## SIEMENS

## Data sheet

## 3RA2120-0HA23-0AK6



Fuseless motor starter Direct start 600VAC Size S0 0.55-0.8A 110/120VAC 50/60HZ screw connection For screw mounting Or 35 mm rail-mounting Type of coordination 2 IQ = 150 KA Also full fills type Of coordination 1 1NO+1NC (contactor)

| product variantime     Sinto3       product variantime     Sinto3       product variantime     of the supplied contactor       • of the supplied contactor     Sinto3       • of the supplied link module     Sinto3       • of the supplied link module     Sinto3       • of the supplied link module     Sinto3       • supplied link module     Sinto3       • supplied link module     Sinto3       • supplied link module     Sinto4       • supplied link module </th <th>product brand name</th> <th></th>   | product brand name                               |                      |  |  |
|---|--|----------------------|--|--|
| design of the product     direct starter       manufacturer's article number     SRT2023-1AK60       • of the supplied circuit-breakers     SRV2011-0HA10       • of the supplied circuit-breakers     SRV2011-0HA10       • of the supplied circuit-breaker     S00       size of the circuit-breaker     S00       size of the circuit-breaker     S00       general technical data     General technical data       degree of pollution     3 a       surge voltage resistance rated value     6kV       degree of pollution     3       surge voltage resistance rated value     6kV       shock resistance according to IEC 60068-2-27     6g /11 ms       mechanical service life (switching cycles) of contactor     10 000 00       type of assignment     2       Ambient conditions     -20 +60 °C       ambient temperature     -50 +80 °C       • during storage     -50 +80 °C       • during transport     -55 0.8 A       circuit     3       design of the switching contact     electromechanical       adjustable current dercuit     3       eisted value     690 V       • during transport     -55 0.8 A       operating voltage     690 V       • at do V rated value     690 V       • at do V rated value     600   | •  | SIRIUS               |  |  |
| manufacturor's article number          9 aft supplied contactor         9 aft 2023-1AK60         9 aft 2023-1AK  |  |                      |  |  |
| <ul> <li>of the supplied contactor</li> <li>SRT2023-1AK60</li> <li>of the supplied ink module</li> <li>SR22011-0rA10</li> <li>SR22011-0rA110</li> <li>SR2201-0rA110</li> <li>SR2201-0rA110</li> <li>S</li></ul>  |  |                      |  |  |
| <ul> <li>of the supplied circuit-breakers</li> <li>of the supplied link module</li> <li>SRX2921-1AA00</li> <li>General technical data</li> <li>size of the circuit-breaker</li> <li>S00</li> <li>size of the circuit-breaker</li> <li>S00</li> <li>size of load feeder</li> <li>S0</li> <li>product extension auxiliary switch</li> <li>Yes</li> <li>insulation voltage with degree of pollution 3 at AC rated</li> <li>surge voltage resistance rated value</li> <li>6 kV</li> <li>shock resistance according to IEC 60068-2-27</li> <li>6g / 11 ms</li> <li>mechanical service life (switching cycles) of contactor</li> <li>typical</li> <li>type of assignment</li> <li>2</li> <li>Ambient temperature</li> <li>of uning operation</li> <li>-20 +60 °C</li> <li>of uning storage</li> <li>-50 +80 °C</li> <li>Mein circuit</li> <li>adjustable current response value current of the</li> <li>current-dependent overload release</li> <li>operating rollage</li> <li>of the switching cortact</li> <li>electromechanical</li> <li>adjustable current response value current of the</li> <li>current-dependent overload release</li> <li>operating rollage</li> <li>of at 400 V rated value</li> <li>of AA</li> <li>operating power at AC-3</li> <li>of at 500 V vated value</li> <li>at 500 V rated value</li></ul> |  | 2072022 44/20        |  |  |
| • of the supplied link module     3RA2921-1AA00       General technical data     S00       size of the circuit-breaker     S00       size of toal feeder     S0       product extension auxiliary switch     Yes       insulation voltage with degree of pollution 3 at AC rated value     890 V       degree of pollution     3       surge voltage resistance rated value     6 kV       shock resistance according to IEC 60068-2-27     6g /11 ms       mechanical service life (switching cycles) of contactor     10 000 000       typical     20       Ambient conditions     2       ambient temperature     -20 +60 °C       • during storage     -50 +80 °C       • during storage     -50 +80 °C       • during transport     -55480 °C       • during transport     -55480 °C       • during transport     -55480 °C       • during transport     -5580 °C       • during transport     -550.8 A       corrent-dependent overload release     000 V       • at devalue     690 V       • at AC-3 rated value     690 V       • at AC-3 at 400 V rated value     0.6   |  |                      |  |  |
