# SIEMENS

# **Product data sheet**

## 3RV2011-1AA20



CIRCUIT-BREAKER SZ S00, FOR MOTOR PROTECTION, CLASS 10, A-REL.1.1...1.6A, N-RELEASE 21A, SPRING-L. CONNECTION STANDARD SW. CAPACITY

General technical data:		
Product brand name		SIRIUS
product designation		3RV2 circuit breaker
Size of the circuit-breaker		S00
Trip class		CLASS 10
Protection class IP / on the front		IP20
Degree of pollution		3
Installation altitude / at a height over sea level / maximum	m	2,000
Ambient temperature		
during storage	°C	-50 80
during operating	°C	-20 60
during transport	°C	-50 80
Resistance against shock		25g / 11 ms
Impulse voltage resistance / rated value	kV	6
Insulation voltage / rated value	V	690
Active power loss / total / typical	W	6
Item designation		
<ul> <li>according to DIN 40719 extendable after IEC 204-2 / according to IEC 750</li> </ul>		F
according to DIN EN 61346-2		F

• of the main contracts / typical100,000Type of the driving mechanism / motor driveNoDesign of the operating mechanismSector switchProduct functionYes• overload protectionYes• have diary switchNo• undiary of tak23 / rated value / maximumV• service power / at AC-3/ rated value• undiary valueWS50• at 400 V / rated valueWS50• at 400 V / rated valueNo• at 400 V / rated valueA2121• of the con-edisped short-finduit releaseA1.6.	Mechanical operating cycles as operating time	_	
Type of the driving mechanism / motor drive         No           Design of the operating mechanism         selector switch           Product function         Yes           • overload protection         Yes           • phase disturbance recognition         Yes           • outilary switch         No           • undervoltage release mechanism         No           • inp indicator         No           Product extension / optional / motor drive         No           Main circuit:         No           Service power / at AC-3 / rated value / maximum         V           Operating current / at AC-3 / rated value / maximum         V           operating current / at AC-3 / rated value         MV           • at 400 V / rated value         W           • at 600 V / rated value         W           • at 600 V / rated value         W           • at 600 V / rated value         M           • at 600 V / rated value         W           • at 600 V / rated value         M           • at 600 V / rated value         W           • at 600 V / rated value         M           • of the non-delayed short-circuit release         A           • of the non-delayed short-circuit release         A           • of the currenri-dependent co	of the main contacts / typical		100,000
Design of the operating mechanism         Image: selector switch           Product function         Yes           • overload protection         Yes           • auxiliary switch         No           • auxiliary switch         No           • trip indicator         No           Product sxtension / optional / motor drive         No           Main circuit:         No           Number of poles / for main current circuit         3           Operating voltage / at AC-3 / at 400 V / rated value         A           • at 400 V / rated value         V           • at 800 V / rated value         W           • at 800 V / rated value         W           • at 800 V / rated value         Yes           • at 800 V / rated value         Yes           • at 800 V / rated value         W           • at 800 V / rated value         Ith           15         Top and bottom </th <th><ul> <li>of the auxiliary contacts / typical</li> </ul></th> <th></th> <th>100,000</th>	<ul> <li>of the auxiliary contacts / typical</li> </ul>		100,000
Product function       Yes         • overload protection       Yes         • phase disturbance recognition       Yes         Product component       Yes         • audilary switch       No         • undervoltage release mechanism       No         • trip indicator       No         Product extension / optional / motor drive       No         Main circuit:       3         Number of poles / for main current circuit       3         Operating outage / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / at 400 V / rated value       A       1.5         Service power / at AC-3	Type of the driving mechanism / motor drive	_	No
• overload protectionYes• phase disturbance recognitionYesProduct componentYes• auxiliary switchNo• undervoltage release mechanismNo• indervoltage release mechanismNo• orduct extension / optional / motor driveNoNumber of poles / for main current circuit3Operating voltage / at AC-3 / rated value / maximumV600600Operating current / at AC-3 / at 400 V / rated valueW• at 400 V / rated valueNo• at 400 V / rated valueNo• at 400 V / rated valueA• at 400 V /	Design of the operating mechanism	_	selector switch
• phase disturbance recognitionImage: Second Se	Product function		
Product component       No         • auxiliary switch       No         • undervoltage release mechanism       No         • trip indicator       No         Product extension / optional / motor drive       No         Main circuit:       No         Number of poles / for main current circuit       3         Operating voltage / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / rated value       A       1.5         Service power / at AC-3       Image: Component	overload protection		Yes
• auxiliary switchNo• undervoltage release mechanismNo• trip indicatorNoProduct extension / optional / motor driveNoMumber of poles / for main current circuit3Operating voltage / at AC-3 / rated value / maximumVOperating current / at AC-3 / rated value / maximumVOperating current / at AC-3 / rated value / maximumVOperating current / at AC-3 / rated valueA1.5500Operating current / at AC-3 / rated valueW• at 400 V / rated valueW• at 500 V / rated valueW• at 600 V / rated valueW• of the non-delayed short-circuit releaseA• of the non-delayed short-circuit releaseA• of the current-dependent overload releaseA• oth current-dependent over	phase disturbance recognition		Yes
• undervoltage release mechanismNo• trip indicatorNoProduct extension / optional / motor driveNoMumber of poles / for main current circuit3Operating voltage / at AC-3 / rated value / maximumV690Operating current / at AC-3 / at 400 V / rated valueA1.5Service power / at AC-3 / at 400 V / rated valueW550• at 400 V / rated valueW550• at 400 V / rated valueW750• at 600 V / rated valueW1.100Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximumTop and bottomAdjustable response currentITop and bottom• of the non-delayed short-circuit releaseA21 21• of the non-delayed short-circuit releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250• of the non-delayed short-circuit releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250• Ortinuous current / rated valueW250Continuous current / rated valueM1.6Mumber of NC contacts / for auxiliary contacts / instantaneous switching9Number of NC contacts / for auxiliary contacts / instantaneous switching0Number of Change-over switches / for auxiliary contacts / instantaneous switching0Number of Change-over switches / for auxiliary contacts / instantaneous switching0	Product component		
