SIEMENS

Data sheet 3RV2421-4AA10



Circuit breaker size S0 for transformer protection A-release 10...16 A N-release 286 A screw terminal Standard switching capacity

| product designation design of the product product type designation Size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch yes power loss [W] for rated value of the current at AC in hot operating state at AC in hot operating state surpe voltage resistance rated value surge voltage resistance rated value of the main contacts typical electrical endurance (switching cycles) of dauxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation during storage during transport relative humidity during operation at AC-3 ated value maximum at AC-3 ated value maximum at AC-3 ated value at AC-3 ated value at AC-3 at 400 V rated value 5 at AC-3 ated value at AC-3 at 400 V rated value 5 at AC-3 ated value at AC-3 at 400 V rated value 5 at AC-3 ated value at AC-3 at 400 V rated value | product brand name | SIRIUS | |
|--|---|----------------------------|--|
| product type designation General technical data size of the circuit-breaker Size of contactor can be combined company-specific product extension auxiliary switch Power loss [W] for rated value of the current at AC in hot operating state at AC in hot operating state per pole Insulation voltage with degree of poliution 3 at AC rated value surge voltage resistance rated value Surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 of dawiliary contacts typical 100 000 electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical plectrical endurance (switching cycles) typical electrical endurance (switching cycles) typical plectrical endurance (switching cycles) typical electrical endurance (switching cycles) typical plectrical endurance (switching cycles) typical electrical endurance (switching cycles) typical plectrical endurance (switching cycles) typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical plectrical endurance (switching cycles) typical to 0000 electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical to 0000 electrical endurance (switching cycles) to 0000 electrical endurance (switching cycles) to 0000 electrical endurance (switch | product designation | Circuit breaker | |
| Section Sect | design of the product | For transformer protection | |
| size of the circuit-breaker size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3e rated value maximum • operating frequency rated value operational current rated value | product type designation | 3RV2 | |
| size of contactor can be combined company-specific product extension auxiliary switch power loss [W] for rated value of the current • at AC in hot operating state 9.25 W • at AC in hot operating state per pole 3.1 W insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value 6 kV shock resistance according to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) • of the main contacts typical 100 000 • of auxiliary contacts typical 100 000 electrical endurance (switching cycles) 100 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum 2 0 000 m ambient temperature • during operation -20 +60 °C • during storage -50 +80 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit 3 adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum 690 V • at AC-3 rated value maximum 690 V • at AC-3 rated value maximum 690 V operating frequency rated value operational current rated value | General technical data | | |
| product extension auxiliary switch power loss [W] for rated value of the current at AC in hot operating state at AC in hot operating state per pole at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical of auxiliary contacts typical lefectrical endurance (switching cycles) typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at hight above sea level maximum ambient temperature of uring operation of uring storage of uring transport relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3e rated value maximum especial current rated value operational current rated value operational current rated value operational current of the AC-3e rated value maximum especial current rated value operational current rated value operational current rated value operational current of the CV at AC-3e rated value maximum especial current rated value operational current rated value operational current of the CV at AC-3e rated value maximum especial current rated value operational current rated value operational current of the CV at AC-3e rated value especial current rated value operational current rated value operational current of the CV at AC-3e rated value operational current of the current of the CV at AC-3e rated value operational current of the current of the CV at AC-3e rated value operational current of the current of the CV at AC-3e rated value operational current of the current of the CV at AC-3e rated value operational current operational current operational current operational current | size of the circuit-breaker | S0 | |
| power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) • of the main contacts typical of auxiliary contacts typical letectrical endurance (switching cycles) typical 100 000 reference code according to IEC 81346-2 Quulon reference code according to IDC 8000 ambient conditions installation altitude at height above sea level maximum aubient temperature • during storage • during transport • 50 +60 °C • during transport • 50 +80 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating value • at AC-3 rated value maximum 690 V • at AC-3 rated value maximum 690 V • at AC-3 rated value maximum 690 V • at AC-3 rated value unaximum 690 V • at AC-3 rated value unaximum 690 V | size of contactor can be combined company-specific | S00, S0 | |
| at AC in hot operating state 9.25 W at AC in hot operating state per pole 3.1 W insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value 680 V shock resistance according to IEC 60068-2-27 25g / 11 ms mechanical service life (switching cycles) of the main contacts typical 100 000 electrical endurance (switching cycles) typical 100 000 electrical endurance (switching cycles) typical 100 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature of during operation -20 +60 °C of during transport -50 +80 °C relative humidity during operation 10 95 % Main circuit 10 95 % Main circuit 3 adjustable current response value current of the current-dependent overload release operating voltage 10 690 V operating requency rated value 20 690 V operating frequency rated value 50 60 Hz operational current | product extension auxiliary switch | Yes | |
| at AC in hot operating state per pole insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 shock resistance according to IEC 61346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature during operation during storage during storage during transport relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage arted value arted value at AC-3e rated value maximum 690 V at AC-3e rated value maximum 690 V operational current rated value operational current | power loss [W] for rated value of the current | | |