| General technical data         size of the circuit-breaker       S00         size of load feeder       S0         product extension auxiliary switch       Yes         insulation voltage with degree of pollution 3 at AC rated value       690 V         degree of pollution       3         surge voltage resistance rated value       6 kV         shock resistance according to IEC 60068-2-27       6g / 11 ms         mechanical service life (switching cycles) of contactor       10 000 000         typical       2         Ambient conditions       -20 +60 °C         aduing storage       -50 +80 °C         • during peration       -25 +80 °C         • during transport       2         Main circuit  |  |                      |  |  |
| size of the circuit-breaker     S00       size of load feeder     S0       product extension auxiliary switch     Yes       insulation voltage with degree of pollution 3 at AC rated     980 V       value     680 V       degree of pollution     3       surge voltage resistance rated value     6 kV       shock resistance according to IEC 60068-2-27     6g / 11 ms       mechanical service life (switching cycles) of contactor     10 000 000       type of assignment     2       Ambient conditions     -20 +60 °C       • during operation     -20 +60 °C       • during transport     -55 +80 °C       Main circuit     3       number of poles for main current circuit     3       design of the switching contact     electromechanical       adjustable current response value current of the current-dependent overload release     0.55 0.8 A       operating frequency rated value     690 V       • at AC-3 rated value     600 L       operating frequency rated value     50 60 Hz       operating onw rat AC-3     180 W       • at 400 V rated value     250 W       • at 400 V rated value     250 W       • at 400 V rated value     370 W   |  | <u>3KAZ9Z1-1AAUU</u> |  |  |
| size of load feeder     S0       product extension auxiliary switch     Yes       insulation voltage with degree of pollution 3 at AC rated     690 V       degree of pollution     3       surge voltage resistance rated value     6 kV       shock resistance according to IEC 60068-2-27     6g / 11 ms       mechanical service life (switching cycles) of contactor     10 000 000       typical     2       Ambient conditions     10 000 000       ambient temperature     -20 +60 °C       • during operation     -20 +60 °C       • during storage     -55 +80 °C       Main circuit     3       number of poles for main current circuit     3       design of the switching contact     electromechanical       adjustable current response value current of the current-dependent overload release     0.55 0.8 A       operating voltage     690 V       • at AC-3 rated value     690 V       • at AC-3 rated value     50 60 Hz       operating power at AC-3     180 W       • at 400 V rated value     180 W       • at 600 V rated value     370 W   |  |                      |  |  |
| Insulation voltage with degree of pollution 3 at AC rated       690 V         value       690 V         degree of pollution       3         surge voltage resistance rated value       6 kV         shock resistance according to IEC 60068-2-27       6g / 11 ms         mechanical service life (switching cycles) of contactor       10 000 000         type of assignment       2         Ambient conditions       -20 +60 °C         ambient temperature       -50 +80 °C         • during storage       -55 +80 °C         • during transport       0.55 0.8 A         operating voltage       690 V         • at AC-3 rated value       690 V         • at AC-3 rated value maximum       690 V         • operating power at AC-3       180 W         • at 400 V rated value       180 W <td< th=""><td></td><td></td></td<>   |  |                      |  |  |
