

Contacteur Statique Triphasé Power Three Phase Solid State Contactor

SIT867570

24-520 VAC
(AC-51 : 3 x 22 ARMS)

see derating curve

$$I^2t = 7200A^2s$$

DC control

- Contacteur statique synchrone Triphasé prêt à l'emploi adapté aux charges résistives

Ready to use Three phase ZeroCross Solid State Contactor designed for resistive loads.

- Sortie thyristors hautes performances technologie TMS² (*)

permettant une longue durée de vie: **24 à 520VAC 75A** ($I^2t > 5000A^2s$)

New High Efficiency Back to back thyristors on output with TMS² technology() for a long lifetime expectancy: 24 to 520VAC 75A*

$$I^2t > 5000A^2s (**)$$

- Tension de commande 10-30VDC

LED de visualisation sur l'entrée de couleur verte.

Control range: 10-30VDC.

Green LED visualization on the input.

- Protection de la tension de sortie par varistor.

Output voltage protection by VDR

- Livré en standard avec dissipateur intégré montable sur rail DIN et protection contre le toucher IP20

Delivered with integrated heatsink for DIN rail mounting and with IP20 protection cover.

- Construit en conformité aux normes EN60947-4-3 (IEC947-4-3) et EN60950/VDE0805 (Isolement renforcé) -UL-cUL

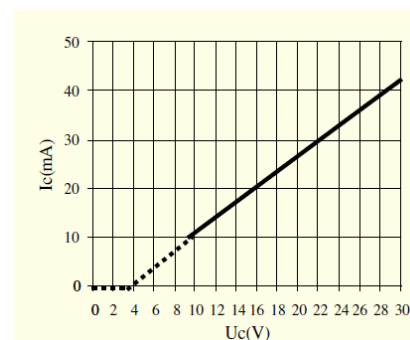
Designed in conformity with EN60947-4-3 (IEC947-4-3) and EN60950/VDE0805 (Reinforced Insulation) -UL-cUL



Caractéristiques de commande (à 20°C) / Control characteristics (at 20°C)

| Paramètre / Parameter | Symbol | DC | | | Unit |
|--|--------|-----|-----|-----|------|
| | | Min | Nom | Max | |
| Tension de commande / Control voltage : DC | Uc | 10 | 24 | 30 | VDC |
| Courant de commande / Control current (@ Uc) | Ic | 10 | 32 | 42 | mA |
| Tension de relachement/Release voltage | Uc off | 4 | | | V |
| Résistance interne / Input internal resistor fig.1 | Rc | | 560 | | Ω |
| Tension inverse / Reverse voltage | Urv | | 30 | | V |

fig. 1 : Caractéristique d'entrée / Control characteristic



Caractéristiques d'entrée-sortie (à 20°C) / Input-output characteristics (at 20°C)

| | | | | |
|---|------|------|--|------|
| Isolement entrée-sortie/ Input-output isolation @500m | Ui | 4000 | | VRMS |
| Isolement sortie-semelle/ Output-case isolation @500m | Ui | 3300 | | VRMS |
| Tension assignée isolement/ Rated impulse voltage | Uimp | 4000 | | V |

General characteristics

| Parameter | Conditions | Symbol | Typ. | Unit |
|---|------------|--------|------------|------|
| Poids/Weight | | | 1000 | g |
| Température de fonctionnement / Ambient temperature (no icing, no condensation) | | | -40 / +100 | °C |
| Température de stockage/ Storage temperature (no icing, no condensation) | | | -40 / +80 | °C |

(*) : Thermo Mechanical Stress Solution

Proud to serve you

All technical characteristics are subject to change without previous notice.
Caractéristiques sujettes à modifications sans préavis.

Caractéristiques de sortie / Output characteristics (at 25°C)

