# **SIEMENS**

## Data sheet

# 3VA1163-6EE42-0AA0



CIRCUIT BREAKER 3VA1 IEC FRAME 160 BREAKING CAPACITY CLASS H ICU=70KA @ 415 V 4-POLE, LINE PROTECTION TM220, ATFM, IN=63A OVERLOAD PROTECTION IR=44,1A ...63A SHORT CIRCUIT PROTECTION II=10 X IN NEUTRAL UNPROTECTED BUSBAR CONNECTION

Figure similar

| Model                                       |                             |  |  |
|---|-----------------------------|--|--|
| product brand name                          | SENTRON                     |  |  |
| Product designation                         | Molded case circuit breaker |  |  |
| Design of the product                       | Line protection             |  |  |
| Product variations                          | General Applications        |  |  |
| Ground fault monitoring version             | Without                     |  |  |
| Design of the auxiliary release             | Without auxiliary release   |  |  |
| 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           | TM220                       |  |  |

| General technical data  |  |        |  |
|---|--|--------|--|
| Number of poles   |  | 4      |  |
| Trip class / of the L-trip / with I2t characteristic / initial value    |  | 1      |  |
| Trip class / of the L-trip / with I2t characteristic / Full-scale value |  | 1      |  |
| Electrical endurance (switching cycles)                                 |  |        |  |
| • at AC-1 / at 380/415 V / at 50/60 Hz                                  |  | 8 000  |  |
| circuit-breaker / Design  |  | 3VA    |  |
| Mechanical service life (switching cycles) / typical                    |  | 15 000 |  |

| Voltage                          |   |     |
|----------------------------------|---|-----|
| Insulation voltage / Rated value | V | 800 |
|                                  |   |     |