| insulation voltage with degree of pollution 3 at AC rated value       690 V         degree of pollution       3         surge voltage resistance rated value       6 kV         shock resistance according to IEC 60068-2-27       6g / 11 ms         mechanical service life (switching cycles) of contactor typical       10 000 000         type of assignment       2         Ambient conditions       -20 +60 °C         ambient temperature       -20 +60 °C         • during torage       -56 +80 °C         • during transport       -55 +80 °C         Main circuit       3         number of poles for main current circuit       3         adjustable current response value current of the current-dependent overload release       0.55 0.8 A         operating rollage       690 V         • at AC-3 rated value       50 60 Hz         operating power at AC-3       180 W         • at 400 V rated value       180 W         • at 600 V rated value       370 W   |  |                      |  |  |
| value     total       degree of pollution     3       surge voltage resistance according to IEC 60068-2-27     6g / 11 ms       mechanical service life (switching cycles) of contactor     10 000 000       type of assignment     2       Ambient conditions     -20 +60 °C       ambient temperature     -20 +60 °C       • during operation     -20 +60 °C       • during transport     -55 +80 °C       Main circuit     3       number of poles for main current circuit     3       design of the switching contact     electromechanical       adjustable current response value current of the current-dependent overload release     0.55 0.8 A       operating requency rated value     690 V       • at AC-3 rated value maximum     690 V       • operating frequency rated value     50 60 Hz       operating prover at AC-3     180 W       • at 400 V rated value     180 W       • at 600 V rated value     370 W  |  |                      |  |  |
| surge voltage resistance rated value       6 kV         shock resistance according to IEC 60068-2-27       6g / 11 ms         mechanical service life (switching cycles) of contactor       10 000 000         type of assignment       2         Ambient conditions       2         amblent temperature       -20 +60 °C         • during operation       -20 +60 °C         • during storage       -55 +80 °C         • during transport       -55 +80 °C         Main circuit       3         number of poles for main current circuit       3         design of the switching contact       electromechanical         operating voltage       690 V         • at AC-3 rated value       690 V         • at AC-3 rated value       50 60 Hz         operating frequency rated value       50 60 Hz         operating power at AC-3       400 V rated value         • at 400 V rated value       180 W         • at 400 V rated value       250 W         • at 600 V rated value       370 W  |  |                      |  |  |
| shock resistance according to IEC 60068-2-27       6g / 11 ms         mechanical service life (switching cycles) of contactor       10 000 000         type of assignment       2         Ambient conditions       3         ambient temperature       -50 +60 °C         • during operation       -55 +80 °C         Main circuit       3         number of poles for main current circuit       3         design of the switching contact       electromechanical         adjustable current response value current of the current-dependent overload release       0.55 0.8 A         operating frequency rated value       690 V         • at AC-3 rated value       50 60 Hz         operating power at AC-3       4400 V rated value         • at 400 V rated value       180 W         • at 400 V rated value       370 W         Control circuit/ Control       370 W   | degree of pollution                              |                      |  |  |
| mechanical service life (switching cycles) of contactor<br>typical       10 000 000         type of assignment       2         Ambient conditions       ambient temperature <ul> <li>during operation</li> <li>-20 +60 °C</li> <li>during storage</li> <li>-50 +80 °C</li> </ul> aduing transport       -55 +80 °C         Main circuit       3         number of poles for main current circuit       3         design of the switching contact       electromechanical         oljustable current response value current of the current-dependent overload release       0.55 0.8 A         operating voltage       690 V         • at AC-3 rated value maximum       690 V         operating frequency rated value       50 60 Hz         operating power at AC-3       400 V rated value         • at 400 V rated value       180 W         • at 400 V rated value       250 W         • at 400 V rated value       370 W         Control circuit/ Control       570 W  |  | 6 kV                 |  |  |