| insulation voltage with degree of pollution 3 at AC rated value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Question of the conditions installation altitude at height above sea level maximum ambient temperature oduring operation oduring storage oduring transport relative humidity during operation number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage orated value at AC-3 rated value maximum operational current rated value operational current of the CV at AC-3 rated value operational current rated value operational current rated value operational current rated value operational current of the CV at AC-3 rated value operational current rated value operational current rated value operational current | at AC in hot operating state | 9.25 W | |
| value surge voltage resistance rated value shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical lectrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oduring operation oduring storage oduring storage oduring transport relative humidity during operation minimber of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage orated value at AC-3e rated value maximum operational current rated value operational current rated value operational current rated value operational current of 6 kV story 100 000 100 000 000 000 000 000 | at AC in hot operating state per pole | 3.1 W | |
| shock resistance according to IEC 60068-2-27 mechanical service life (switching cycles) of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Qusubstance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature oduring operation during storage during transport relative humidity during operation mumber of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3 rated value maximum en AC-3e rated value maximum operational current rated value operational current on 000 1000 1000 1000 1000 1000 1000 1000 | · · · · · · · · · · · · · · · · · · · | 690 V | |
| mechanical service life (switching cycles) • of the main contacts typical • of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3 rated value maximum operating frequency rated value operational current rated value | surge voltage resistance rated value | 6 kV | |
| of the main contacts typical of auxiliary contacts typical electrical endurance (switching cycles) typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature ouring operation ouring storage ouring storage ouring transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage | shock resistance according to IEC 60068-2-27 | 25g / 11 ms | |
| of auxiliary contacts typical electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature ouring operation ouring storage during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3 rated value maximum operating frequency rated value operational current outcomes 100 000 000 000 000 000 000 000 000 00 | mechanical service life (switching cycles) | | |
| electrical endurance (switching cycles) typical reference code according to IEC 81346-2 Q Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operations current rated value operational current | of the main contacts typical | 100 000 | |
| reference code according to IEC 81346-2 Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operational current 10/01/2009 | of auxiliary contacts typical | 100 000 | |
| Substance Prohibitance (Date) Ambient conditions installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum operating frequency rated value operational current rated value operational current rated value operational current rated value 10 690 V operational current rated value 50 60 Hz operational current rated value 16 A | electrical endurance (switching cycles) typical | 100 000 | |
| installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operational current rated value operational current rated value operational current rated value operational current rated value operational current 10 16 A | reference code according to IEC 81346-2 | Q | |
| installation altitude at height above sea level maximum ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value operational current rated value 10 16 A 20 690 V 690 V operating frequency rated value 50 60 Hz operational current rated value 16 A | Substance Prohibitance (Date) | 10/01/2009 | |
| ambient temperature • during operation • during storage • during transport relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • rated value maximum 690 V • at AC-3 rated value maximum 690 V operating frequency rated value operational current rated value 10 16 A | Ambient conditions | | |
| during operation during storage during transport -50 +80 °C telative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3 rated value maximum at AC-3e rated value maximum at AC-3e rated value operating frequency rated value operational current rated value operational current | installation altitude at height above sea level maximum | 2 000 m | |
| during storage during transport 50 +80 °C relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage rated value at AC-3 rated value maximum at AC-3e rated value maximum operating frequency rated value operational current rated value 16 A | ambient temperature | | |
| ◆ during transport relative humidity during operation 10 95 % Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum • operating frequency rated value operational current rated value 16 A | during operation | -20 +60 °C | |
| relative humidity during operation Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 10 16 A 10 16 A 20 690 V • at AC-3 rated value maximum 690 V operational current rated value 50 60 Hz operational current | during storage | -50 +80 °C | |
| Main circuit number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • rated value maximum • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 16 A operational current | during transport | -50 +80 °C | |
| number of poles for main current circuit adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 10 16 A 10 16 A 20 690 V 690 V 690 V 160 Hz 16 A | relative humidity during operation | 10 95 % | |
| adjustable current response value current of the current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 10 16 A 10 16 A 10 16 A | Main circuit | | |
| current-dependent overload release operating voltage • rated value • at AC-3 rated value maximum • at AC-3e rated value maximum operating frequency rated value operational current rated value 16 A operational current | number of poles for main current circuit | 3 | |
| rated value at AC-3 rated value maximum at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value operational current | | 10 16 A | |
| at AC-3 rated value maximum at AC-3e rated value maximum operating frequency rated value operational current rated value operational current | operating voltage | | |
| at AC-3e rated value maximum 690 V operating frequency rated value operational current rated value operational current 16 A | • rated value | 20 690 V | |
| operating frequency rated value 50 60 Hz operational current rated value 16 A operational current | at AC-3 rated value maximum | 690 V | |
| operational current rated value 16 A operational current | at AC-3e rated value maximum | 690 V | |
| operational current | operating frequency rated value | 50 60 Hz | |
| | operational current rated value | 16 A | |
| • at AC-3 at 400 V rated value 16 A | operational current | | |
| | at AC-3 at 400 V rated value | 16 A | |