• trip indicator       No         Product extension / optional / motor drive       No         Main circuit:       No         Number of poles / for main current circuit       3         Operating voltage / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / rated value / maximum       V       690         operating current / at AC-3 / at 400 V / rated value       A       1.5         service power / at AC-3       To       1.5         Service power / at AC-3 / according to IEC 60947-6-2 / maximum       W       750         • at 690 V / rated value       W       1,100       1.5         Arrangement of electrical connectors / for main current circuit       Top and bottom       Adjustable response current         • of the non-delayed short-circuit release       A       1.121       1.121         Service power / at AC-3 / at 230 V / rated value       W       250       250         Continuous current / rated value       W       250       250         Continuous current / rated value       W       250       250         Continuous current / rated value       Yes       9       9         Number of NC contacts / for auxillary conta	auxiliary switch		No
Product extension / optional / motor drive       No         Main circuit:       3         Number of poles / for main current circuit       3         Operating voltage / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / at 400 V / rated value       A       1.5         Service power / at AC-3       400 V / rated value       A       1.5         • at 400 V / rated value       W       550       550         • at 400 V / rated value       W       550       550         • at 400 V / rated value       W       750       500         • at 400 V / rated value       W       750       500         • at 600 V / rated value       W       1000       750         • at 600 V / rated value       W       100       750         Frequency of operation / at AC-3 / according to IEC 60947-6-2 /       1/h       15         Arrangement of electrical connectors / for main current circuit       Top and bottom         • of the non-delayed short-circuit release       A       21 21         • of the current-dependent overload release       A       1.6         Service power / at AC-3 / at 230 V / rated value       W       250         Continuous current / rated value       Yes       1.6	undervoltage release mechanism		No
Main circuit:       3         Operating voltage / at AC-3 / rated value / maximum       V       690         Operating vortage / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / at 400 V / rated value       A       1.5         Service power / at AC-3       W       550         • at 400 V / rated value       W       550         • at 600 V / rated value       W       750         • at 600 V / rated value       W       1,100         Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum       Top and bottom         Arrangement of electrical connectors / for main current circuit       Top and bottom         Adjustable response current	trip indicator		No
Number of poles / for main current circuit3Operating voltage / at AC-3 / rated value / maximumV690Operating current / at AC-3 / at 400 V / rated valueA1.5Service power / at AC-3W550• at 400 V / rated valueW550• at 600 V / rated valueW750• at 600 V / rated valueW1.00Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum1/h15Arrangement of electrical connectors / for main current circuitTop and bottomAdjustable response current• of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueW250Continuous current / rated valueVesNumber of NC contacts / for auxiliary contacts / instantaneous switchingVesNumber of NO contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts / instantaneous switching0	Product extension / optional / motor drive		No
Operating voltage / at AC-3 / rated value / maximum       V       690         Operating current / at AC-3 / at 400 V / rated value       A       1.5         Service power / at AC-3       W       550         • at 400 V / rated value       W       550         • at 600 V / rated value       W       750         • at 690 V / rated value       W       1,100         Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum       Top and bottom         Arrangement of electrical connectors / for main current circuit       Top and bottom         Adjustable response current       -       -         • of the non-delayed short-circuit release       A       21 21         • of the current-dependent overload release       A       1.1 1.6         Service power / at AC-3 / at 230 V / rated value       W       250         Continuous current / rated value       W       250         Auxiliary circuit:       Yes          Product extension / auxiliary switch       Yes          Number of NC contacts / for auxiliary contacts / instantaneous switching       0          switching       0       0          Number of change-over switches / for auxiliary contacts       0          Number of chang	Main circuit:		
Operating current / at AC-3 / at 400 V / rated valueA1.5Service power / at AC-3V550• at 400 V / rated valueW550• at 500 V / rated valueW750• at 690 V / rated valueW1,100Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum1/h15Arrangement of electrical connectors / for main current circuitTop and bottomAdjustable response currentV21 21• of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.6Service power / at AC-3 / at 230 V / rated valueV250Continuous current / rated valueW250Auxiliary circuit:YesProduct extension / auxiliary switchYesNumber of NC contacts / for auxiliary contacts / instantaneous switching0Number of NC contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0	Number of poles / for main current circuit		3
Service power / at AC-3W550• at 400 V / rated valueW550• at 500 V / rated valueW750• at 690 V / rated valueW1,100Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum11/h15Arrangement of electrical connectors / for main current circuitTop and bottomAdjustable response currentI1• of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueA1.6Auxiliary circuit:YesProduct extension / auxiliary switchYesNumber of NC contacts / for auxiliary contacts / instantaneous switching0Number of NC contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0	Operating voltage / at AC-3 / rated value / maximum	V	690
