

ADC820F

## RCBO 1P+N 4.5kA C-20A 30mA AC

Product Datasheet

Number of protected poles         Number of protected poles       2         Type of pole       1P         Curve       1P         Functions       2         Sealable       y         Connectivity       7         Top connection alignement for modular devices       Shifted termin         Main electrical features       4,5         Rated short circuit breaking capacity lon AC       4,5         according IEC60898-1       240         Frequency       50         Voltage       240         Rated insulation voltage Ue       240         Frequency       50         Voltage       200         Rated insulation voltage       240         Rated inpulse withstand voltage       240         Rated inpulse withstand voltage       240         Rated inpulse withstand voltage	Architecture	
Number of poles     2       Type of pole     1P       Curve     IP       Functions     Sealable       Sealable     y       Connectivity     Image: Connection alignement for modular devices       Main electrical features     Shifted termin       Main electrical features     4,5       Rated short circuit breaking capacity Icn AC     4,5       according IEC60898-1     240       Frequency     50       Voltage     Store       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated impulse withstand voltage     500       Max operating current     30 r       Rated current     20       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal     1,13 / 1,45       operation     5 / 100       Rated volt circuit breaking capacity Icn under     24,5       230V AC according IEC60898-1     4,5       Rated ultimate short-circuit breaking capacity Icu	Neutral position	left
Type of pole 1P Curve Functions Sealable y Connectivity Top connection alignement for modular devices Shifted termin Main electrical features Rated short circuit breaking capacity Icn AC 4,5 according IEC60898-1 Rated operational voltage Ue 240 Frequency 50 Voltage Rated insulation voltage 500 Max operating voltage 240 Rated insulation voltage 500 Max operating voltage 240 Rated inpulse withstand voltage 240 Rated inpulse withstand voltage 240 Rated current 200 Rated current 200 Kithstand not tripping on 8-20 µs wave 250 Breaking and opening capacity 1,13 / 145 operation 4,5 200 VAC according IEC60898-1 Rated voltage 4,5 min/maxi threshold value of the AC thermal 1,13 / 145 operation 4,5 200 VAC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu 6 Rated ultimate short-circuit breaking capacity Icu 6 Rated ultimate short-circuit breaking capacity Icu 6	Number of protected poles	1
Curve       Functions       Sealable     y       Connectivity     Top connection alignement for modular devices     Shifted termin       Main electrical features     Rated short circuit breaking capacity Icn AC according IEC60898-1     4,5       Rated operational voltage Ue     240       Frequency     50       Voltage     240       Rated insulation voltage     240       Rated insulation voltage     240       Rated insulation voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     240       Rated residual operating current     30 r       Rated current     20       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal     1,13 / 1,45       operation     4,5       Magnetic regulating current     5 / 10       Rated short circuit breaking capacity Icn under     4,5       230V AC according IEC60898-1     4,5	Number of poles	2 P
Functions       Sealable     y       Connectivity     Top connection alignement for modular devices     Shifted termin       Main electrical features     Rated short circuit breaking capacity Icn AC     4,5 according IEC60898-1       Rated operational voltage Ue     240       Frequency     50       Voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     500       Voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     500       Electric current     200       Rated residual operating current     30 r       Rated current     200       Withstand not tripping on 8-20 µs wave     256       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal operation     1,13 / 1,45       Operation     5 / 100       Rated short circuit breaking capacity Icu under     4,5       Magnetic regulating current     5 / 100       Rated short circuit breaking capacity Icu under     4,5       230V AC according I	Type of pole	1P+N
Sealable     y       Connectivity     Top connection alignement for modular devices     Shifted termin       Main electrical features     Rated short circuit breaking capacity Icn AC     4,5       Rated short circuit breaking capacity Icn AC     4,5       according IEC60898-1     240       Frequency     50       Voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated inpulse withstand voltage     4000       Electric current     200       Rated residual operating current     30 r       Rated current     200       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal     1,13 / 1,45       operation     1,13 / 1,45       Magnetic regulating current     5 / 10       Rated short circuit breaking	Curve	C
Connectivity       Top connection alignement for modular devices     Shifted termin       Main electrical features       Rated short circuit breaking capacity Icn AC according IEC60898-1     4,5 according IEC60898-1       Rated operational voltage Ue     240       Frequency     50       Voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated impulse withstand voltage     4000       Electric current     30 r       Rated residual operating current     30 r       Rated current     20       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal operation     1,13 / 1,45       Magnetic regulating current     5 / 10       Rated short circuit breaking capacity Icn under 230V AC lecc 60947-2     6       Rated ultimate short-circuit breaking capacity Icu under 230V AC lecc 60947-2     6       Rated ultimate short-circuit breaking capacity Icu     6	Functions	
Top connection alignement for modular devices     Shifted termin       Main electrical features     4,5       Rated short circuit breaking capacity Icn AC     4,5       according IEC60898-1     240       Frequency     50       Voltage     240       Rated insulation voltage Ue     500       Valtage     500       Max operating voltage     500       Max operating voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated inpulse withstand voltage     4000       Electric current     30 r       Rated residual operating current     30 r       Rated current     200       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal operating current     5 / 10       Magnetic regulating current     5 / 10       Rated short circuit breaking capacity Icn under     230V AC according IEC60898-1       Rated ultimate short-circuit breaking capacity Icu under     6       230V AC according IEC60898-1     6       Rated ultimate short-circuit breaking capacity Icu     6  <	Sealable	yes
Main electrical features       Rated short circuit breaking capacity Icn AC according IEC60898-1       Rated operational voltage Ue     240       Frequency     50       Voltage     500       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated insulation voltage     500       Max operating voltage     240       Rated impulse withstand voltage     4000       Electric current     30 r       Rated residual operating current     30 r       Rated current     200       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal operation     1,13 / 1,45       Operation     5 / 10       Rated short circuit breaking capacity lcu under     4,5       230V AC according IEC60898-1     4,5       Rated ultimate short-circuit breaking capacity Icu under     4,5       Rated ultimate short-circuit breaking capacity Icu     6	Connectivity	