| typical     2       Ambient conditions     ambient temperature       • during operation     -20 +60 °C       • during storage     -50 +80 °C       • during transport     -55 +80 °C       Main circuit     3       number of poles for main current circuit     3       design of the switching contact     electromechanical       adjustable current response value current of the current-dependent overload release     0.55 0.8 A       operating voltage     690 V       • at AC-3 rated value maximum     690 V       • at 400 V rated value     50 60 Hz       operating power at AC-3     180 W       • at 400 V rated value     180 W       • at 690 V rated value     370 W   | shock resistance according to IEC 60068-2-27     | 6g / 11 ms           |  |  |
| Ambient conditions         ambient temperature         • during operation         • during storage         • during storage         • during transport         -50 +80 °C         Main circuit         number of poles for main current circuit         3         design of the switching contact         adjustable current response value current of the current-dependent overload release         operating voltage         • at AC-3 rated value         operating frequency rated value         operating power at AC-3         • at 400 V rated value         • at 400 V rated value         • at 400 V rated value         • at 690 V rated value         • at 690 V rated value         • at 690 V rated value         • at 400 V rated value         • at 690 V rated value  |  | 10 000 000           |  |  |
| ambient temperature       -20 +60 °C         • during storage       -50 +80 °C         • during transport       -55 +80 °C         Main circuit       3         number of poles for main current circuit       3         design of the switching contact       electromechanical         adjustable current response value current of the current-dependent overload release       0.55 0.8 A         operating voltage       690 V         • at AC-3 rated value       690 V         • operating frequency rated value       50 60 Hz         operating power at AC-3       0.6 A         operating power at AC-3       180 W         • at 400 V rated value       250 W         • at 690 V rated value       30 W         • at 690 V rated value       30 W         • at 400 V rated value       30 W         • at 400 V rated value       30 W         • at 690 V rated value       30 W   | type of assignment                               | 2                    |  |  |
| • during operation-20 +60 °C• during storage-50 +80 °C• during transport-55 +80 °CMain circuit3number of poles for main current circuit3design of the switching contactelectromechanicaladjustable current response value current of the<br>current-dependent overload release0.55 0.8 Aoperating voltage690 V• rated value690 V• at AC-3 rated value maximum690 Voperating frequency rated value50 60 Hzoperating power at AC-3180 W• at 400 V rated value180 W• at 690 V rated value370 WControl circuit/ Control   | Ambient conditions                               |                      |  |  |
| • during storage       -50 +80 °C         • during transport       -55 +80 °C         Main circuit       3         number of poles for main current circuit       3         design of the switching contact       electromechanical         adjustable current response value current of the current-dependent overload release       0.55 0.8 A         operating voltage       690 V         • rated value       690 V         • at AC-3 rated value maximum       690 V         operating frequency rated value       50 60 Hz         operating power at AC-3       180 W         • at 400 V rated value       250 W         • at 690 V rated value       370 W   | ambient temperature                              |                      |  |  |
| • during transport       -55 +80 °C         Main circuit       3         number of poles for main current circuit       3         design of the switching contact       electromechanical         adjustable current response value current of the current-dependent overload release       0.55 0.8 A         operating voltage       690 V         • rated value       690 V         • at AC-3 rated value maximum       690 V         operating frequency rated value       50 60 Hz         operating power at AC-3       60 Hz         operating power at AC-3       180 W         • at 500 V rated value       250 W         • at 690 V rated value       370 W   | <ul> <li>during operation</li> </ul>             | -20 +60 °C           |  |  |