#### Protection class

| Protective function of the overcurrent release  LI  Switching capacity Switching capacity class of the circuit breaker  H  Dissipation  Active power loss  • maximum  W  17.3  Electricity  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value / maximum  • of the current-dependent overload release / Full-scale value  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  • of the Cr / Rated value  • of oo  Operating current  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 65 °C / Rated value  • at 60 °C / Rated value  • at  | Protection class IP                             |   | IP40              |
|--|---|---|-------------------|
| Switching capacity  Switching capacity class of the circuit breaker  Pissipation  Active power loss  • maximum  W 17.3  Electricity  Continuous current / Rated value / maximum  A 160  Continuous current / Rated value  • of the current-dependent overload release / Full-scale value  • of the instantaneous short-circuit release / initial value  • of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage  • with AC / at 50/60 Hz / Rated value  • of DC / Rated value  • at 40 °C / Rated value  • at 55 °C / Rated value  • at 63 °C / Rated value  • at 60 °C / Rated value  • at 60 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 60 °C  | Protection class IP / on the front              |   | IP40              |
| Switching capacity class of the circuit breaker    Dissipation   Active power loss   • maximum   W   17.3  | Protective function of the overcurrent release  |   | и                 |
| Switching capacity class of the circuit breaker    Dissipation   Active power loss   • maximum   W   17.3  | Switching capacity                              |   |                   |
| Active power loss  • maximum    Maximum   Maxi |   |   | Н                 |
| Active power loss  • maximum  Electricity  Continuous current / Rated value / maximum  | Dissipation                                     |   |                   |
| Continuous current / Rated value / maximum   | Active power loss                               |   |                   |
| Continuous current / Rated value / maximum   | • maximum                                       | W | 17.3              |
| Continuous current / Rated value  Adjustable response value current  of the current-dependent overload release / Full-scale value  of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage  with AC / at 50/60 Hz / Rated value  of or DC / Rated value  V 690  Operating current  of at 40 °C / Rated value  A 63  of at 55 °C / Rated value  A 63  of at 55 °C / Rated value  A 61  of at 60 °C / Rated value  A 60  of at 70 °C / Rated value  A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Operating current  Adjustable parameters  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  A 10  | Electricity                                     |   |                   |
| Adjustable response value current  • of the current-dependent overload release / Full-scale value  • of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage  • with AC / at 50/60 Hz / Rated value  • for DC / Rated value  Operating current  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 55 °C / Rated value  • at 60 °C / Rated value  • at 70 °C / Rated value  •  | Continuous current / Rated value / maximum      | А | 160               |
| of the current-dependent overload release / Full-scale value     of the instantaneous short-circuit release / initial value  Main circuit  Operating voltage     with AC / at 50/60 Hz / Rated value     of or DC / Rated value     vertice of CP (Rated value)  Operating current     at 40 °C / Rated value     at 50 °C / Rated value     at 50 °C / Rated value     at 50 °C / Rated value     at 60 °C / Rated value     at 70 °C / Rated value     A follustability  Suitability  Suitability for use  System protection  Adjustable parameters  Adjustable response value current     of I-trip / Full-scale value      | Continuous current / Rated value                | Α | 63                |
| Full-scale value  • of the instantaneous short-circuit release / initial value   Main circuit  Operating voltage  • with AC / at 50/60 Hz / Rated value  • for DC / Rated value  Operating current  • at 40 °C / Rated value  A 63  • at 55 °C / Rated value  A 63  • at 55 °C / Rated value  A 61  • at 60 °C / Rated value  A 60  • at 70 °C / Rated value  A 60  • at 70 °C / Rated value  A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitable parameters  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  A 0  | Adjustable response value current               |   |                   |
| Main circuit           Operating voltage           • with AC / at 50/60 Hz / Rated value         V         690           • for DC / Rated value         V         600           Operating current           • at 40 °C / Rated value         A         63           • at 50 °C / Rated value         A         62           • at 60 °C / Rated value         A         61           • at 65 °C / Rated value         A         60           • at 70 °C / Rated value         A         58           Auxiliary circuit           Number of CO contacts / for auxiliary contacts         0           Suitability           Suitability for use         system protection           Adjustable parameters         Adjustable response value current         • of I-trip / Full-scale value         A         10           • for N-conductor protection / initial value         A         0  |   | Α | 1                 |
| Operating voltage  • with AC / at 50/60 Hz / Rated value  • for DC / Rated value  V 600  Operating current  • at 40 °C / Rated value  A 63  • at 50 °C / Rated value  A 63  • at 55 °C / Rated value  A 62  • at 60 °C / Rated value  A 61  • at 65 °C / Rated value  A 60  • at 70 °C / Rated value  A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  A 60  A 10  • of one of the formula  |   | Α | 10                |
| with AC / at 50/60 Hz / Rated value     v 690     for DC / Rated value     V 600  Operating current     at 40 °C / Rated value     A 63     at 50 °C / Rated value     A 63     at 55 °C / Rated value     A 62     at 60 °C / Rated value     A 61     at 65 °C / Rated value     A 60     at 65 °C / Rated value     A 60     at 70 °C / Rated value     A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitabile parameters  Adjustable parameters  Adjustable response value current     of I-trip / Full-scale value     for N-conductor protection / initial value     A 0  | Main circuit                                    |   |                   |
| for DC / Rated value         V 600  Operating current         • at 40 °C / Rated value         • at 50 °C / Rated value         • at 55 °C / Rated value         • at 60 °C / Rated value         • at 60 °C / Rated value         • at 65 °C / Rated value         • at 65 °C / Rated value         • at 70 °C / Rated value         • at 70 °C / Rated value         • A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current         • of I-trip / Full-scale value         • for N-conductor protection / initial value  • for N-conductor protection / initial value  A 63  A 63  A 62  A 61  A 60  B 58  A 10  B 58  Auxiliary circuit  A 10  B 60  B 70       | Operating voltage                               |   |                   |
| Operating current  • at 40 °C / Rated value  • at 50 °C / Rated value  • at 55 °C / Rated value  • at 60 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 65 °C / Rated value  • at 70 °C / Rated value  A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  O  Suitability  Suitability  Suitabile parameters  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  A 63  A 63  A 62  A 61  A 60  A 58   A 10  • for N-conductor protection / initial value  A 0  | • with AC / at 50/60 Hz / Rated value           | V | 690               |
| at 40 °C / Rated value  at 50 °C / Rated value  at 55 °C / Rated value  at 60 °C / Rated value  at 65 °C / Rated value  at 70 °C / Rated value  At 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability  Suitabile parameters  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  for N-conductor protection / initial value  A 63  A 63  A 62  A 61  A 58   Adjustable value  A 58  Adjustable parameters  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  A 10  of ron N-conductor protection / initial value  A 0   | • for DC / Rated value                          | V | 600               |
| at 50 °C / Rated value  at 55 °C / Rated value  at 60 °C / Rated value  at 60 °C / Rated value  at 65 °C / Rated value  at 70 °C / Rated value  A 60  at 70 °C / Rated value  A 58   Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability  Suitabile parameters  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  for N-conductor protection / initial value  A 62  A 61  A 60  A 58   | Operating current                               |   |                   |
| at 55 °C / Rated value at 60 °C / Rated value at 65 °C / Rated value at 65 °C / Rated value A 60 at 70 °C / Rated value A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability Suitability for use  Adjustable parameters  Adjustable response value current of I-trip / Full-scale value for N-conductor protection / initial value  A 60 A 58  A 10 A 10 A 10 A 0  | • at 40 °C / Rated value                        | Α | 63                |
| at 60 °C / Rated value  at 65 °C / Rated value  at 70 °C / Rated value  A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  for N-conductor protection / initial value  A 60  A 58  A 10  of or N-conductor protection / initial value  A 0   | • at 50 °C / Rated value                        | Α | 63                |
| at 65 °C / Rated value  at 70 °C / Rated value  A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value  for N-conductor protection / initial value  A 60  A 58  Auxiliary circuit  Suitability  Suitability  A 10  of I-trip / Full-scale value  A 10  of I-trip / Full-scale value  A 0  | • at 55 °C / Rated value                        | Α | 62                |
| at 70 °C / Rated value  A 58  Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability for use  Suitabile parameters  Adjustable parameters  Adjustable response value current  of I-trip / Full-scale value for N-conductor protection / initial value  A 58  A 58  Auxiliary circuit  Suitabile value  A 10  A 0  | • at 60 °C / Rated value                        | Α | 61                |
| Auxiliary circuit  Number of CO contacts / for auxiliary contacts  Suitability  Suitability for use  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  A 0   | • at 65 °C / Rated value                        | Α | 60                |
| Number of CO contacts / for auxiliary contacts  Suitability Suitability for use  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  0  System protection  Adjustable parameters  A 10  • for N-conductor protection / initial value  A 0  | • at 70 °C / Rated value                        | Α | 58                |
| Number of CO contacts / for auxiliary contacts  Suitability Suitability for use  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  O  System protection  A 10  A 0   | Auxiliary circuit                               |   |                   |
| Suitability for use system protection  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  System protection  A 10   |   |   | 0                 |
| Suitability for use system protection  Adjustable parameters  Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  System protection  A 10   | Suitability                                     |   |                   |
| Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  A 10  A 0   | · · · · · · · · · · · · · · · · · · ·           |   | system protection |
| Adjustable response value current  • of I-trip / Full-scale value  • for N-conductor protection / initial value  A 10  A 0   | Adjustable parameters                           |   |                   |
| • for N-conductor protection / initial value A 0   |   |   |                   |
|  | • of I-trip / Full-scale value                  | Α | 10                |
|  | • for N-conductor protection / initial value    | Α | 0                 |
| • for N-conductor protection / Full-scale value     A     0  | • for N-conductor protection / Full-scale value | Α | 0                 |
| Adjustable response value current / of the current- A 0.7 dependent overload release / initial value   | -   | A | 0.7               |
| Product details  | Product details                                 |   |                   |
| Product component  |   |   |                   |