Rated short circuit breaking capacity Icn AC4,5according IEC60898-1240Rated operational voltage Ue240Frequency50VoltageRated insulation voltage500Max operating voltage240Rated insulation voltage240Rated insulation voltage240Rated insulation voltage240Rated insulation voltage240Rated insulation voltage240Rated impulse withstand voltage4000Electric current30 rRated residual operating current30 rRated current200Withstand not tripping on 8-20 µs wave250Breaking and opening capacity4,5operation1,13 / 1,45operation5 / 10Rated short circuit breaking capacity Icu under4,5230V AC according IEC60898-14,5Rated ultimate short-circuit breaking capacity Icu6ated ultimate short-circuit breaking capacity Icu6	Top connection alignement for modular devices	Shifted terminal
according IEC60898-1 Rated operational voltage Ue 240 Frequency 50 Voltage Rated insulation voltage 500 Max operating voltage 240 Rated impulse withstand voltage 4000 Electric current 300 r Rated residual operating current 300 r Rated current 200 Withstand not tripping on 8-20 µs wave 250 Breaking and opening capacity 4,5 min/maxi threshold value of the AC thermal 1,13 / 1,45 operation 5 / 10 Rated short circuit breaking capacity Icu under 230V AC IEC 6098-1 Rated ultimate short-circuit breaking capacity Icu 5 / 10 Rated ultimate short-circuit breaking capacity Icu 6 under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 6	Main electrical features	
Rated operational voltage Ue240Frequency50Voltage500Rated insulation voltage500Max operating voltage240Rated impulse withstand voltage4000Electric current300 rRated residual operating current300 rRated current200Withstand not tripping on 8-20 µs wave250Breaking and opening capacity4,5min/maxi threshold value of the AC thermal1,13 / 1,45operation5 / 10Rated short circuit breaking capacity Icu under4,5230V AC according IEC60898-14,5Rated ultimate short-circuit breaking capacity Icu6under 230V AC IEC 60947-26		4,5 kA
Voltage       Rated insulation voltage     500       Max operating voltage     240       Rated impulse withstand voltage     4000       Electric current     300 m       Rated residual operating current     300 m       Rated current     200       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal     1,13 / 1,45       operation     5 / 10       Rated short circuit breaking capacity Icu under     4,5       230V AC according IEC60898-1     4,5       Rated ultimate short-circuit breaking capacity Icu     6       under 230V AC IEC 60947-2     6       Rated ultimate short-circuit breaking capacity Icu     6	Rated operational voltage Ue	240 V
Rated insulation voltage500Max operating voltage240Rated impulse withstand voltage4000Electric current30 mRated residual operating current30 mRated current20Withstand not tripping on 8-20 μs wave250Breaking and opening capacity4,5min/maxi threshold value of the AC thermal1,13 / 1,45operation5 / 10Rated short circuit breaking capacity Icu under4,5230V AC according IEC60898-16Rated ultimate short-circuit breaking capacity Icu6Rated ultimate short-circuit breaking capacity Icu6	Frequency	50 Hz
Max operating voltage240Rated impulse withstand voltage4000Electric current200Rated residual operating current30 mRated current200Withstand not tripping on 8-20 µs wave2500Breaking and opening capacity4,5min/maxi threshold value of the AC thermal1,13 / 1,45operation5 / 100Rated short circuit breaking capacity Icn under4,5230V AC according IEC60898-16Rated ultimate short-circuit breaking capacity Icu6Rated ultimate short-circuit breaking capacity Icu6	Voltage	
Rated impulse withstand voltage4000Electric current30 mRated residual operating current30 mRated current20Withstand not tripping on 8-20 µs wave250Breaking and opening capacity4,5min/maxi threshold value of the AC thermal1,13 / 1,45operation5 / 10Magnetic regulating current5 / 10Rated short circuit breaking capacity Icn under4,5230V AC according IEC60898-16Rated ultimate short-circuit breaking capacity Icu6Rated ultimate short-circuit breaking capacity Icu6	Rated insulation voltage	500 V
Electric current     30 r       Rated residual operating current     30 r       Rated current     20       Withstand not tripping on 8-20 µs wave     250       Breaking and opening capacity     4,5       min/maxi threshold value of the AC thermal     1,13 / 1,45       operation     1       Magnetic regulating current     5 / 10       Rated short circuit breaking capacity Icn under     4,5       230V AC according IEC60898-1     4,5       Rated ultimate short-circuit breaking capacity Icu     6       under 230V AC IEC 60947-2     6       Rated ultimate short-circuit breaking capacity Icu     6	Max operating voltage	240 V
Rated residual operating current30 mRated current20Withstand not tripping on 8-20 μs wave250Breaking and opening capacity4,5min/maxi threshold value of the AC thermal1,13 / 1,45operation1,13 / 1,45Magnetic regulating current5 / 10Rated short circuit breaking capacity Icn under4,5230V AC according IEC60898-14,5Rated ultimate short-circuit breaking capacity Icu6under 230V AC IEC 60947-26Rated ultimate short-circuit breaking capacity Icu6	Rated impulse withstand voltage	4000 V
Rated current20Withstand not tripping on 8-20 μs wave250Breaking and opening capacity4,5min/maxi threshold value of the AC thermal1,13 / 1,45operation1,13 / 1,45Magnetic regulating current5 / 10Rated short circuit breaking capacity Icn under 230V AC according IEC60898-14,5Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-26Rated ultimate short-circuit breaking capacity Icu6	Electric current	
Withstand not tripping on 8-20 µs wave250Breaking and opening capacity4,5min/maxi threshold value of the AC thermal1,13 / 1,45operation1,13 / 1,45Magnetic regulating current5 / 10Rated short circuit breaking capacity Icn under 230V AC according IEC60898-14,5Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-26Rated ultimate short-circuit breaking capacity Icu6	Rated residual operating current	30 mA
Breaking and opening capacity4,5min/maxi threshold value of the AC thermal operation1,13 / 1,45Magnetic regulating current5 / 10Rated short circuit breaking capacity Icn under 230V AC according IEC60898-14,5Rated ultimate short-circuit breaking capacity Icu under 230V AC IEC 60947-26Rated ultimate short-circuit breaking capacity Icu6	Rated current	20 A
min/maxi threshold value of the AC thermal 1,13 / 1,45 operation 1,13 / 1,45 Operation 5 / 10 Magnetic regulating currrent 5 / 10 Rated short circuit breaking capacity Icn under 4,5 230V AC according IEC60898-1 Rated ultimate short-circuit breaking capacity Icu 6 under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 6	Withstand not tripping on 8-20 µs wave	250 A
operationMagnetic regulating currrent5 / 10Rated short circuit breaking capacity lcn under4,5230V AC according IEC60898-1230V AC according IEC60898-1Rated ultimate short-circuit breaking capacity lcu6under 230V AC IEC 60947-26Rated ultimate short-circuit breaking capacity lcu6	Breaking and opening capacity	4,5 kA
Rated short circuit breaking capacity Icn under4,5230V AC according IEC60898-18Rated ultimate short-circuit breaking capacity Icu6under 230V AC IEC 60947-26Rated ultimate short-circuit breaking capacity Icu6		1,13 / 1,45 ln
230V AC according IEC60898-1     6       Rated ultimate short-circuit breaking capacity Icu     6       under 230V AC IEC 60947-2     6       Rated ultimate short-circuit breaking capacity Icu     6	Magnetic regulating currrent	5 / 10 In
under 230V AC IEC 60947-2 Rated ultimate short-circuit breaking capacity Icu 6		4,5 kA
		6 kA
		6 kA

