## **SIEMENS**

## Data sheet

## 3VA2163-6JQ42-0AA0



CIRCUIT BREAKER 3VA2 IEC FRAME 160 BREAKING CAPACITY CLASS H ICU=85KA @ 415 V 4POLE, LINE PROTECTION ETU560, LSIG, IN=63A OVERLOAD PROTECTION IR=25A ...63A SHORT CIRCUIT PROTECTION ISD=0,6..10X IN, II=1,5..12X IN NEUTRAL PROTECTION ADJUSTABLE (OFF, UPTO 160%) GROUNDFAULT, SWITCHABLE IG=0,2... 1 X IN, TG=0,050,8MS BUSBAR CONNECTION

| Model                                                                                          |   |                                             |
|------------------------------------------------------------------------------------------------|---|---------------------------------------------|
| product brand name                                                                             |   | SENTRON                                     |
| Product designation                                                                            |   | Molded case circuit breaker                 |
| Design of the product                                                                          |   | Line protection                             |
| Product variations                                                                             |   | Selective Applications                      |
| Ground fault monitoring version                                                                |   | Summation current formation L + N conductor |
| Design of the auxiliary release                                                                |   | without auxiliaryrelease                    |
| Design of the auxiliary switch                                                                 |   | Without                                     |
| Design of the operating mechanism                                                              |   | toggle handle                               |
| Type of the driving mechanism / motor drive                                                    |   | No                                          |
| Design of the overcurrent release                                                              |   | ETU560                                      |
| General technical data                                                                         |   |                                             |
| Number of poles                                                                                |   | 4                                           |
| Trip class / of the L-trip / with I2t characteristic / initial value                           |   | 0.5                                         |
| Trip class / of the L-trip / with I2t characteristic / Full-<br>scale value                    |   | 25                                          |
| Electrical endurance (switching cycles)                                                        |   |                                             |
| • at AC-1 / at 380/415 V / at 50/60 Hz                                                         |   | 12 000                                      |
| Total disconnection time / for G-tripping / with<br>standard characteristic / initial value    | S | 0.05                                        |
| Total disconnection time / for G-tripping / with<br>standard characteristic / Full-scale value | S | 0.8                                         |
| circuit-breaker / Design                                                                       |   | 3VA                                         |
| Mechanical service life (switching cycles) / typical                                           |   | 20 000                                      |