| a at AC 2a at 400 V rated value | 16 A |
|---|------------|
| at AC-3e at 400 V rated value | 16 A |
| operating power | |
| • at AC-3 | |
| — at 230 V rated value | 4 kW |
| — at 400 V rated value | 7.5 kW |
| — at 500 V rated value | 7.5 kW |
| — at 690 V rated value | 11 kW |
| • at AC-3e | |
| — at 230 V rated value | 4 kW |
| — at 400 V rated value | 7.5 kW |
| — at 500 V rated value | 7.5 kW |
| — at 690 V rated value | 11 kW |
| operating frequency | |
| • at AC-3 maximum | 15 1/h |
| at AC-3e maximum | 15 1/h |
| Auxiliary circuit | |
| | 0 |
| number of NC contacts for auxiliary contacts | 0 |
| number of NO contacts for auxiliary contacts | 0 |
| number of CO contacts for auxiliary contacts | 0 |
| Protective and monitoring functions | |
| product function | |
| ground fault detection | No |
| phase failure detection | Yes |
| trip class | CLASS 10 |
| design of the overload release | thermal |
| breaking capacity maximum short-circuit current (Icu) | |
| at AC at 240 V rated value | 100 kA |
| at AC at 400 V rated value | 55 kA |
| at AC at 500 V rated value | 10 kA |
| at AC at 690 V rated value | 4 kA |
| breaking capacity operating short-circuit current (lcs) | |
| at AC | |
| • at 240 V rated value | 100 kA |
| at 400 V rated value | 25 kA |
| at 500 V rated value | 5 kA |
| at 690 V rated value | 2 kA |
| response value current of instantaneous short-circuit trip unit | 286 A |
| UL/CSA ratings | |
| full-load current (FLA) for 3-phase AC motor | |
| at 480 V rated value | 16 A |
| at 600 V rated value | 16 A |
| yielded mechanical performance [hp] | |
| for single-phase AC motor | |
| | 1 hn |
| — at 110/120 V rated value | 1 hp |
| — at 230 V rated value | 2 hp |
| • for 3-phase AC motor | 0.1 |
| — at 200/208 V rated value | 3 hp |
| — at 220/230 V rated value | 5 hp |
| — at 460/480 V rated value | 10 hp |
| Short-circuit protection | |
| product function short circuit protection | Yes |
| design of the short-circuit trip | magnetic |
| design of the fuse link for IT network for short-circuit protection of the main circuit | |
| ● at 400 V | gL/gG 63 A |
| ● at 500 V | gL/gG 50 A |
| • at 690 V | gL/gG 40 A |
| Installation/ mounting/ dimensions | |
| | |
| mounting position | any |