#### Electric current / temperature

Rating current -25°C	22,7 A
Rating current -20°C	22,5 A
Rating current -15°C	22,2 A
Rating current -10°C	22 A
Rating current -5°C	21,8 A
Rating current 0°C	21,5 A
Rating current 5°C	21,3 A
Rating current 10°C	21 A
Rating current 15°C	20,8 A
Rating current 20°C	20,5 A
Rating current 25°C	20,3 A
Rating current 30°C	20 A
Rating current 35°C	19,8 A
Rating current 40°C	19,6 A
Rating current 45°C	19,4 A
Rating current 50°C	19,2 A
Rating current 55°C	19 A
Rating current 60°C	18,8 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
-----------	-------

# 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	12 A
Minimal rating current of upstream aM fuse for selectivity on short-circuit	25 A
Minimal rating current of upstream gL fuse for selectivity on short-circuit	32 A

## Power

Total power loss under IN	6,6 W
Power loss per pole at In	4,8 W

### Tripping

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
Equipment	
With interlocking device	yes
Standards	
Standard text	EN 61009-1
European directive WEEE	concerned
Safety	
Protection index IP	IP20
Residual current type	AC
Use conditions	
Operating temperature	-2540 °C
Degree of pollution according to IEC 60664 / IEC 60947-2	2
Class of energy limitation I <sup>2</sup> t	3
Altitude	2000 m
Air humidity protection	for all climates
Storage/transport temperature	-2570 °C
temperatur	
Temperature of calibration	30 °C