SIEMENS

## Data sheet 3VA6110-5KT31-2AA0



Circuit breaker 3VA6 UL Frame 150 breaking capacity class M 35kA @ 480V 3-pole, Line protection ETU856, LSI, In=100A overload protection, 100% rated Ir=40A...100A Short-circuit protection Isd=0.6..10x In, Ii=1.5..12x In N conductor protection optionally with external CT, up to 160% Ground-fault alarm message via EFB300 or COM without connection

| | |
|---|---|
| **Model** | |
| product brand name | SENTRON |
| product designation | Molded-case circuit breaker |
| product designation / according to UL file | MDAE |
| Product version | System protection |
| design of the load switch / according to UL 489 / Heating, Air Conditioning, and Refrigeration circuit breaker (HACR Type) | Yes |
| design of the overcurrent release | ETU856 |
| protection function of the overcurrent release | LSI-G-alarm only |
| number of poles | 3 |
| **General technical data** | |
| insulation voltage / rated value | 800 V |
| operating voltage / at AC / rated value | 690 V |
| power loss [W] / maximum | 13 W |
| Active power loss / for rated value of the current / at AC / in hot operating state / per pole | 4.33 W |
| mechanical service life (switching cycles) / typical | 25 000 |
| Electrical endurance (switching cycles) / at AC-1 / at 380/415 V 50/60 Hz | 14 000 |
| Electrical endurance (switching cycles) / at AC-1 / at 690 V 50/60 Hz | 9 800 |
| electrical endurance (switching cycles) / at 480 V | 14 000 |
| electrical endurance (switching cycles) / at 600 V | 9 800 |
| Neutral conductors / upgradeable/retrofittable | Yes |
| ground-fault monitoring version | Summation current formation L-conductor |
| product function | |
| ● communication function | Yes |
| ● other measurement function | Yes |
| Net Weight | 2.3 kg |
| **Current** | |
| marking / according to UL 489 / 100%-rated breaker | Yes |
| operational current | |
| ● at 40 °C | 100 A |
| ● at 45 °C | 100 A |
| ● at 50 °C | 100 A |
| ● at 55 °C | 100 A |
| ● at 60 °C | 100 A |
| ● at 65 °C | 100 A |
| ● at 70 °C | 100 A |
| **Switching capacity according to IEC 60947** | |
| switching capacity class of the circuit breaker | M |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| breaking capacity maximum short-circuit current (Icu) | |
| ● at 240 V | 85 kA |
| ● at 415 V | 55 kA |
| ● at 690 V | 2.5 kA |
| breaking capacity operating short-circuit current (Ics) | |
| ● at 240 V | 85 kA |
| ● at 415 V | 55 kA |
| ● at 690 V | 2.5 kA |
| short-circuit current making capacity (Icm) | |
| ● at 240 V | 187 kA |
| ● at 415 V | 121 kA |
| ● at 690 V | 3.8 kA |
| **Switching capacity according to UL 489** | |
| breaking capacity current | |
| ● at 240 V | 100 kA |
| ● at 480 V | 35 kA |
| ● at 600 V | 18 kA |
| **Adjustable parameters** | |
| product feature / for L-tripping / adjustable | Yes |
| product feature / for L-tripping / selectable characteristic function | No |
| type of value list setting current (Ir) / for L-tripping / with I2t characteristic | St |
| reference value setting current (Ir) / for L-tripping / with I2t characteristic | x In |
| set values setting current (Ir) / for L-tripping / with I2t characteristic | 0,4-1;0 |
| adjustable response factor setting current (Ir) / for L-tripping / with I2t characteristic / minimum | 0.4 |
| adjustable response factor setting current (Ir) / for L-tripping / with I2t characteristic / maximum | 1 |
| adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic / minimum | 40 A |
| adjustable response value setting current (Ir) / of the L-trip / with I2t characteristic / maximum | 100 A |
| type of value list delay time (tr) / for L-tripping / with I2t characteristic | Einstelltabelle |
| reference value delay time (tr) / for L-tripping / with I2t characteristic | s |
| set values delay time (tr) / for L-tripping / with I2t characteristic | 0,5-25;0,1 |
| adjustable response value delay time (tr) / for L-tripping / with I2t characteristic / minimum | 0.5 s |
| adjustable response value delay time (tr) / for L-tripping / with I2t characteristic / maximum | 25 s |
| product feature / for S-tripping / independent of direction / can be switched on/off | No |
| product feature / for S-tripping / independent of direction / selectable characteristic function | Yes |
| type of value list setting current (Isd) / for S-tripping / with I0t characteristic | St |
| reference value setting current (Isd) / for S-tripping / with I0t characteristic | x In |
| set values setting current (Isd) / for S-tripping / with I0t characteristic | 0,6-10;0 |
| adjustable response factor setting current (Isd) / for S-tripping / with I0t characteristic / minimum | 0.6 |
| adjustable response factor setting current (Isd) / for S-tripping / with I0t characteristic / maximum | 10 |
| adjustable response value setting current (Isd) / of S-trip / with I0t characteristic / minimum | 60 A |
| adjustable response value setting current (Isd) / of S-trip / with I0t characteristic / maximum | 1 000 A |
| type of value list setting current (Isd) / for S-tripping / with I2t characteristic | St |
| reference value setting current (Isd) / for S-tripping / with I2t characteristic | x In |
| set values setting current (Isd) / for S-tripping / with I2t | 0,6-10;0 |


