3VA5210-7EF41-0AA0

## **Data sheet**



circuit breaker 3VA5 UL frame 250 breaking capacity class C 100kA @ 480V 4-pole, line protection TM240, ATAM, In=100A overload protection Ir=80A...100A short-circuit protection Ii=5...10 x In N conductor unprotected without connection

product designation product designation / according to UL file CFAS Product version System protection  design of the load switch / acc. to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)  design of the overcurrent release TM240 grotection function of the overcurrent release LI unumber of poles 4  Tension assignée d'isolement UI 800 V  Max. rated operational voltage Ue with AC 50/60Hz 690 V  Max. rated operational voltage Ue with AC 50/60Hz 690 V  Active power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical Electrical endurance (switching cycles) / typical 2000  Electrical endurance (switching cycles) / at AC-1 / at 830/415 V 50/60 Hz 2  Electrical endurance (switching cycles) / at 480 V 8000  selectrical endurance (switching cycles) / at 480 V 8000  electrical endurance (switching cycles) / at 480 V 8000  electrical endurance (switching cycles) / at 600 V 4000  Neutral conductors / upgradeable/retrofittable No Mount of the frame size 250 A 2000  Current Max. rated operational voltage able frem size 250 A 2000  Current Max. rated operational current of the frame size 250 A 2000  Current and 40 °C 100 A 315 °C 97 A	Model	
product designation / according to UL file Product version design of the load switch / acc. to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type) design of the overcurrent release protection function of the overcurrent release LI number of poles 4  Ceneral technical data Tension assignée d'isolement UI Max. rated operational voltage Ue with AC 50/60Hz Max. rated operational voltage Ue with AC 50/60Hz Active power loss [W] / maximum 31.6 W Active power loss f for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz Electrical endurance (switching cycles) / at 80 V 8 000 electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switching cycles) / at 80 V 9 v 50/60 Hz Electrical endurance (switc	product brand name	SENTRON
Product version  design of the load switch / acc. to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)  design of the overcurrent release	product designation	Molded-case circuit breaker
design of the load switch / acc. to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type)  design of the overcurrent release protection function of the overcurrent release I LI number of poles 4  Ceneral technical data  Tension assignée d'isolement Ui 800 V Max. rated operational voltage Ue with AC 50/60Hz power loss [W] / maximum 31.6 W Active power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical Electrical endurance (switching cycles) / at AC-1 / at 800 V 4000  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at AC-1 / at 690 V 4000  V 50/60 Hz electrical endurance (switching cycles) / at 80 V 8000 electrical endurance (switching cycles) / at 600 V 4000 Neutral conductors / upgradeable/retrofittable product function other measurement function other measurement function other measurement function No  Current  marking / acc. to UL 489 / 100%-rated breaker Max. rated operational current of the frame size 250 A Courant permanent assigné lu operational current ot at 40 °C ot 445 °C ot 100 A ot 450 °C  100 A	product designation / according to UL file	CFAS
Conditioning, and Refrigeration circuit breaker (HACR Type)  design of the overcurrent release protection function of the overcurrent release protection function of the overcurrent release protection function of the overcurrent release LI number of poles  Tension assignée d'isolement Ui Max. rated operational voltage Ue with AC 50/60Hz Max. rated operational voltage Ue with DC power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical Electrical endurance (switching cycles) / typical Electrical endurance (switching cycles) / at AC-1 / at 890 V 50/60 Hz Electrical endurance (switching cycles) / at 480 V electrical endurance (switching cycles) / at 480 V electrical endurance (switching cycles) / at 600 V Neutral conductors / upgradeable/retrofitable No ground-fault monitoring version without product function o communication function o ther measurement function No Max. rated operational current of the frame size 250 A Courant permanent assigné lu operational current  • at 40 °C o at 45 °C 100 A o to the conductors / upgradeable/ret of the frame size o ta 45 °C o 100 A o 100 A o to 2 to 50 °C  TM240  TM2	Product version	System protection
protection function of the overcurrent release number of poles  General technical data Tension assignée d'isolement Ui  Max. rated operational voltage Ue with AC 50/60Hz 690 V  Max. rated operational voltage Ue with DC 1 000 V power loss [W] / maximum 31.6 W  Active power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz electrical endurance (switching cycles) / at 480 V electrical endurance (switching cycles) / at 600 V Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version volumentation function ocommunication function No current marking / acc. to UL 489 / 100%-rated breaker No Max. rated operational current of the frame size 250 A Courant permanent assigné lu operational current of 45 °C of 4t 45 °C of 100 A of 4t 50 °C of 100 A	Conditioning, and Refrigeration circuit breaker (HACR	Yes