| fastening method | screw and snap-on mounting onto 35 mm standard mounting rail |
|---|--|
| hoight | according to DIN EN 60715 |
| height | 97 mm |
| width | 45 mm |
| depth | 97 mm |
| required spacing ● for grounded parts at 400 V | |
| — downwards | 30 mm |
| | |
| — upwards — at the side | 30 mm |
| for live parts at 400 V | 9 mm |
| — downwards | 20 mm |
| | 30 mm |
| — upwards | |
| — at the side | 9 mm |
| • for grounded parts at 500 V | 20 |
| — downwards | 30 mm |
| — upwards | 30 mm |
| — at the side | 9 mm |
| • for live parts at 500 V | 20 mm |
| — downwards | 30 mm |
| — upwards | 30 mm |
| — at the side | 9 mm |
| • for grounded parts at 690 V | 50 mm |
| — downwards | 50 mm |
| — upwards | 50 mm |
| — backwards | 0 mm |
| — at the side | 30 mm |
| — forwards | 0 mm |
| for live parts at 690 V | 50 |
| — downwards | 50 mm |
| — upwards | 50 mm |
| — backwards | 0 mm |
| — at the side | 30 mm |
| — forwards | 0 mm |
| Connections/ Terminals | |
| type of electrical connection | |
| for main current circuit | screw-type terminals |
| arrangement of electrical connectors for main current circuit | Top and bottom |
| type of connectable conductor cross-sections | |
| • for main contacts | |
| — solid or stranded | 2x (1 2.5 mm²), 2x (2.5 10 mm²) |
| Solid of stranded finely stranded with core end processing | 2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm² |
| at AWG cables for main contacts | 2x (1 12), 2x (14 8) |
| tightening torque | |
| for main contacts with screw-type terminals | 2 2.5 N·m |
| design of screwdriver shaft | Diameter 5 to 6 mm |
| size of the screwdriver tip | Pozidriv size 2 |
| design of the thread of the connection screw | 1 OLIGITY SIZO Z |
| for main contacts | M4 |
| Safety related data | M-1 |
| | |
| B10 value | 5,000 |
| with high demand rate according to SN 31920 proportion of dangerous failures. | 5 000 |
| proportion of dangerous failures | E0 0/ |
| with low demand rate according to SN 31920 with high demand rate according to SN 31920 | 50 % |
| with high demand rate according to SN 31920 failure rate [EIT] | 50 % |
| failure rate [FIT] | FOFIT |
| with low demand rate according to SN 31920 The value for profit act interval or continue life according to | 50 FIT |
| T1 value for proof test interval or service life according to IEC 61508 | 10 y |
| protection class IP on the front according to IEC | IP20 |

60529

touch protection on the front according to IEC 60529

display version for switching status

finger-safe, for vertical contact from the front

Handle

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



Declaration of Conformity

Test Certificates

Marine / Shipping





Type Test Certificates/Test Report Special Test Certificate





Marine / Shipping

other











Confirmation

other

Railway



Confirmation

Vibration and Shock

Further information

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

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RV2421-4AA10

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RV2421-4AA10

 ${\bf Service \& Support~(Manuals,~Certificates,~Characteristics,~FAQs,...)}$

https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4AA10

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

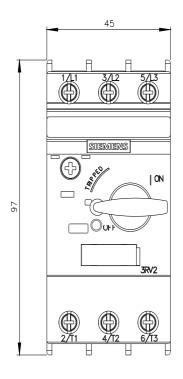
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RV2421-4AA10&lang=en

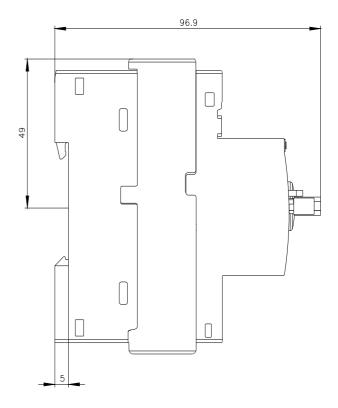
Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RV2421-4AA10/char

Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RV2421-4AA10&objecttype=14&gridview=view1





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