



telergon
gorlan team

Switchgear
for by-pass applications



The application

The key benefit of fitting a maintenance by-pass switch to any UPS installation is that the UPS can be serviced or completely removed without disruption to the critical loads and isolation for safety purposes.

Telergon produces different switchgear alternatives which offer stable positions, secure making & breaking and on load switching.

By-pass switchgear can be part of the UPS architecture or added by integrators to build an external maintenance by-pass switch.

Every customer/application may have their own operation protocol with different specifications, ratings, control logic, indications, warnings, etc.

The drawings in the following page represent a standard diagram for UPS management.

Depending on the connection/disconnection of the switches (T1, T2, T3, T4, and T5), it is possible to have the next operation modes:



- > UPS
- > Voltage stabilizers
- > Drives
- > Generator sets

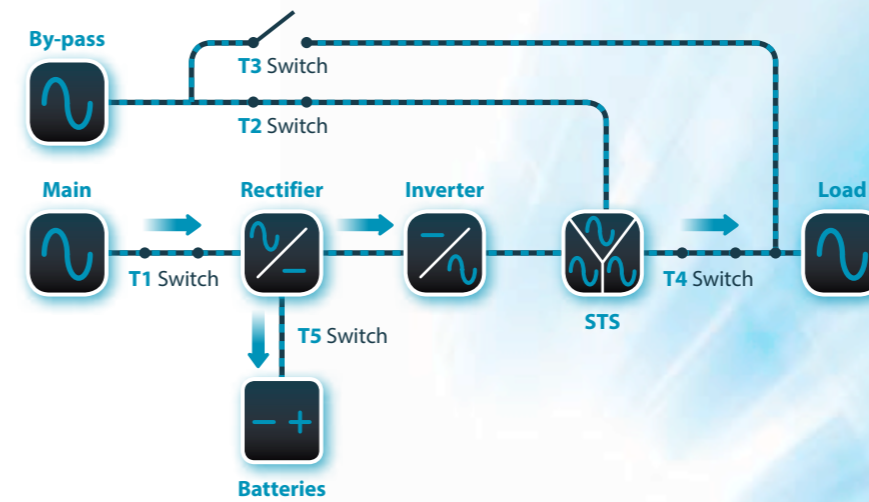
- > Data centers
- > Transportation
- > Power generation
- > Hospitals
- > High-rise buildings
- > Banking and insurance



The application

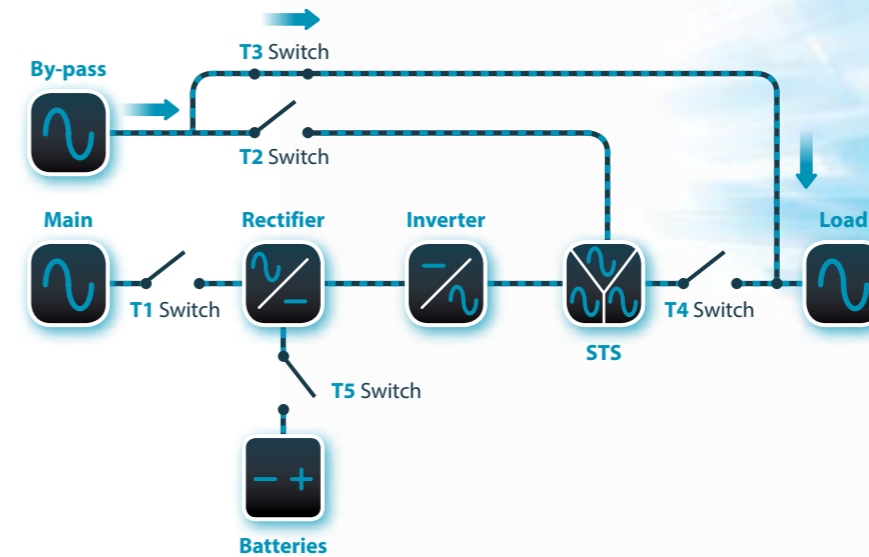
NORMAL MODE

- > T1, T2, T4, T5 in ON.
- > T3 in OFF.
- > Battery is charged if Main is supplying, and it is used through inverter to supply the Load in case than Main fails.