• at 400 V / rated valueW550• at 500 V / rated valueW750• at 690 V / rated valueW1,100Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum1/h15Arrangement of electrical connectors / for main current circuitTop and bottomAdjustable response current • of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueW250Auxiliary circuit:YesProduct extension / auxiliary contacts / instantaneous switching0Number of NC contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0Number of change-over switches / for auxiliary contacts0	Operating current / at AC-3 / at 400 V / rated value	А	1.5
• at 500 V / rated valueW750• at 690 V / rated valueW1,100Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum1/h15Arrangement of electrical connectors / for main current circuitTop and bottomAdjustable response current • of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueW250Auxiliary circuit:Image: Service power / at AC-3 / or auxiliary contacts / instantaneous switchingYesNumber of NC contacts / for auxiliary contacts / instantaneous switching0Number of ND contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0Number of change-over switches / for auxiliary contacts0Number of change-over switches / for auxiliary contacts0Switching0	Service power / at AC-3	_	
• at 690 V / rated valueW1,100Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum1/h15Arrangement of electrical connectors / for main current circuitTop and bottomAdjustable response current• of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueW250Auxiliary circuit:-YesProduct extension / auxiliary switchYesNumber of NC contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0Inputs/Outputs:-0	• at 400 V / rated value	W	550
Frequency of operation / at AC-3 / according to IEC 60947-6-2 / maximum       1/h       15         Arrangement of electrical connectors / for main current circuit       Top and bottom         Adjustable response current       Top and bottom         • of the non-delayed short-circuit release       A       21 21         • of the current-dependent overload release       A       1.1 1.6         Service power / at AC-3 / at 230 V / rated value       W       250         Continuous current / rated value       A       1.6         Auxiliary circuit:       Yes       Ves         Product extension / auxiliary switch       Yes       0         Number of NC contacts / for auxiliary contacts / instantaneous switching       0       0         Number of change-over switches / for auxiliary contacts       0       0         Inputs/ Outputs:       Inputs/ Outputs:       0	• at 500 V / rated value	W	750
maximum       Imaximum       Image: Imaximum       Image: Image: Imaximum       Image: Image: Imaximum       Image: Image: Image: Imaximum       Image: Image: Image: Imaximum       Image: Image: Imaximum       Image: Image: Imaximum       Image: Image: Image: Imaximum       Image: Image: Imaximum       Image: Imaximum       Image: Imaximum       Image: Imaximum       Imake: Imaximum       Imake: Imaximum       Imake: Imaximum       Imaximum       Imake: Imaximum <thimake: imaximum<="" th="">       Imake: Imaximum       Imake: Imaximum<!--</td--><td>• at 690 V / rated value</td><td>W</td><td>1,100</td></thimake:>	• at 690 V / rated value	W	1,100
Adjustable response currentImage: Constant of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueA1.6Auxiliary circuit:YesProduct extension / auxiliary switchYesNumber of NC contacts / for auxiliary contacts / instantaneous switching0Number of NO contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0Inputs/ Outputs:Imputs/ Outputs:		1/h	15
• of the non-delayed short-circuit releaseA21 21• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueA1.6Auxiliary circuit:YesProduct extension / auxiliary switchYesNumber of NC contacts / for auxiliary contacts / instantaneous switching0Number of NO contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0Inputs/ Outputs:Instantaneous Contacts0	Arrangement of electrical connectors / for main current circuit		Top and bottom
• of the current-dependent overload releaseA1.1 1.6Service power / at AC-3 / at 230 V / rated valueW250Continuous current / rated valueA1.6A1.6Auxiliary circuit:Product extension / auxiliary switchYesNumber of NC contacts / for auxiliary contacts / instantaneous switching0Number of NO contacts / for auxiliary contacts / instantaneous switching0Number of change-over switches / for auxiliary contacts0Inputs/ Outputs:Inputs/ Outputs:	Adjustable response current		
Service power / at AC-3 / at 230 V / rated value       W       250         Continuous current / rated value       A       1.6         Auxiliary circuit:       Yes         Product extension / auxiliary switch       Yes         Number of NC contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of change-over switches / for auxiliary contacts       0         Inputs/ Outputs:       U	of the non-delayed short-circuit release	А	21 21
Continuous current / rated value       A       1.6         Auxiliary circuit:       Yes         Product extension / auxiliary switch       Yes         Number of NC contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Inputs/ Outputs:       0	of the current-dependent overload release	А	1.1 1.6
Auxiliary circuit:       Yes         Product extension / auxiliary switch       Yes         Number of NC contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of change-over switches / for auxiliary contacts       0         Inputs/ Outputs:       0	Service power / at AC-3 / at 230 V / rated value	W	250
Product extension / auxiliary switch       Yes         Number of NC contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of change-over switches / for auxiliary contacts       0         Inputs/ Outputs:       0	Continuous current / rated value	А	1.6
Number of NC contacts / for auxiliary contacts / instantaneous switching       0         Number of NO contacts / for auxiliary contacts / instantaneous switching       0         Number of change-over switches / for auxiliary contacts       0         Inputs/ Outputs:       0	Auxiliary circuit:		
switching     0       Number of NO contacts / for auxiliary contacts / instantaneous switching     0       Number of change-over switches / for auxiliary contacts     0       Inputs/ Outputs:     0	Product extension / auxiliary switch		Yes
switching     0       Number of change-over switches / for auxiliary contacts     0       Inputs/ Outputs:			0
Inputs/ Outputs:			0
	Number of change-over switches / for auxiliary contacts		0
Number of digital inputs 0	Inputs/ Outputs:		
	Number of digital inputs		0