number of poles 4  General technical data  Tension assignée d'isolement Ui 800 V  Max. rated operational voltage Ue with AC 50/60Hz 690 V  Max. rated operational voltage Ue with DC 1000 V  power loss [W] / maximum 31.6 W  Active power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical 20 000  Electrical endurance (switching cycles) / typical 8 000  Selectrical endurance (switching cycles) / at AC-1 / at 8 000  Selectrical endurance (switching cycles) / at AC-1 / at 8 000  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  Electrical endurance (switching cycles) / at 480 V 8 000  electrical endurance (switching cycles) / at 600 V A 000  Neutral conductors / upgradeable/retrofitable No ground-fault monitoring version Without product function • communication function No • other measurement function No Max. rated operational current of the frame size 250 A Courant permanent assigné lu operational current • at 40 °C 100 A 100	design of the overcurrent release	TM240
General technical data  Tension assignée d'isolement Ui 800 V  Max. rated operational voltage Ue with AC 50/60Hz 690 V  Max. rated operational voltage Ue with DC 1000 V  power loss [W] / maximum 31.6 W  Active power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical 20 000  Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at 80 V 8 000  electrical endurance (switching cycles) / at 600 V 4 000  Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function  • communication function No  • other measurement function No  Amax. rated operational current of the frame size 250 A Courant permanent assigné lu 000 A 00	protection function of the overcurrent release	
Tension assignée d'isolement Ui  Max. rated operational voltage Ue with AC 50/60Hz  690 V  Max. rated operational voltage Ue with DC  power loss [W] / maximum  31.6 W  Active power loss / for rated value of the current / at AC / in hot operating state / per pole  mechanical service life (switching cycles) / typical  Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at 480 V  electrical endurance (switching cycles) / at 480 V  electrical endurance (switching cycles) / at 600 V  Neutral conductors / upgradeable/retrofittable No  ground-fault monitoring version  product function  • communication function  • other measurement function  No  Current  marking / acc. to UL 489 / 100%-rated breaker  Max. rated operational current of the frame size  Courant permanent assigné lu  operational current  • at 40 °C  • at 45 °C  100 A  • at 45 °C  100 A	number of poles	4
Max. rated operational voltage Ue with AC 50/60Hz  Max. rated operational voltage Ue with DC  power loss [VI] / maximum  Active power loss / for rated value of the current / at AC / in hot operating state / per pole  mechanical service life (switching cycles) / typical  Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  Electrical endurance (switching cycles) / at 480 V 8 000  electrical endurance (switching cycles) / at 600 V 4 000  Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function  • communication function No  • other measurement function No  Current  marking / acc. to UL 489 / 100%-rated breaker No Max. rated operational current of the frame size 250 A  Courant permanent assigné lu 00 A  operational current  • at 40 °C 100 A  • at 45 °C 100 A  • at 45 °C 100 A	General technical data	
Max. rated operational voltage Ue with DC power loss [W] / maximum 31.6 W Active power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical 20 000 Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz electrical endurance (switching cycles) / at 480 V 8 000 electrical endurance (switching cycles) / at 600 V 4 000 Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function • communication function • other measurement function • other measurement function No  Current marking / acc. to UL 489 / 100%-rated breaker Max. rated operational current of the frame size 250 A Courant permanent assigné lu 100 A operational current • at 40 °C • at 45 °C • at 50 °C 100 A	Tension assignée d'isolement Ui	800 V
power loss [W] / maximum  Active power loss / for rated value of the current / at AC / in hot operating state / per pole  mechanical service life (switching cycles) / typical  Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at 480 V 8 000 electrical endurance (switching cycles) / at 600 V 4 000  Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function  • communication function No  • other measurement function No  Current  marking / acc. to UL 489 / 100%-rated breaker No Max. rated operational current of the frame size 250 A  Courant permanent assigné lu 100 A  operational current  • at 40 °C 100 A  • at 45 °C 100 A  • at 50 °C 100 A	Max. rated operational voltage Ue with AC 50/60Hz	690 V
Active power loss / for rated value of the current / at AC / in hot operating state / per pole mechanical service life (switching cycles) / typical 20 000  Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at 480 V 8 000  electrical endurance (switching cycles) / at 600 V 4 000  Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function  • communication function No  • other measurement function No  Current marking / acc. to UL 489 / 100%-rated breaker No Max. rated operational current of the frame size 250 A  Courant permanent assigné lu 100 A  operational current  • at 40 °C 100 A  • at 45 °C 100 A  • at 50 °C 100 A	Max. rated operational voltage Ue with DC	1 000 V