© Copyright Siemens

| | |
|---|---|
| characteristic | |
| adjustable response factor setting current (Isd) / for S-tripping / with I2t characteristic / minimum | 0.6 |
| adjustable response factor setting current (Isd) / for S-tripping / with I2t characteristic / maximum | 10 |
| adjustable response value setting current (Isd) / of S-trip / with I2t characteristic / minimum | 60 A |
| adjustable response value setting current (Isd) / of S-trip / with I2t characteristic / maximum | 1 000 A |
| type of value list delay time (tsd) / for S-tripping / with I0t characteristic | Einstelltabelle |
| reference value delay time (tsd) / for S-tripping / with I0t characteristic | s |
| set values delay time (tsd) / for S-tripping / with I0t characteristic | 0,05-0,5;0,01 |
| adjustable response value delay time (tsd) / for S-tripping / with I0t characteristic / minimum | 0.05 s |
| adjustable response value delay time (tsd) / for S-tripping / with I0t characteristic / maximum | 0.5 s |
| type of value list delay time (tsd) / for S-tripping / with I2t characteristic | Einstelltabelle |
| reference value delay time (tsd) / for S-tripping / with I2t characteristic | s |
| set values delay time (tsd) / for S-tripping / with I2t characteristic | 0,05-0,5;0,01 |
| adjustable response value delay time (tsd) / for S-tripping / with I2t characteristic / minimum | 0.05 s |
| adjustable response value delay time (tsd) / for S-tripping / with I2t characteristic / maximum | 0.5 s |
| product feature / for I-tripping / can be switched on/off | No |
| design of I-trip / adjustable | Yes |
| reference value setting current (Ii) / for I-tripping | x In |
| set values setting current (Ii) / for I-tripping | 1.5-12;0 |
| adjustable response factor setting current (Ii) / for I-tripping / minimum | 1.5 |
| adjustable response factor setting current (Ii) / for I-tripping / maximum | 12 |
| adjustable response value setting current (Ii) / for I-tripping / minimum | 150 A |
| adjustable response value setting current (Ii) / for I-tripping / maximum | 1 200 A |
| product feature / for G-tripping / can be switched on/off | Yes |
| product feature / for G-tripping / adjustable | Yes |
| product feature / for G-tripping / selectable characteristic function | Yes |
| type of value list setting current (Ig) / for G-tripping / with I0t characteristic | St |
| reference value setting current (Ig) / for G-tripping / with I0t characteristic | x In |
| set values setting current (Ig) / for G-tripping / with I0t characteristic | 0.2-1;0 |
| adjustable response factor setting current (Ig) / for G-tripping / with I0t characteristic / minimum | 0.2 |
| adjustable response factor setting current (Ig) / for G-tripping / with I0t characteristic / maximum | 1 |
| Adjustable response value current / Ig min. | 20 A |
| Adjustable response value current / Ig max. | 100 A |
| type of value list delay time (tg) / for G-tripping / with I0t characteristic | Einstelltabelle |
| reference value delay time (tg) / for G-tripping / with I0t characteristic | s |
| set values delay time (tg) / for G-tripping / with I0t characteristic | 0,05-0,8;0,01 |
| adjustable response value delay time (tg) / for G-tripping / with I0t characteristic / minimum | 0.05 s |
| adjustable response value delay time (tg) / for G-tripping / with I0t characteristic / maximum | 0.8 s |
| type of value list setting current (Ig) / for G-tripping / with I2t characteristic | St |
| reference value setting current (Ig) / for G-tripping / with | x In |