| Main circuit       3         number of poles for main current circuit       3         design of the switching contact       electromechanical         adjustable current response value current of the current-dependent overload release       0.55 0.8 A         operating voltage       690 V         • rated value       690 V         • at AC-3 rated value maximum       690 V         operating frequency rated value       50 60 Hz         operating power at AC-3       0.6 A         operating power at AC-3       180 W         • at 400 V rated value       250 W         • at 690 V rated value       370 W   | <ul> <li>during storage</li> </ul>               | -50 +80 °C           |  |  |
| number of poles for main current circuit3design of the switching contactelectromechanicaladjustable current response value current of the<br>current-dependent overload release0.55 0.8 Aoperating voltage690 V• rated value690 V• at AC-3 rated value maximum690 Voperating frequency rated value50 60 Hzoperating power at AC-3 at 400 V rated value0.6 Aoperating power at AC-3180 W• at 500 V rated value370 WControl circuit/ Control100 V   | <ul> <li>during transport</li> </ul>             | -55 +80 °C           |  |  |
| design of the switching contactelectromechanicaladjustable current response value current of the<br>current-dependent overload release0.55 0.8 Aoperating voltage690 V• rated value690 V• at AC-3 rated value maximum690 Voperating frequency rated value50 60 Hzoperating power at AC-3 at 400 V rated value0.6 Aoperating power at AC-3180 W• at 400 V rated value250 W• at 690 V rated value370 WControl circuit/ Control  | Main circuit                                     |                      |  |  |
| adjustable current response value current of the<br>current-dependent overload release0.55 0.8 Aoperating voltage<br>• rated value690 V• at AC-3 rated value maximum690 Voperating frequency rated value50 60 Hzoperating power at AC-3<br>• at 400 V rated value0.6 Aoperating power at AC-3<br>• at 400 V rated value180 W• at 500 V rated value250 W• at 690 V rated value370 WControl circuit/ Control  | number of poles for main current circuit         | 3                    |  |  |
| current-dependent overload releaseoperating voltage• rated value690 V• at AC-3 rated value maximum690 Voperating frequency rated value50 60 Hzoperational current at AC-3 at 400 V rated value0.6 Aoperating power at AC-3180 W• at 400 V rated value250 W• at 690 V rated value370 WControl circuit/ Control   | design of the switching contact                  | electromechanical    |  |  |
| • rated value690 V• at AC-3 rated value maximum690 Voperating frequency rated value50 60 Hzoperational current at AC-3 at 400 V rated value0.6 Aoperating power at AC-3180 W• at 400 V rated value250 W• at 500 V rated value370 WControl circuit/ Control  | , ,  | 0.55 0.8 A           |  |  |
| • at AC-3 rated value maximum       690 V         operating frequency rated value       50 60 Hz         operational current at AC-3 at 400 V rated value       0.6 A         operating power at AC-3       0.6 A         • at 400 V rated value       180 W         • at 500 V rated value       250 W         • at 690 V rated value       370 W  | operating voltage                                |                      |  |  |
| operating frequency rated value50 60 Hzoperational current at AC-3 at 400 V rated value0.6 Aoperating power at AC-3180 W• at 400 V rated value180 W• at 500 V rated value250 W• at 690 V rated value370 WControl circuit/ Control   | <ul> <li>rated value</li> </ul>                  | 690 V                |  |  |
| operational current at AC-3 at 400 V rated value     0.6 A       operating power at AC-3  | <ul> <li>at AC-3 rated value maximum</li> </ul>  | 690 V                |  |  |
| operating power at AC-3     180 W       • at 400 V rated value     180 W       • at 500 V rated value     250 W       • at 690 V rated value     370 W  | operating frequency rated value                  | 50 60 Hz             |  |  |
| at 400 V rated value     at 500 V rated value     at 690 V rated value     370 W Control circuit/ Control   | operational current at AC-3 at 400 V rated value | 0.6 A                |  |  |
| at 500 V rated value 250 W     at 690 V rated value 370 W Control circuit/ Control  | operating power at AC-3                          |                      |  |  |
| at 690 V rated value 370 W Control circuit/ Control   | • at 400 V rated value                           | 180 W                |  |  |
| Control circuit/ Control  |  | 250 W                |  |  |
|   | <ul> <li>at 500 V rated value</li> </ul>         |                      |  |  |
| control supply voltage at AC  |  | 370 W                |  |  |
|   | • at 690 V rated value                           | 370 W                |  |  |