| Trip indicator   |    | No                 |
|--|----|--------------------|
| ·  |    | No                 |
| display     Voltage trigger                                    |    | No                 |
| <ul><li>Voltage trigger</li><li>undervoltage release</li></ul> |    | No                 |
| •  |    | No                 |
| undervoltage release with leading contact  Product property    |    | INO                |
| Product property     for neutral conductors /                  |    | No                 |
| upgradeable/retrofittable / Short-circuit and                  |    | 140                |
| overload proof   |    |                    |
| Product expansion / optional / motor drive                     |    | Yes                |
| Product function   |    |                    |
| Product function   |    |                    |
| Intrinsic device protection                                    |    | Yes                |
| <ul> <li>communication function</li> </ul>                     |    | No                 |
| Phase failure detection  |    | No                 |
| • other measurement function                                   |    | No                 |
| Accessories  |    |                    |
| Manufacturer article number / of the supplied basic            |    | 3VA1163-6EE42-0AA0 |
| switch   |    |                    |
| Short circuit  |    |                    |
| Operational short-circuit current breaking capacity            |    |                    |
| (lcs)  |    | 100                |
| • at 240 V / Rated value                                       | kA | 100                |
| • at 415 V / Rated value                                       | kA | 70                 |
| at 440 V / Rated value   | kA | 36                 |
| ● at 500 V / Rated value                                       | kA | 15                 |
| at 690 V / Rated value   | kA | 5                  |
| Maximum short-circuit current breaking capacity (Icu)          |    | 400                |
| at 240 V / Rated value   | kA | 100                |
| ● at 415 V / Rated value                                       | kA | 70                 |
| ● at 440 V / Rated value                                       | kA | 36                 |
| ● at 500 V / Rated value                                       | kA | 20                 |
| at 690 V / Rated value   | kA | 10                 |
| Short-circuit current making capacity (Icm)                    |    | 000                |
| • at 240 V / Rated value                                       | kA | 220                |
| ● at 415 V / Rated value                                       | kA | 154                |
| ● at 690 V / Rated value                                       | kA | 17                 |
| Connections  |    |                    |
| Arrangement of electrical connectors / for main                |    | Front terminal     |
| current circuit  |    |                    |
| Current circuit  Type of connectable conductor cross-section   |    |                    |