| Paramètre / Parameter | Conditions | Symbol | Min | Typ. | Max | Unit |
|---|--------------------------|-----------------------------|---|-----------|------|------------------|
| Plage de tension utilisation / Operating voltage range | | Ue | 24 | 400 | 520 | V rms |
| Tension de crête (écrêtage VDR) / Peak voltage (VDR clamping) | @ 1mA | Up | 1200 (950) | | | V |
| Niveau de synchronisme / Zero cross level | | U _{sync} | | | 35 | V |
| Tension minimum amorçage / Latching voltage | Ie nom | Ua | 10 | | | V |
| Courant nominal / nominal current (AC-51) | Resistance | Ie AC-51 | 3x22A (see derating curve) | | | A rms |
| Courant nominal / nominal current (AC-53) | Motor | Ie AC-53 | | 12 | | A rms |
| Courant surcharge / Non repetitive overload current | tp=10ms (Fig. 3) | I _{tsm} | 1000 | 1200 | | A |
| Chute directe à l'état passant / On state voltage drop | @ 25°C | V _t | | | 0,9 | V |
| Résistance dynamique / On state dynamic resistance | | r _t | | | 12 | mΩ |
| Puissance dissipée (max) / Output power dissipation (max value) | | P _d | (0,9x0,9xIe + 0,007xIe ²)*3 | | | W |
| Résistance thermique jonction/semelle / Thermal resistance between junction to case | | R _{thj/c} | | 1 leg | 0,45 | K/W |
| Courant de fuite à l'état bloqué / Off state leakage current | @Ue typ, 50Hz | I _{lk} | | | 1 | mA |
| Courant minimum de charge / Minimum load current | | I _{emin} | 5 | | | mA |
| Temps de fermeture / Turn on time | @Ue typ, 50Hz | t _{on max} | | | 10 | ms |
| Temps d'ouverture / Turn off time | @Ue typ, 50Hz | t _{off max} | | | 10 | ms |
| Fréquence utilisation / Operating frequency range | F mains | f | 0,1 | 50-60 | 800 | Hz |
| dv/dt à l'état bloqué / Off state dv/dt | | dv/dt | 500 | | | V/μs |
| di/dt max / Maximum di/dt non repetitive | | di/dt | | | 50 | A/μs |
| I _{2t} (<10ms) | | I ² _t | 5000 | 7200 | | A ² s |
| Immunité / Conducted immunity level | IEC/EN61000-4-4 (bursts) | | 4kV criterion A | | | |
| Immunité / Conducted immunity level | IEC/EN61000-4-5 (surge) | | 4kV criterion A | | | |
| Protection court-circuit / Short circuit protection | voir/see page 6 | Example | Fuse Ferraz gRC 25A/32A/50A | | | |

COURBES THERMIQUES / thermal curves:

curve 1 :

with ventilation in the heatsink (> 1m/s)
(avec ventilation significative du dissipateur)

curve 2 :

working in normal conditions with a small
ventilation in the cabinet (avec petite ventila-
tion d'armoire)

curve 3 :

according with IEC60947-4-2
in a closed cabinet without any ventilation.
(absence totale de ventilation)

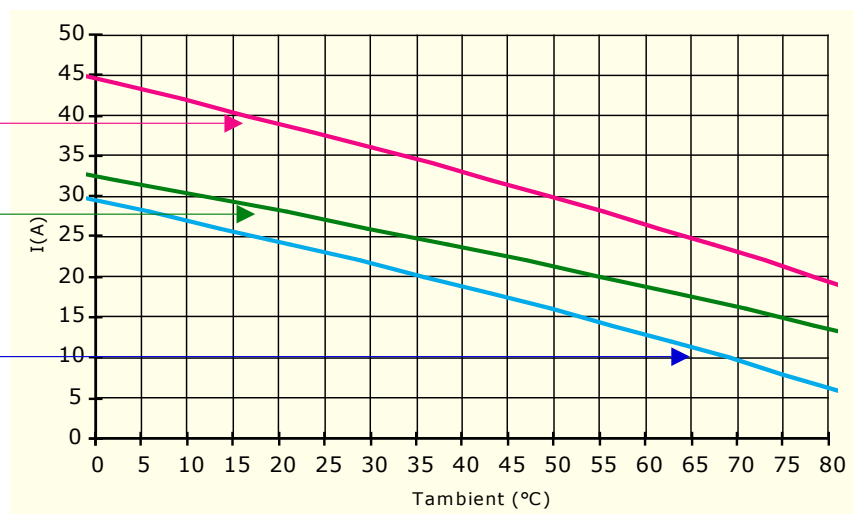


fig 3 : Courants de surcharges / Overload currents

1 -I_{tsm} non répétitif sans tension réappliquée est donné pour la détermination des protections.