Short-circuit:		
Breaking capacity limit short-circuit current (lcu)		
• at 400 V / rated value	А	100,000
• at 500 V / rated value	А	100,000
• at 690 V / rated value	А	100,000
Design of the overcurrent release and short-circuit release		thermomagnetic
Installation/mounting/dimensions:		
Built in orientation		any
Type of mounting		screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715
Width	mm	45
Height	mm	109
Depth	mm	91
Distance, to be maintained, to the ranks assembly		
• forwards	mm	0
backwards	mm	0
• upwards	mm	50
downwards	mm	50
• sidewards	mm	0
Distance, to be maintained, to earthed part		
forwards	mm	0
backwards	mm	0
• upwards	mm	50
• sidewards	mm	30
downwards	mm	50
Distance, to be maintained, conductive elements		
• forwards	mm	0
backwards	mm	0
• upwards	mm	50
downwards	mm	50
• sidewards	mm	30
Connections:		
Product function		
removable terminal for main circuit		No
removable terminal for auxiliary and control circuit		No
Design of the electrical connection		
for main current circuit		spring-loaded terminals
Type of the connectable conductor cross-section		
for main contacts		

• solid				2x (0.5	4 mm²)	
<ul> <li>stranded</li> </ul>				2x (0.5	4 mm²)	
<ul> <li>finely strande</li> </ul>	ed					
with condu	with conductor end processing			2x (0.5	2x (0.5 2.5 mm²)	
<ul> <li>without co</li> </ul>	onductor final cutting			2x (0.5	2x (0.5 2.5 mm²)	
• for AWG condu	ctors / for main contac	ts		2x (20	12)	
Certificates/appr			_			
Verification of suit				CE / UI	_/CSA	
<ul> <li>f ür Staubexplos</li> </ul>	ionsschutz für Zone 2	1/22		no		
<ul> <li>for gas explosio</li> </ul>	on protection for zone	1/2		no		
General Product	Approval				For use in haza	rdous locations
CQC	(SA) CSA	ROSTEST			DEKRA EXAM, DMT	
Test Certificates						
Manufacturer	other					
Shipping Approv	al					
ABS	GL	Lloyd's Register	PRS			RMRS
other						
Manufacturer	other					
UL/CSA ratings						
yielded mechanica	Il performance (hp)					
<ul> <li>for single-phase</li> </ul>	e squirrel cage motors					
• at 230 V / rat	ted value		hp	0.1		
<ul> <li>for three-phase</li> </ul>	squirrel cage motors					
• at 460/480 V / rated value		hp	0.75			
• at 575/600 V / rated value		hp	0.75			
Operating current	(FLA) / for three-phas	se squirrel cage motors				
• at 480 V / rated			А	1.6		
• at 600 V / rated			А	1.3		