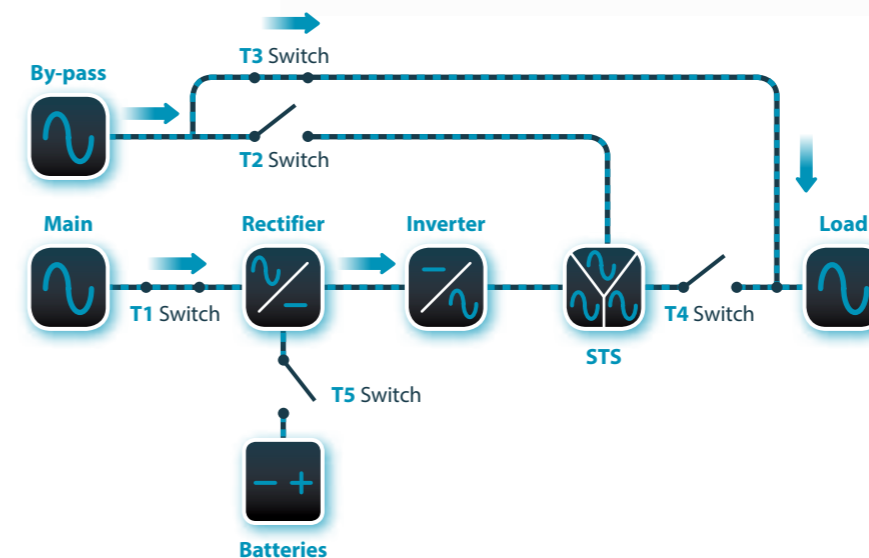
MANUAL BY-PASS MODE

- > T3 in ON.
- > T1, T2, T4, T5 in OFF.
- > UPS is isolated for a safe maintenance, including DC isolating switch T5. This allows the safe maintenance of UPS and the replacement/service of batteries.
- > T5 is a DC switch for battery isolation.



TEST MODE

- > T1, T3 in ON.
- > T2, T4, T5 in OFF.
- > With Main connected to UPS and disconnected from Load, UPS can run a check of its condition after maintenance.
- > T5 is a DC switch for battery isolation.



** Transfer between each mode can be:

- Break before make
- Make before break (overlapping).

Generally we can adapt to every requirement which may include additional modes.

The solutions

The solutions



Cam switch T-175 for 200 A (approx. 100-120 kVA)
Positions:
NORMAL - UPS

Cam switches

Series T
from 12 up to 315 A (consult for higher ratings)

“All in one” operation compact solution. With only one operation & handle, it is possible to perform all the logic modes in the UPS.

“Custom made” solution to comply with:

Any contacting logic in the UPS with on load power:

- NORMAL, BY-PASS
- NORMAL, TEST, BY-PASS
- NORMAL, TEST, BY-PASS, MAINTENANCE

Main power contacts with option:

- Make before break
- Break before make (overlapping)

Auxiliary contacts for indication and control logic:

- Low resistance
- Any number & logic

Suitable for single phase and three phase systems (up to 200 kVA).



Cam switch T-315 for 315 A (approx. 180-200 kVA)
Positions:
UPS - TEST - BY-PASS

Switch - disconnectors

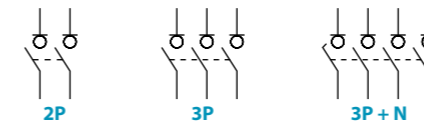
Series S5 | S6 | ZBK
from 12 up to 6300 A

Single ON-OFF switches.

With the operation of different switches, it is possible to operate the UPS to perform the different operation modes as per diagrams of page 3.

Switches available in 2P for DC battery isolation, 3P & 3P+N (AC part of UPS).

Suitable for single phase and three phase systems.