© Copyright Siemens

| | |
|---|---|
| I2t characteristic | |
| set values setting current (Ig) / for G-tripping / with I2t characteristic | 0,2-1;0 |
| adjustable response factor setting current (Ig) / for G-tripping / with I2t characteristic / minimum | 0.2 |
| adjustable response factor setting current (Ig) / for G-tripping / with I2t characteristic / maximum | 1 |
| adjustable response value setting current (Ig) / for G-tripping / with I2t characteristic / minimum | 20 A |
| adjustable response value setting current (Ig) / for G-tripping / with I2t characteristic / maximum | 100 A |
| type of value list delay time (tg) / for G-tripping / with I2t characteristic | Einstelltabelle |
| reference value delay time (tg) / for G-tripping / with I2t characteristic | s |
| set values delay time (tg) / for G-tripping / with I2t characteristic | 0,05-0,8;0,01 |
| adjustable response value delay time (tg) / for G-tripping / with I2t characteristic / minimum | 0.05 s |
| adjustable response value delay time (tg) / for G-tripping / with I2t characteristic / maximum | 0.8 s |
| product feature / with neutral conductor protection / can be switched on/off | No |
| product feature / with neutral conductor protection / adjustable | Yes |
| type of value list setting current (InN) / for N-tripping | St |
| reference value setting current (InN) / for N-tripping | x In |
| setting values setting current (InN) / for N-tripping | 0.2-1.6;0 |
| adjustable response factor setting current (InN) / for N-tripping / maximum | 0 |
| adjustable absolute value setting current (InN) / for N-tripping / minimum | 0 A |
| adjustable absolute value setting current (InN) / for N-tripping / maximum | 0 A |
| tripping characteristic / of the lower tolerance band | AK_3VA6_1_100A_ETU5u8_MuHuCuLuE_uT |
| tripping characteristic / of the upper tolerance band | AK_3VA6_1_100A_ETU5u8_MuHuCuLuE_oT |
| let-through energy characteristic / at 240 V | DE_3VA6_1_100A_ETU_line u starter_3u4p_240V |
| let-through energy characteristic / at 415 V | DE_3VA6_1_100A_ETU_line u starter_3u4p_415V |
| let-through energy characteristic / at 690 V | DE_3VA6_1_100A_ETU_line u starter_3u4p_690V |
| type of value list setting current (Ii) / for I-tripping | St |
| tripping characteristic / of the let-through current characteristic / at 240 V | DS_3VA6_3u4_100A_ETU_line u starter_3u4p_240V |
| tripping characteristic / of the let-through current characteristic / at 415 V | DS_3VA6_3u4_100A_ETU_line u starter_3u4p_415V |
| tripping characteristic / of the let-through current characteristic / at 690 V | DS_3VA6_3u4_100A_ETU_line u starter_3u4p_690V |
| Adjustable response value current / Ig min. | 0.5 s |
| adjustable current response value current / of instantaneous short-circuit trip unit / minimum | 150 A |
| Adjustable response value current / Ii max. | 1 200 A |
| design of the N-conductor protection | adjustable OFF; 20% to 160% |
| Ground fault protection / tripping switchable / I2t=ON/OFF | Yes |
| Adjustable response value current / tg min. | 0.05 s |
| Adjustable response value current / Ig min. | 0.8 s |
| **Mechanical Design** | |
| product component | |
| ● undervoltage release | No |
| ● voltage trigger | No |
| ● trip indicator | No |
| height [in] | 7.8 in |
| Height | 198 mm |
| width [in] | 4.13 in |
| Width | 105 mm |
| depth [in] | 3.39 in |
| depth | 86 mm |
| **Connections** | |
| arrangement of electrical connectors / for main current | Without connection |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| circuit | |
| type of electrical connection / for main current circuit | Without |
| **Auxiliary circuit** | |
| number of CO contacts / for auxiliary contacts | 0 |
| **Accessories** | |
| product extension / optional / motor drive | Yes |
| **Environmental conditions** | |
| protection class IP / on the front | IP40 |
| ambient temperature | |
| • during operation / minimum | -25 °C |
| • during operation / maximum | 70 °C |
| • during storage / minimum | -40 °C |
| • during storage / maximum | 80 °C |
| **Certificates** | |
| reference code / according to IEC 81346-2 | Q |
| certificate of suitability / as approval for NAVAL (no combat vessels) / supplement SB | Yes |