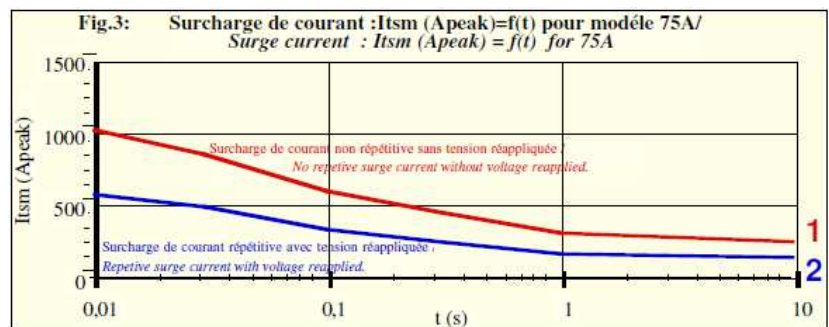
1 - No repetitive I_{tsm} is given without voltage reappplied. This curve is used to define the protection (fuses).

2 -I_{tsm} répétitif est donné pour des surcharges de courant (T_j initiale=70°C).

Attention : la répétition de ces surcharges de courant diminue la durée de vie du relais.

2 - Repetitive I_{tsm} is given for inrush current with initial T_j = 70°C. In normal operation, this curve mustn't be exceeded.

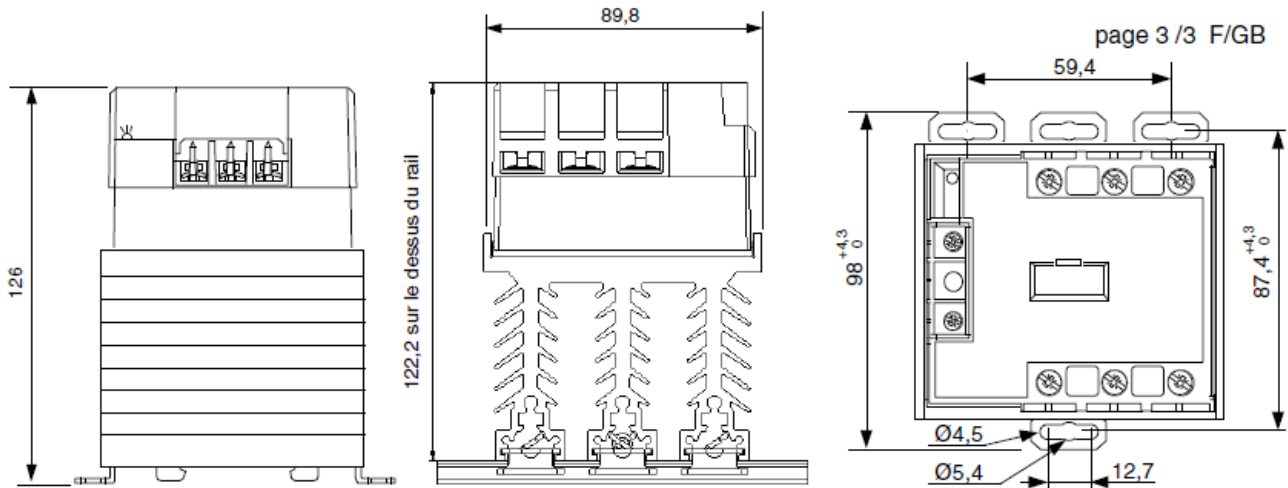
Be careful, the repetition of the surge current decreases the life expectancy of the SSR.