| • for flat-bar terminal connection / minimum             | 12 x 0       |
|--|--------------|
| • for flat-bar terminal connection / maximum             | 17 x 6.5     |
| Type of electrical connection / for main current circuit | Lug terminal |

| Mechanical Design |    |                |  |
|-------------------|----|----------------|--|
| Height            | mm | 130            |  |
| Width             | mm | 101.6          |  |
| Depth             | mm | 70             |  |
| 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 marking**

• acc. to DIN EN 61346-2 Q Q • acc. to DIN EN 81346-2

| General Product Approval | EMC | Declaration of | Shipping Approval |
|--------------------------|-----|----------------|-------------------|
|                          |     | Conformity     |                   |





other







 $\mathsf{GL}$ 

#### other

other

#### 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/3VA11636EE420AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3VA11636EE420AA0/all

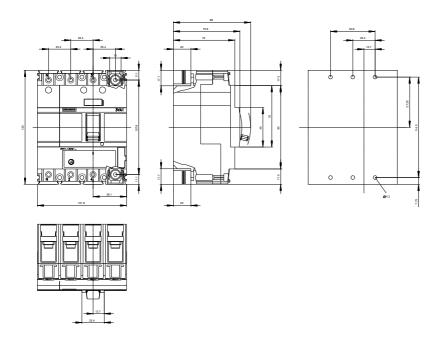
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...) http://www.automation.siemens.com/bilddb/cax\_en.aspx?mlfb=3VA11636EE420AA0

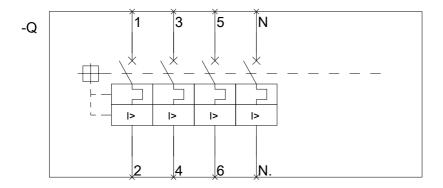
**CAx-Online-Generator** 

http://www.siemens.com/cax

**Tender specifications** 

http://ausschreibungstexte.siemens.com/tiplv





last modified: 11.03.2015