**General Product Approval**

Confirmation

Miscellaneous

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

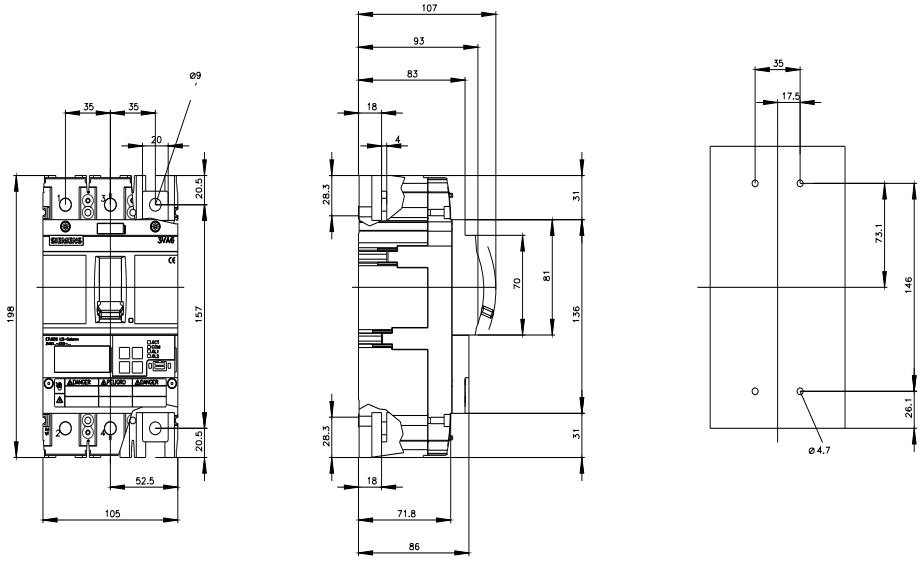
**other**

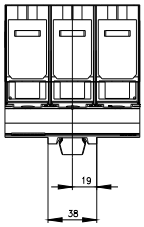
Miscellaneous Miscellaneous

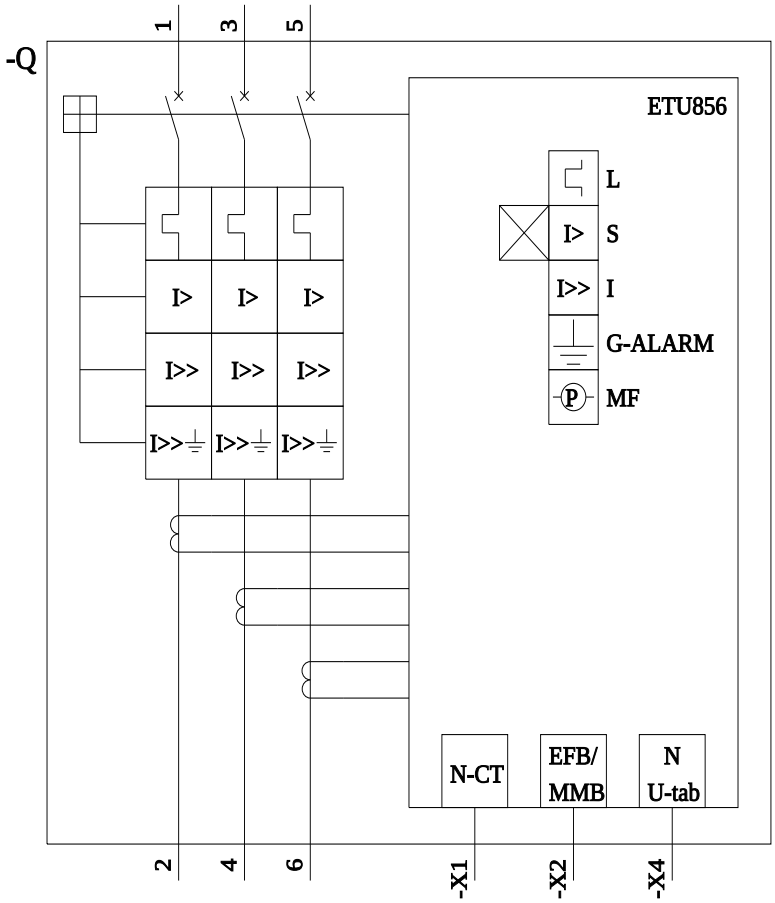
**Further information**

**Information- and Downloadcenter (Catalogs, Brochures,…)**
http://www.siemens.com/lowvoltage/catalogs
**Industry Mall (Online ordering system)**
https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3VA6110-5KT31-2AA0