| Voltage       V       800         Protection class       Protection class IP       IP40         Protection class IP / on the front       IP40         Protective function of the overcurrent release       LSIG         Switching capacity       Switching capacity class of the circuit breaker       H         Dissipation       Active power loss <ul> <li>maximum</li> <li>W</li> <li>4</li> </ul> Electricity       Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       63         Main circuit       Operating voltage       v       690         Operating current       V       690 |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Protection class IP       IP40         Protection class IP / on the front       IP40         Protective function of the overcurrent release       LSIG         Switching capacity       Switching capacity class of the circuit breaker       H         Dissipation       Active power loss <ul> <li>maximum</li> <li>W</li> <li>4</li> </ul> Electricity           Continuous current / Rated value / maximum         A         160           Continuous current / Rated value         A         63           Adjustable response value current / of the instantaneous short-circuit release / initial value         A         1.5           Main circuit         Operating voltage         V         690                                                                                                                                                                                                                                           |  |
| Protection class IP       IP40         Protection class IP / on the front       IP40         Protective function of the overcurrent release       LSIG         Switching capacity       Switching capacity class of the circuit breaker       H         Dissipation       Active power loss <ul> <li>maximum</li> <li>W</li> <li>4</li> </ul> Electricity           Continuous current / Rated value / maximum         A         160           Continuous current / Rated value         A         63           Adjustable response value current / of the instantaneous short-circuit release / initial value         A         1.5           Main circuit         Operating voltage         V         690                                                                                                                                                                                                                                           |  |
| Protection class IP / on the front       IP40         Protective function of the overcurrent release       LSIG         Switching capacity       H         Switching capacity class of the circuit breaker       H         Dissipation       K         Active power loss       • maximum         • maximum       W         4       Electricity         Continuous current / Rated value / maximum       A         Adjustable response value current / of the instantaneous short-circuit release / initial value       A         Main circuit       V         Operating voltage       V         • with AC / at 50/60 Hz / Rated value       V                                                                                                                                                                                                                                                                                                        |  |
| Protective function of the overcurrent release       LSIG         Switching capacity       H         Switching capacity class of the circuit breaker       H         Dissipation       *         Active power loss       *         • maximum       W         Electricity       *         Continuous current / Rated value / maximum       A         Adjustable response value current / of the instantaneous short-circuit release / initial value       A         Main circuit       *         Operating voltage       *         • with AC / at 50/60 Hz / Rated value       V                                                                                                                                                                                                                                                                                                                                                                      |  |
| Switching capacity       H         Switching capacity class of the circuit breaker       H         Dissipation       Active power loss         • maximum       W       4         Electricity       Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       1.5         Main circuit       Operating voltage       V       690                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Switching capacity class of the circuit breaker       H         Dissipation       Active power loss <ul> <li>maximum</li> <li>W</li> <li>4</li> </ul> Electricity             Continuous current / Rated value / maximum         A         160           Continuous current / Rated value         A         63           Adjustable response value current / of the instantaneous short-circuit release / initial value         A         1.5           Main circuit         Operating voltage <ul> <li>with AC / at 50/60 Hz / Rated value</li> <li>V</li> <li>690</li> </ul>                                                                                                                                                                                                                                                                                                                                                                       |  |
| Dissipation         Active power loss       W       4         • maximum       W       4         Electricity       A       160         Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       1.5         Main circuit       V       690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Active power loss       W       4         • maximum       W       4         Electricity       A       160         Continuous current / Rated value / maximum       A       63         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       1.5         Main circuit       Operating voltage       V       690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| • maximumW4ElectricityContinuous current / Rated value / maximumA160Continuous current / Rated valueA63Adjustable response value current / of the<br>instantaneous short-circuit release / initial valueA1.5Main circuitOperating voltage<br>• with AC / at 50/60 Hz / Rated valueV690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
| Electricity       Continuous current / Rated value / maximum     A     160       Continuous current / Rated value     A     63       Adjustable response value current / of the instantaneous short-circuit release / initial value     A     1.5       Main circuit       Operating voltage     V     690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       1.5         Main circuit       Operating voltage <ul> <li>with AC / at 50/60 Hz / Rated value</li> <li>V</li> <li>690</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Continuous current / Rated value / maximum       A       160         Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       1.5         Main circuit       Operating voltage <ul> <li>with AC / at 50/60 Hz / Rated value</li> <li>V</li> <li>690</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Continuous current / Rated value       A       63         Adjustable response value current / of the instantaneous short-circuit release / initial value       A       1.5         Main circuit       Operating voltage <ul> <li>with AC / at 50/60 Hz / Rated value</li> <li>V</li> <li>690</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| instantaneous short-circuit release / initial value          Main circuit         Operating voltage       V       690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| instantaneous short-circuit release / initial value          Main circuit         Operating voltage       V       690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Operating voltage     V     690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Operating voltage     V     690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| • with AC / at 50/60 Hz / Rated value V 690                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| • at 40 °C / Rated value A 63                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| • at 50 °C / Rated value A 63                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| • at 60 °C / Rated value A 63                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| • at 65 °C / Rated value $A$ 63                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| • at 70 °C / Rated value A 63                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| Auxiliary circuit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| Number of NC contacts / for auxiliary contacts     0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
| Number of NO contacts / for auxiliary contacts 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Suitability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| Suitability for use system protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Adjustable parameters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| Adjustable response value current                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| • for G-tripping / with I2t characteristic / initial A 0.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
| value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |
| for G-tripping / with I2t characteristic / Full-scale A 1 value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| • for G-tripping / with standard characteristic / A 0.25<br>initial value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
| • for G-tripping / with standard characteristic / A 1<br>Full-scale value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |

| <ul> <li>of I-trip / Full-scale value</li> </ul>                                                                  | А | 12   |
|-------------------------------------------------------------------------------------------------------------------|---|------|
| <ul> <li>of the short-time delayed short-circuit release /<br/>initial value</li> </ul>                           | A | 0.6  |
| <ul> <li>of the short-time delayed short-circuit release /<br/>Full-scale value</li> </ul>                        | A | 10   |
| <ul> <li>of S-trip / with standard characteristic / initial value</li> </ul>                                      | A | 0.6  |
| <ul> <li>of S-trip / with standard characteristic / Full-<br/>scale value</li> </ul>                              | A | 10   |
| Adjustable delay time                                                                                             | _ |      |
| <ul> <li>for G-tripping / with I2t characteristic / initial value</li> </ul>                                      | S | 0.05 |
| <ul> <li>for G-tripping / with I2t characteristic / Full-scale value</li> </ul>                                   | S | 0.8  |
| <ul> <li>of S-trip / with I2t characteristic / initial value</li> </ul>                                           | s | 0.05 |
| <ul> <li>of S-trip / with I2t characteristic / Full-scale value</li> </ul>                                        | S | 0.5  |
| <ul> <li>of S-trip / with standard characteristic / initial value</li> </ul>                                      | S | 0.05 |
| <ul> <li>of S-trip / with standard characteristic / Full-<br/>scale value</li> </ul>                              | S | 0.5  |
| Adjustable response value current / of the current-                                                               | А | 0.4  |
| dependent overload release / initial value                                                                        |   |      |
| Product details                                                                                                   |   |      |
| Product component                                                                                                 |   |      |
| Trip indicator                                                                                                    |   | No   |
| • display                                                                                                         |   | Yes  |
| • undervoltage release                                                                                            |   | No   |
| Product property                                                                                                  |   |      |
| <ul> <li>of the circuit breaker with tripping unit / Tripping<br/>characteristic adjustable</li> </ul>            |   | Yes  |
| <ul> <li>for neutral conductors /<br/>upgradeable/retrofittable / Short-circuit and<br/>overload proof</li> </ul> |   | No   |
| Product expansion / optional / motor drive                                                                        |   | Yes  |
| Product function                                                                                                  |   |      |
| Product function                                                                                                  |   |      |
| <ul> <li>Intrinsic device protection</li> </ul>                                                                   |   | Yes  |
| communication function                                                                                            |   | Yes  |
| Phase failure detection                                                                                           |   | No   |
|                                                                                                                   |   |      |