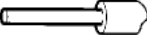

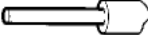




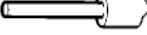

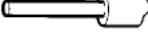

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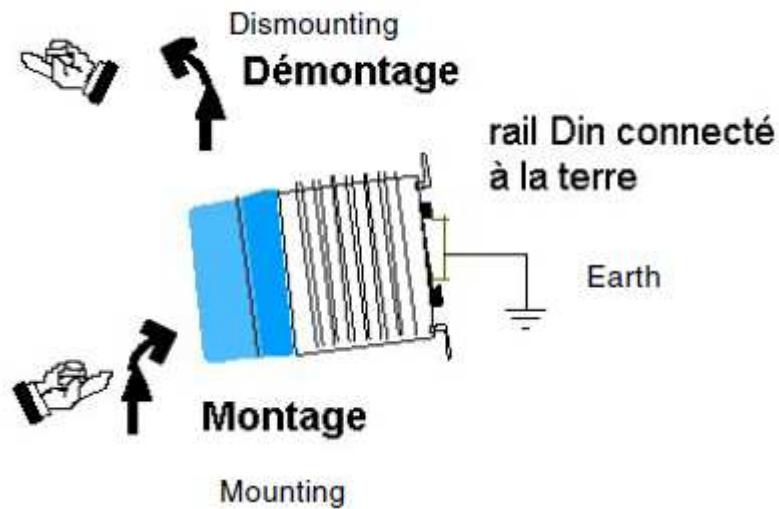
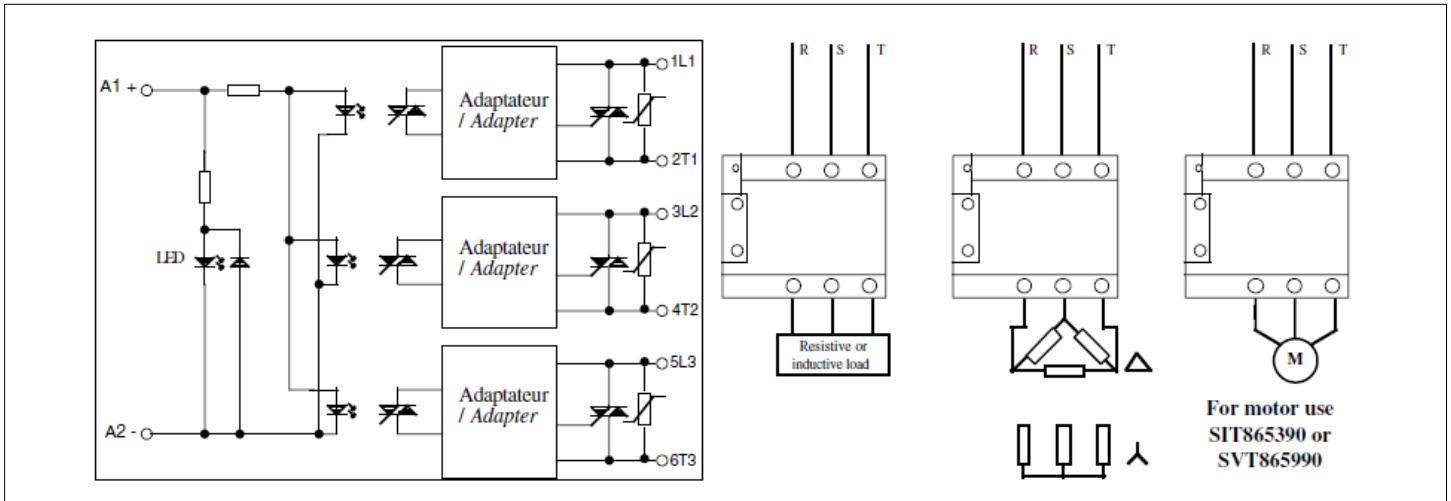
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| SIT/SVT | | | | Raccordement d'entrée / Control wiring | |
|---|---|---|---|---|---|
| Nombre de fils / Number of wires | | | | Modèle de tournevis / Screwdriver type | Couple de serrage recommandé Recommended Torque |
| 1 | | 2 | | | |
| Fil rigide (sans embout) SOLID (No ferrule) | Fil multibrins (avec embout) FINE STRANDED (With ferrule) | Fil rigide (sans embout) SOLID (No ferrule) | Fil multibrins (avec embout) FINE STRANDED (With ferrule) |  | M4 |
|  |  |  |  | | N.m |
| 0,75 ... 2,5 mm ² AWG18...AWG14 | 0,75 ... 2,5 mm ² AWG18...AWG14 | 0,75 ... 2,5 mm ² AWG18...AWG14 | 0,75 ... 2,5 mm ² AWG18...AWG14 | POZIDRIV 2 | 1,2 |

| celpac[®] | | | | Raccordement de puissance / Power wiring | |
|---|---|---|---|--|---|
| Nombre de fils / Number of wires | | | | Modèle de tournevis / Screwdriver type | Couple de serrage recommandé Recommended Torque |
| 1 | | 2 | | | |
| Fil rigide (sans embout) SOLID (No ferrule) | Fil multibrins (avec embout) FINE STRANDED (With ferrule) | Fil rigide (sans embout) SOLID (No ferrule) | Fil multibrins (avec embout) FINE STRANDED (With ferrule) |  | M5 |
|  |  |  |  | | N.m |
| 1,5 ... 10 mm ² AWG16...AWG8 | 1,5 ... 6 mm ² AWG16...AWG10 | 1,5 ... 10 mm ² AWG16...AWG8 | 1,5 ... 6 mm ² AWG16...AWG10 | POZIDRIV 2 | 2 |

APPLICATION TYPIQUE /
Typical application:



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