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3VA6110-5KT31-2AA0
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3VA6110-5KT31-2AA0
**CAx-Online-Generator**
http://www.siemens.com/cax
**Tender specifications**
http://www.siemens.com/specifications


Subject to change without notice
© Copyright Siemens

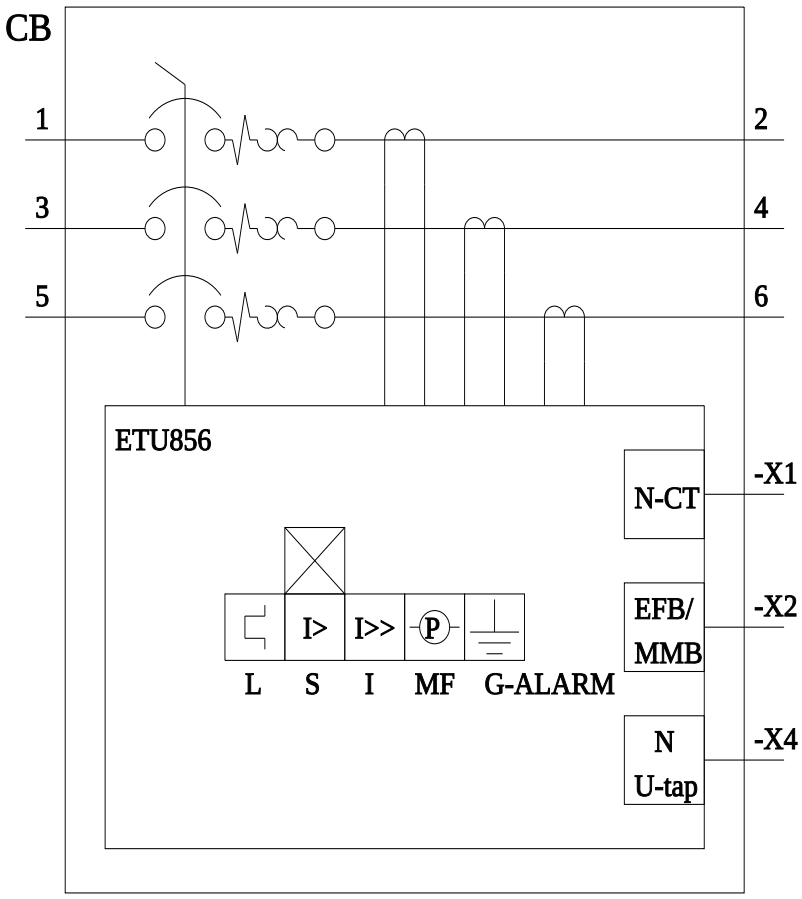




Subject to change without notice
© Copyright Siemens




**last modified:** 7/19/2022


© Copyright Siemens

Subject to change without notice
© Copyright Siemens