Safety:	
B10 value / with high demand rate	
according to SN 31920	50,000
T1 value / for proof test interval or service life	

according to IEC 61508	а	10
Failure rate (FIT value) / with low demand rate		
according to SN 31920	FIT	50
Proportion of dangerous failures		
with low demand rate / according to SN 31920	%	40
with high demand rate / according to SN 31920	%	40
Protection against electrical shock		finger-safe

## Further information:

Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs

#### Industry Mall (Online ordering system)

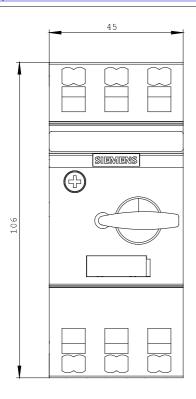
http://www.siemens.com/industrial-controls/mall

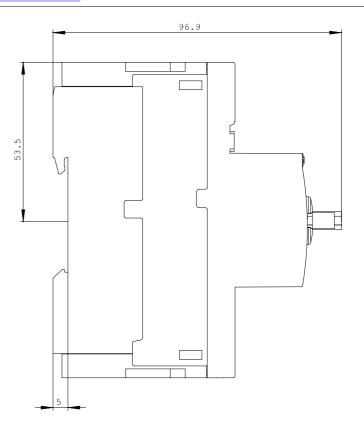
#### **CAx-Online-Generator**

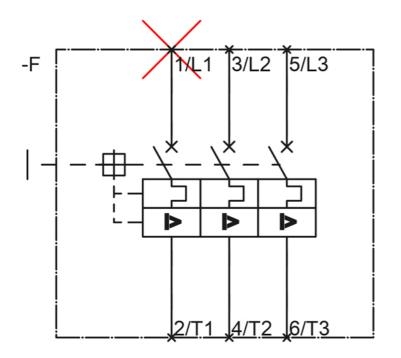
http://www.siemens.com/cax

#### Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3RV2011-1AA20/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3RV2011-1AA20







last change:

Oct 24, 2011