|  |                | 4401  | 1                            |                    |  |
|--|----------------|---|------------------------------|--------------------|--|
| • at 50 Hz rated value   |                | 110 \   |                              |                    |  |
| • at 50 Hz rated value   |                | 88 121 V  |                              |                    |  |
| • at 60 Hz rated value   |                | 120 V   |                              |                    |  |
| at 60 Hz rated value   |                | 96 132 V  |                              |                    |  |
| apparent holding power of magnet coil at A   |                | 7.2 V   | A                            |                    |  |
| inductive power factor with the holding po<br>coil                                       | wer of the     | 0.28  |                              |                    |  |
| Auxiliary circuit  |                |   |                              |                    |  |
| number of NC contacts for auxiliary conta  | cts            | 1   |                              |                    |  |
| number of NO contacts for auxiliary conta  | cts            | 1   |                              |                    |  |
| Protective and monitoring functions  |                |   |                              |                    |  |
| trip class   |                | CLAS  | S 10                         |                    |  |
| design of the overload release   |                | therm   | al (bimetallic)              |                    |  |
| response value current of instantaneous shor<br>unit                                     | t-circuit trip | 10.4  | 4                            |                    |  |
| Short-circuit protection   |                |   |                              |                    |  |
| product function short circuit protection  |                | Yes   |                              |                    |  |
| design of the short-circuit trip   |                | magn  | etic                         |                    |  |
| conditional short-circuit current (Iq)   |                |   |                              |                    |  |
| • at 400 V according to IEC 60947-4-1 ra   | ted value      | 153 0   | 00 A                         |                    |  |
| Installation/ mounting/ dimensions   |                |   |                              |                    |  |
| mounting position  |                | vertic  | al                           |                    |  |
| fastening method   |                | Snap-mounted to DIN rail or screw-mounted with additional push-in lug |                              |                    |  |
| height   |                | 193.1 mm  |                              |                    |  |
| width  |                | 45 mi   | n                            |                    |  |
| depth  |                | 97.1 ı  | nm                           |                    |  |
| required spacing   |                |   |                              |                    |  |
| <ul> <li>for grounded parts</li> </ul>   |                |   |                              |                    |  |
| — forwards   |                | 10 m  | n                            |                    |  |
| — backwards  |                | 0 mm  |                              |                    |  |
| — upwards  |                | 30 mi   | n                            |                    |  |
| — at the side  |                | 9 mm  |                              |                    |  |
| — downwards  |                | 10 m  | n                            |                    |  |
| <ul> <li>for live parts</li> </ul>   |                |   |                              |                    |  |
| — forwards   |                | 10 mi   | 10 mm                        |                    |  |
| — backwards  |                | 0 mm  |                              |                    |  |
| — upwards  |                | 30 mm   |                              |                    |  |
| — downwards  |                | 10 mm   |                              |                    |  |
| — at the side  |                | 9 mm  |                              |                    |  |
| Connections/ Terminals   |                |   |                              |                    |  |
| type of electrical connection for main current circuit                                   |                | screw   | screw-type terminals         |                    |  |
| type of connectable conductor cross-sect   | ons            |   |                              |                    |  |
| <ul> <li>for main contacts stranded</li> </ul>   |                | 1 1   | 0 mm², 2x (2.5 6 mm          | n²)                |  |
| at AWG cables for main contacts  |                | 2x (1   | 2x (16 12), 2x (14 8)        |                    |  |
| connectable conductor cross-section for main<br>finely stranded with core end processing |                |   |                              |                    |  |
| Safety related data  |                |   |                              |                    |  |
| B10 value with high demand rate according to SN 31920                                    |                | 1 000   | 1 000 000                    |                    |  |
| proportion of dangerous failures with high demand rate according to SN 31920             |                | 73 %  |                              |                    |  |
| protection class IP on the front according<br>60529                                      |                | IP20  |                              |                    |  |
| touch protection on the front according to   | IEC 60529      | finger  | -safe, for vertical conta    | act from the front |  |
| Certificates/ approvals  |                |   |                              |                    |  |
| General Product Approval   | For use in ha  |   | Declaration of<br>Conformity | other              |  |
|  |                |   |                              |                    |  |









**Confirmation** 

## **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=3RA2120-0HA23-0AK6

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2120-0HA23-0AK6

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

https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-0HA23-0AK6

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RA2120-0HA23-0AK6&lang=en

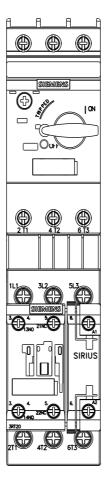
nitp://www.automation.siemens.com/bildub/cax\_de.aspx?milb=3RA2120-0HA2

Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RA2120-0HA23-0AK6/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2120-0HA23-0AK6&objecttype=14&gridview=view1



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