in hot operating state / per pole mechanical service life (switching cycles) / typical 20 000  Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at 480 V 8 000 electrical endurance (switching cycles) / at 600 V 4 000  Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function	power loss [W] / maximum	31.6 W
Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz  Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at 480 V 8 000  electrical endurance (switching cycles) / at 600 V 4 000  Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function  • communication function No  • other measurement function No  Current  marking / acc. to UL 489 / 100%-rated breaker No  Max. rated operational current of the frame size 250 A  Courant permanent assigné lu 100 A  operational current  • at 40 °C 100 A  • at 45 °C 100 A  • at 50 °C 100 A	·	10.53 W
Blectrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz  electrical endurance (switching cycles) / at 480 V 8 000 electrical endurance (switching cycles) / at 600 V 4 000  Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function  • communication function No  • other measurement function No  Current  marking / acc. to UL 489 / 100%-rated breaker No Max. rated operational current of the frame size 250 A  Courant permanent assigné lu 100 A  operational current  • at 40 °C 100 A  • at 45 °C 100 A  • at 50 °C 100 A	mechanical service life (switching cycles) / typical	20 000
electrical endurance (switching cycles) / at 480 V 8 000 electrical endurance (switching cycles) / at 600 V 4 000 Neutral conductors / upgradeable/retrofittable No ground-fault monitoring version Without product function • communication function No • other measurement function No  Current marking / acc. to UL 489 / 100%-rated breaker No Max. rated operational current of the frame size 250 A Courant permanent assigné lu 100 A operational current • at 40 °C 100 A • at 45 °C 100 A • at 50 °C 100 A		8 000
electrical endurance (switching cycles) / at 600 V  Neutral conductors / upgradeable/retrofittable ground-fault monitoring version  Product function  Current  marking / acc. to UL 489 / 100%-rated breaker  Max. rated operational current of the frame size  Courant permanent assigné lu  operational current  at 40 °C  at 45 °C  at 50 °C  100 A		4 000
Neutral conductors / upgradeable/retrofittable ground-fault monitoring version  Product function  Current  marking / acc. to UL 489 / 100%-rated breaker  Max. rated operational current of the frame size  Courant permanent assigné lu  operational current  at 40 °C  at 45 °C  at 50 °C  100 A	electrical endurance (switching cycles) / at 480 V	8 000
ground-fault monitoring version  product function  communication function  other measurement function  Mo  Current  marking / acc. to UL 489 / 100%-rated breaker  Max. rated operational current of the frame size  Courant permanent assigné lu  operational current  at 40 °C  at 45 °C  at 50 °C  Without  No  No  100 A	electrical endurance (switching cycles) / at 600 V	4 000
product function	Neutral conductors / upgradeable/retrofittable	No
<ul> <li>communication function</li> <li>No</li> <li>other measurement function</li> <li>No</li> </ul> Current marking / acc. to UL 489 / 100%-rated breaker Max. rated operational current of the frame size Courant permanent assigné lu <ul> <li>operational current</li> <li>at 40 °C</li> <li>at 45 °C</li> <li>at 45 °C</li> <li>100 A</li> </ul> • at 50 °C <ul> <li>100 A</li> </ul> • at 50 °C <ul> <li>100 A</li> </ul> • 100 A <ul> <li>100 A</li> <li>100 A</li> </ul> • 100 A <ul> <li>100 A</li> </ul> • 100 A </td <td>ground-fault monitoring version</td> <td>Without</td>	ground-fault monitoring version	Without
<ul> <li>other measurement function</li> <li>No</li> <li>Current</li> <li>marking / acc. to UL 489 / 100%-rated breaker</li> <li>Max. rated operational current of the frame size</li> <li>Courant permanent assigné lu</li> <li>operational current</li> <li>at 40 °C</li> <li>at 45 °C</li> <li>at 45 °C</li> <li>100 A</li> <li>at 50 °C</li> <li>100 A</li> </ul>	product function	
Current  marking / acc. to UL 489 / 100%-rated breaker  Max. rated operational current of the frame size  Courant permanent assigné lu  operational current  • at 40 °C  • at 45 °C  • at 50 °C  No  No  100 A  100 A  100 A	<ul> <li>communication function</li> </ul>	No
marking / acc. to UL 489 / 100%-rated breaker  Max. rated operational current of the frame size  Courant permanent assigné lu  operational current  • at 40 °C  • at 45 °C  • at 50 °C  No  No  No  250 A  100 A  100 A  100 A	<ul> <li>other measurement function</li> </ul>	No
Max. rated operational current of the frame size  Courant permanent assigné lu  operational current  • at 40 °C  • at 45 °C  • at 50 °C  100 A	Current	
Courant permanent assigné lu  operational current  • at 40 °C  • at 45 °C  • at 50 °C  100 A  100 A	marking / acc. to UL 489 / 100%-rated breaker	No
operational current  • at 40 °C	Max. rated operational current of the frame size	250 A
<ul> <li>at 40 °C</li> <li>at 45 °C</li> <li>at 50 °C</li> <li>100 A</li> <li>100 A</li> <li>100 A</li> </ul>	Courant permanent assigné lu	100 A
<ul> <li>at 45 °C</li> <li>at 50 °C</li> <li>100 A</li> <li>100 A</li> </ul>	operational current	
• at 50 °C 100 A	• at 40 °C	100 A
	● at 45 °C	100 A
• at 55 °C 97 A	● at 50 °C	100 A
	● at 55 °C	97 A