• other measurement function

Accessories

No

Manufacturer article number / of the supplied basic switch

| Short circuit                                         |    |      |
|-------------------------------------------------------|----|------|
| Operational short-circuit current breaking capacity   |    |      |
| (Ics)                                                 |    |      |
| • at 240 V / Rated value                              | kA | 110  |
| • at 415 V / Rated value                              | kA | 85   |
| • at 440 V / Rated value                              | kA | 85   |
| • at 500 V / Rated value                              | kA | 55   |
| • at 690 V / Rated value                              | kA | 2.5  |
| Maximum short-circuit current breaking capacity (Icu) |    |      |
| • at 240 V / Rated value                              | kA | 110  |
| • at 415 V / Rated value                              | kA | 85   |
| • at 440 V / Rated value                              | kA | 85   |
| • at 500 V / Rated value                              | kA | 55   |
| • at 690 V / Rated value                              | kA | 2.5  |
| Short-circuit current making capacity (Icm)           |    |      |
| • at 240 V / Rated value                              | kA | 242  |
| • at 415 V / Rated value                              | kA | 187  |
| • at 440 V / Rated value                              | kA | 187  |
| • at 500 V / Rated value                              | kA | 121  |
| • at 690 V / Rated value                              | kA | 3.75 |
|                                                       |    |      |

| Connections                                                    |                |
|----------------------------------------------------------------|----------------|
| Arrangement of electrical connectors / for main                | Front terminal |
| current circuit                                                |                |
| Type of connectable conductor cross-section                    |                |
| <ul> <li>for flat-bar terminal connection / minimum</li> </ul> | 13 x 1 mm      |
| <ul> <li>for flat-bar terminal connection / maximum</li> </ul> | 25 x 8.5       |
| Type of electrical connection / for main current circuit       | Lug terminal   |

| Mechanical Design |    |                |
|-------------------|----|----------------|
| Height            | mm | 181            |
| Width             | mm | 140            |
| Depth             | mm | 107            |
| Mounting type     |    | fixed mounting |

| Environmental conditions                       |    |     |  |
|------------------------------------------------|----|-----|--|
| Ambient temperature                            |    |     |  |
| <ul> <li>during operation / minimum</li> </ul> | °C | -25 |  |
| <ul> <li>during operation / maximum</li> </ul> | °C | 70  |  |
| <ul> <li>during storage / minimum</li> </ul>   | °C | -40 |  |
| <ul> <li>during storage / maximum</li> </ul>   | °C | 80  |  |

| Certificates  |               |     |    |       |                |          |
|---------------|---------------|-----|----|-------|----------------|----------|
| Equipment mar | king          |     |    |       |                |          |
| • acc. to DI  | N EN 61346-2  |     |    | Q     |                |          |
| • acc. to DI  | N EN 81346-2  |     |    | Q     |                |          |
| General Pro   | duct Approval |     | EM | С     | Declaration of | Shipping |
|               |               |     |    |       | Conformity     | Approval |
| (m)           | DE            | 103 |    | other | CE             | ĴÅ       |

| Shipping | other |
|----------|-------|
| Approval |       |
|          | other |
| GL       |       |

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## Further information

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

Industry Mall (Online ordering system)

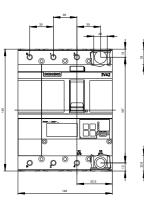
https://eb.automation.siemens.com/mall/en/WW/Catalog/Product/3VA21636JQ420AA0

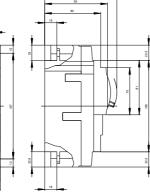
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA21636JQ420AA0/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA21636JQ420AA0

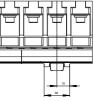
CAx-Online-Generator http://www.siemens.com/cax

Tender specifications http://ausschreibungstexte.siemens.com/tiplv

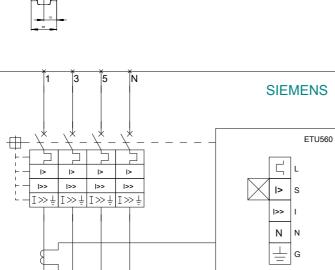


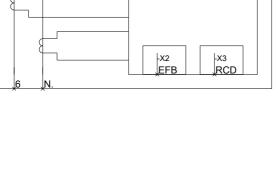


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