m/Rated current16 /Withstand not tripping on 8-20 µs wave3000 /Breaking and opening capacity4,5 k/min/maxi threshold value of the AC thermal1,13 / 1,45 µoperation5 / 10 µMagnetic regulating current5 / 10 µRated short circuit breaking capacity Icn under4,5 k/230V AC according IEC60898-14,5 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/	Rated insulation voltage	500 V
Electric current       30 m/         Rated residual operating current       30 m/         Rated current       16 /         Withstand not tripping on 8-20 µs wave       3000 /         Breaking and opening capacity       4,5 k/         min/maxi threshold value of the AC thermal       1,13 / 1,45 µ         operation       5 / 10 µ         Magnetic regulating currrent       5 / 10 µ         Rated short circuit breaking capacity Icn under       4,5 k/         230V AC according IEC60898-1       4,5 k/         Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2       6 k/         Rated ultimate short-circuit breaking capacity Icu       6 k/	Max operating voltage	240 V
Rated residual operating current30 m/Rated current16 /Withstand not tripping on 8-20 μs wave3000 /Breaking and opening capacity4,5 k/min/maxi threshold value of the AC thermal1,13 / 1,45 μoperation1,13 / 1,45 μMagnetic regulating current5 / 10 μRated short circuit breaking capacity Icn under4,5 k/230V AC according IEC60898-14,5 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/	Rated impulse withstand voltage	4000 V
Rated current16 /Withstand not tripping on 8-20 μs wave3000 /Breaking and opening capacity4,5 k/min/maxi threshold value of the AC thermal1,13 / 1,45 μoperation1,13 / 1,45 μMagnetic regulating currrent5 / 10 μRated short circuit breaking capacity Icn under4,5 k/230V AC according IEC60898-14,5 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/	Electric current	
Withstand not tripping on 8-20 µs wave3000 ÅBreaking and opening capacity4,5 kÅmin/maxi threshold value of the AC thermal operation1,13 / 1,45 µMagnetic regulating current5 / 10 µRated short circuit breaking capacity Icn under 230V AC according IEC60898-14,5 kÅRated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-26 kÅRated ultimate short-circuit breaking capacity Icu6 kÅ	Rated residual operating current	30 mA
Breaking and opening capacity4,5 k/min/maxi threshold value of the AC thermal operation1,13 / 1,45 liMagnetic regulating current5 / 10 liRated short circuit breaking capacity Icn under 230V AC according IEC60898-14,5 k/Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-26 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/Rated ultimate short-circuit breaking capacity Icu6 k/	Rated current	16 A
min/maxi threshold value of the AC thermal 1,13 / 1,45 In operation 1,15 / 10 In op	Withstand not tripping on 8-20 µs wave	3000 A
operation Magnetic regulating currrent S / 10 II Rated short circuit breaking capacity Icn under 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 6 k/	Breaking and opening capacity	4,5 kA
Rated ultimate short-circuit breaking capacity Icn under 4,5 k/ 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu 6 k/ under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 6 k/		1,13 / 1,45 lr
230V AC according IEC60898-1         Rated ultimate short-circuit breaking capacity Icu       6 k/         under 230V AC IEC 60947-2         Rated ultimate short-circuit breaking capacity Icu       6 k/	Magnetic regulating currrent	5 / 10 lr
under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 6 k/		4,5 kA
÷ · ·	Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-2	6 kA
	Rated ultimate short-circuit breaking capacity lcu under 240V AC IEC 60947-2	6 kA

#### Electric current / temperature

Rating current -25°C	18,5 A
Rating current -20°C	18,3 A
Rating current -15°C	18,1 A
Rating current -10°C	17,9 A
Rating current -5°C	17,7 A
Rating current 0°C	17,4 A
Rating current 5°C	17,2 A
Rating current 10°C	17 A
Rating current 15°C	16,7 A
Rating current 20°C	16,5 A
Rating current 25°C	16,2 A
Rating current 30°C	16 A
Rating current 35°C	15,8 A
Rating current 40°C	15,6 A
Rating current 45°C	15,4 A
Rating current 50°C	15,2 A
Rating current 55°C	15 A
Rating current 60°C	14,8 A

#### **Current correction factors**

Correction factor of rating current for 2 devices placed side-by-side	1
Correction factor of rating current for 3 devices placed side-by-side	0,95
Correction factor of rating current for 4 and 5 devices placed side-by-side	0,9
Correction factor of rating current for 6 devices placed side-by-side	0,85

# Frequency

Frequency	50 Hz
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# Selectivity

Maximal rating current of downstream aM fuse for selectivity on short-circuit	4 A
Maximal rating current of downstream gL fuse for selectivity on short-circuit	10 A
Minimal rating current of upstream aM fuse for selectivity on short-circuit	20 A
Minimal rating current of upstream gL fuse for selectivity on short-circuit	25 A

# Power

Total power loss under IN	5,2 W
Power loss per pole at In	3,8 W

# Tripping

Protected against nuisance tripping	no
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Endurance	
Electric endurance in number of cycles	2000
Number of mechanical operations	2000
Dimensions	
Depth of installed product	68 mm
Height of installed product	83 mm
Width of installed product	35 mm
Installation, mounting	
Tightening torque	2,1Nm
360° product mounting position	yes
Connection	
Connection cross-section at output with screw, for flexible conductor	1 / 16 mm²
Connection cross-section at output with screw, for massive conductor	1 / 25 mm²
Connection cross-sect. flexible conductor	1 / 16mm²
Connection cross-sect. rigid cable	1 / 25mm²
Connection cross-section for rigid conductor, upstream terminals with screws	1 / 25 mm²
Connection cross-section of the access with screws, with flexible conductor	1 / 16 mm²
Type of connection	with screw
Standards	
Standard text	EN 61009-1
European directive WEEE	not concerned
Safety	
Protection index IP	IP20
Residual current type	A HI
Use conditions	
Operating temperature	-2540 °C
Degree of pollution according to IEC 60664 / IEC 60947-2	2
Class of energy limitation I²t	3
Altitude	2000 m
Air humidity protection	for all climates
Storage/transport temperature	-2570 °C
temperatur	
Temperature of calibration	30 °C