

HIGH SPEED ALTERNATE CURRENT THREE PHASES STATIC SWITCHES

CST SERIES

Typology

Three phases, four wires, not insulated static switches for two alternate current lines change over in SCR technology. Particularly developed for use in information technology, automation and telecommunication plants where are required high reliability performances, operating safety and the capacity to fast change over critical loads from a master line to a redundant one.

Electrical characteristics

The most important characteristics that distinguishes this type of static switches are the following.

Input voltages	230 or 400 Vac
Accepted tolerance	±20%
Input frequency	50 or 60 Hz
Accepted tolerance	±2%
Output voltage	230 or 400 Vac
Short-circuit current	1000% for 10 mS
Change-over time	about 2 mS with lines in phase (±15°); 13 mS out of phase.
Admit output power factor	1 to 0,6 lag
Single unit MTBF	about 100.000 hours

Transfer power

The products' series comprises the following models as a function of the transfer power. The cooling method, for the power section, is also function of the transfer power.

Model	Cooling	Transfer power
CST3	Natural	3000 VA
CST6	Natural	6000 VA
CST10	Natural	10000 VA
CST15	Natural	15 kVA
CST25	Natural	25 kVA
CST40	Natural	40 kVA
CST63	Natural	63 kVA
CST80	Forced air	80 kVA
CST100	Forced air	100 kVA
CST150	Forced air	150 kVA
CST250	Forced air	250 kVA
CST400	Forced air	400 kVA
CST630	Forced air	630 kVA
CST800	Forced air	800 kVA
CST1000	Water / air	1000 kVA

Accessories

A large choice of accessories is available to obtain a perfect match to more complex applications and specifications.

The normally foreseen in standard production are the followings.

Input lines presence signalisation

Supplying line signalisation

Concordant phase signalisation

If requested is possible to install the following accessories.

Magnetohermic breakers on input lines

Magnetohermic breaker on the output

Digital instruments on input/output (V/I)

Metering relays on input lines

Metering relays on output line

Mechanical characteristics

The mechanical construction, divided in three sections, is 19" rack compliant to DIN 41612 standard with structure and front in anodised aluminium and natural or black color. The dimensions are as follows.

Section	19" Units	Depth
Logic	3	420mm
Power < 25 kVA	3	420mm
Power < 100 kVA	6	420mm
Power < 400 kVA	9	420mm
Power < 800 kVA	12	420mm
Power 1000 kVA	18	420mm
Access. (excl. breakers)	3	420mm

Ambient compatibility

All the apparatuses are submitted to typical or production tests to warrant the ambient compatibility. The most important are the following (* identifies typical tests).

*Vibrations	5 m.s ⁻² - 0,032mm
*Storage temperature	from -25 to 70 °C
*Operating temperature	from -10 to 55 °C
HV Pulse withstand 1,2/50 µs	2 kVp
Dielectric strenght	2 kV RMS
Insulation resistance	100 MΩ a 500 Vcc
CE mark reference standard	EN50081-2/50082-2

Products range

Model	Input voltages 50Hz B=230 C=400 Input voltages 60Hz E=208 F=440	Input breakers	Output breaker	Digital instruments	Output metering relay	Input metering relays	Transfer current
CST3	B/E	I2	I3	S1	R8	R9	8
CST3	C/F	I2	I3	S1	R8	R9	5
CST6	B/E	I2	I3	S1	R8	R9	16
CST6	C/F	I2	I3	S1	R8	R9	10
CST10	B/E	I2	I3	S1	R8	R9	27
CST10	C/F	I2	I3	S1	R8	R9	15
CST15	B/E	I2	I3	S1	R8	R9	40
CST15	C/F	I2	I3	S1	R8	R9	22
CST25	B/E	I2	I3	S1	R8	R9	65
CST25	C/F	I2	I3	S1	R8	R9	38
CST40	B/E	I2	I3	S1	R8	R9	110
CST40	C/F	I2	I3	S1	R8	R9	58
CST63	B/E	I2	I3	S1	R8	R9	170
CST63	C/F	I2	I3	S1	R8	R9	95
CST80	B/E	I2	I3	S1	R8	R9	210
CST80	C/F	I2	I3	S1	R8	R9	125
CST100	C/F	I2	I3	S1	R8	R9	150
CST150	C/F	I2	I3	S1	R8	R9	230
CST250	C/F	I2	I3	S1	R8	R9	380
CST400	C/F			S1	R8	R9	600
CST630	C/F			S1	R8	R9	950
CST800	C/F			S1	R8	R9	1200
CST1000	C/F			S1	R8	R9	1500