Switch ZBK 63A 3P+N model (35-40 kVA)



Switch S5000 630A 3P+N model (300-350 kVA)



Switch S6000 500A 3P model (250-300 kVA)



Switch S6000 400A 2P model (battery isolation)

The solutions

The solutions

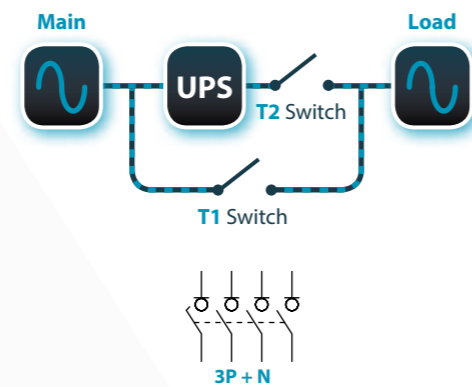


Changeover ZBK 63A
3P+N model
(35-40 kVA)

Changeover switches

Series S5F | CCF | ZBK | T
from 12 up to 2000 A

Single ON I - OFF - ON II switches operated with one handle.
Option with overlapping in central position ON I - I+II - ON II (for series S5F, CCF & T) under request.
2 switches combined to perform the next by-pass configuration.

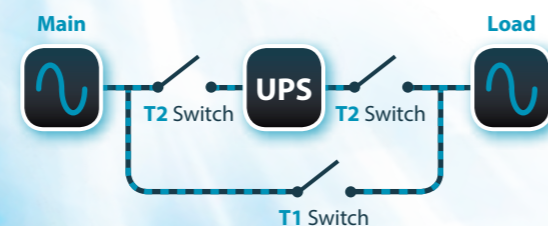


Changeover CCF 400A
3P+N model
(200-250 kVA)

By-pass changeover switches

Series S5B | T
from 12 up to 2000 A

One single device ON I - OFF - ON II operated with one handle.
Option with overlapping in central position ON I - I+II - ON II under request.
3 switches combined to perform the next by-pass configuration allowing on load by-passing and isolation requirements.



Changeover S5000B 160A
3P+N model
(100 kVA)

Switchboards

Series S5F | CCF | ZBK | T
from 12 up to 2000 A

Complete external maintenance by-pass switch.
Fully assemble in IP65 metal enclosure with external side handle & terminal blocks.
This solution can be retrofitted easily to an existing UPS installation.

- Key Benefits:
- Plug & play solution
 - Easy access to terminal blocks for wiring
 - Easy external operation (options for padlocking)
 - Auxiliary contacts built in

- Other possible features:
- Key lock device
 - Signalling units
 - Low resistance aux. contacts
 - Push button locking system



Enclosed cam switch T-175
for 200 A (approx. 100-120 kVA)

Positions:
UPS - TEST - BY-PASS

Design as per IEC/EN 60947 - 1 & 3
IEC/EN 61439 - 1



Telergon, S.A.U. reserves the right to modify the products herein illustrated without prior notice. Technical data and description in the catalogue are accurate at the printing date, but no liabilities for errors or omissions are accepted. No danger or hazard to health and safety will be caused when products are installed, maintained and used in applications for which it is designed, in accordance with "professional practices" and manufacturer's instructions.

Products supplied by TELERGON are warranted for a period of 2 years against any manufacturing defect. TELERGON's guarantee is limited to the repair or replacement of the defective goods in the shortest possible time. This warranty does not cover the abuse or improper use by the user according to the technical instructions included in the sale by TELERGON, according to the current legislation, or their tampering or misuse. This warranty does not reach in any way third parties, being only applicable to the Customer.

February 2016

© Telergon, S.A.U. all rights reserved



This document is printed on paper coming from sustainable certified forestry



Telergon, S.A.U.
Ctra. Castellón (Pol. La Cartuja)
ES-50720 La Cartuja Baja
Zaragoza / Spain



Management System
ISO 9001:2008
ISO 14001:2004
www.tuv.com
ID: 0105053481

TDM-BYPASS-I-022016
COD. 01006005

Tel.: + 34 976 50 08 76
Fax: + 34 976 50 03 14

E-mail: comercial@telergon.es
www.telergon.com