● at 60 °C	95 A
● at 65 °C	92 A
● at 70 °C	88 A
Switching capacity according to IEC 60947	
switching capacity class of the circuit breaker	C
breaking capacity maximum short-circuit current (Icu)	
● at 240 V	200 kA
● at 415 V	85 kA
● at 690 V	10 kA
breaking capacity operating short-circuit current (lcs)	
● at 240 V	200 kA
● at 415 V	85 kA
● at 690 V	10 kA
short-circuit current making capacity (Icm)	
● at 240 V	440 kA
● at 415 V	187 kA
● at 690 V	17 kA
design of short-circuit protection	For switching power values in DC networks, see the 3VA molded case circuit breaker device manual; link to be found under Service & Support in the last chapter
Switching capacity according to UL 489	
breaking capacity current	
● at 240 V	200 kA
● at 480 V	100 kA
● at 600 Y/347 V	35 kA
Adjustable parameters	
Adjustable response value current / lg min.	70 A
Adjustable response value current / lg min.	100 A
Adjustable response value current / li min.	500 A
Adjustable response value current / li max.	1 000 A
design of the N-conductor protection	Without
Ground fault protection / tripping switchable / I2t=ON/OFF	No
Mechanical Design	
height [in]	7.3 in
Height	185 mm
width [in]	5.5 in
Width	140 mm
depth [in]	3.3 in
depth	83 mm
Connections	
arrangement of electrical connectors / for main current circuit	Without connection
type of electrical connection / for main current circuit	Without
Auxiliary circuit	
number of CO contacts / for auxiliary contacts	0
Accessories	
product extension / optional / motor drive	Yes
Environmental conditions	
protection class IP / on the front	IP40
ambient temperature	11 40
during operation / minimum	-25 °C
during operation / maximum	70 °C
during operation / maximum     during storage / minimum	-40 °C
during storage / maximum	80 °C
Certificates	
	0
reference code / acc. to IEC 81346-2	Q
certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB	No





**Miscellaneous** 







Declaration of Conformity

**Shipping Approval** 

other









**Miscellaneous** 

## Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/lowvoltage/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA5210-7EF41-0AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

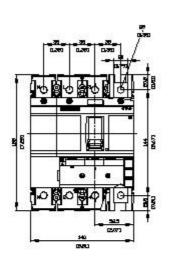
https://support.industry.siemens.com/cs/ww/en/ps/3VA5210-7EF41-0AA0

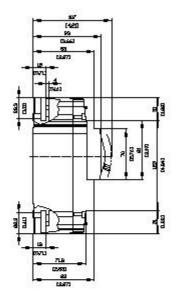
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)

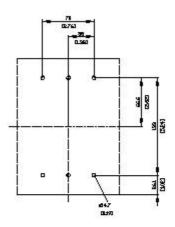
http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA5210-7EF41-0AA0

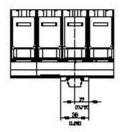
**Tender specifications** 

http://www.siemens.com/specifications









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