Technical Data Sheet

Cyberex® SuperSwitch®4 DSTS

100A – 250A

About This document

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1 Introduction

ABB Cyberex SuperSwitch4 (SS4) DSTS is a three-phase, semiconductor-based switching device used for sub-cycle transferring of critical loads between two input sources. Designed with state-of-the-art controls, redundant logic, and compartmentalized design, the SS4 provides unrivalled performance and safety in a compact frame.

1.1 Key features and benefits

Peak performance and reliability

- ≤1/4 cycle in-phase transfers.
- ≤16ms out of phase transfers regardless of phase difference between sources.
- ≤1.2x inrush for out of phase transfers.

Minimize risk of human error

- On-screen software guided bypass operation.
- Dedicated LED indicators coordinate with bypass instructions on HMI to ensure proper bypass sequence.

Improved safety and serviceability

- Sectionalized design for safety and ease of serviceability enables quicker troubleshooting and time to repair.
- Isolation of consumable components allows for easier replacement without need to de-energize equipment.

Comprehensive offering

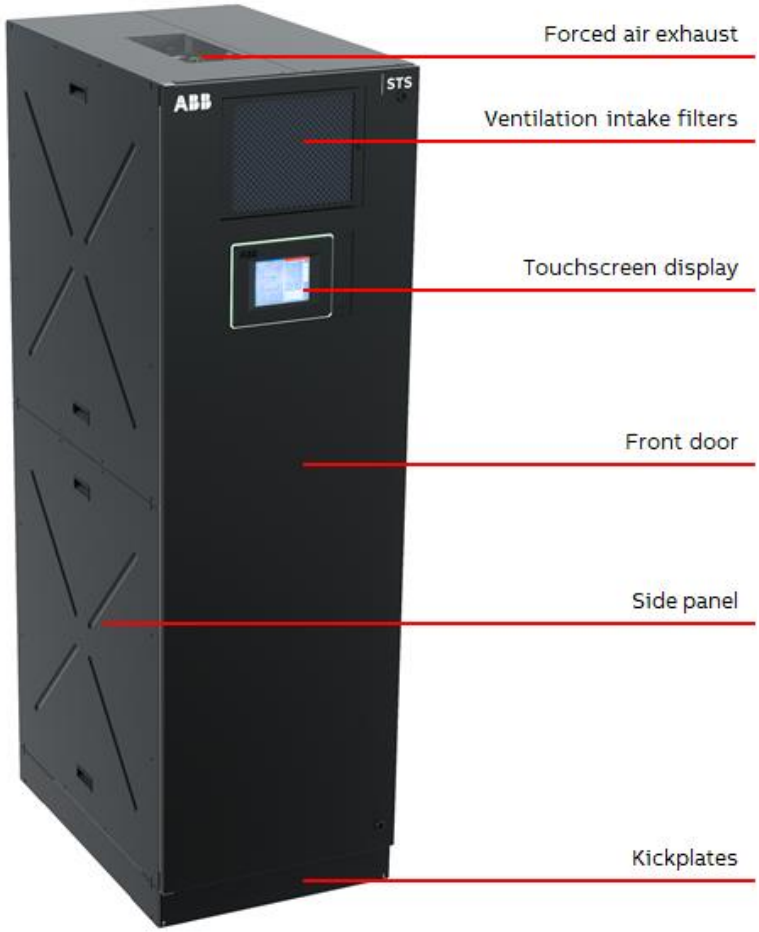
- Covering wide power range from 100A up to 4000A in 208V through 480V.
- Ultra-dense optimized designs for low power applications.
- Optimized front access only designs for higher power ratings.

Improved sustainability through robust, high efficiency design and minimized usage of consumable components.

Key applications

- Data centers
- Healthcare facilities
- Financial institutions
- Colleges/Universities

1.2 Mechanical characteristics



Dimensions (W x D x H)	24 x 36 x 78 inches / 609.6 x 914.4 x 1981.2 mm		
Weight	750 lbs / 340.2 kg		
Floor loading	≤ 125 lbs/ft^2 / ≤ 610.3 kg/m^2		
Heat output		BTU/Hr at full load	kW
	100A:	2390	0.70
	200A:	4437	1.30
	250A:	5120	1.50

1.3 General specification

Standards	ETL listed to UL 1008S
Audible noise level	≤57dBA at 1 m
Access requirements	Front only for installation, operation, and maintenance
Degree of protection against hazards and water ingress	IP20
Cooling	Forced air cooling
Ventilation	Perforated top plate and front door
Frame color	RAL 9005 (black)
Transport	On pallet Cabinet suitable for handling by forklift
Cable entry/exit	Top and/or bottom

1.4 Environmental characteristics

Ambient operating temperature range	[° F/° C]	32 - 104° F / 0 - 40° C
Ambient non-operating temperature range	[° F/° C]	-13 - 131° F / -25 - 55° C
Relative humidity range	[%]	10 - 95%, non-condensing
Altitude without de-rating	[ft/m]	Up to 6000 ft / 1828 m
Seismic rating		Rated to 1.6 SDS

2 Electrical characteristics

2.1 Electrical ratings

Amp ratings	[A]	100, 200, 250
Voltage ratings	[V]	208, 380, 415, 480
Neutral		Unswitched
Voltage window		+/-10%
SCCR ratings	[kAIC]	35 (std.), 65, 100 (opt.)
Input/output frequency	[Hz]	60 +/-5% (57 – 63Hz)
Overload capability		125% for 30 min 150% for 1 min 200% for 10 sec 1000% for 3 cycles 1500% for 1 cycle

2.2 Components

Power semiconductors	100% rated SCRs, type II fuseless design
User interface	6.5” color TFT industrial use VGA LED touchscreen GUI
Cooling	Redundant fans
Power supplies	Triple redundant
Surge protection	40kA SPD on each source
Control logic	Dual redundant
Protection	UL 489 molded case switches
Output load switches	Single (std.), Redundant (opt.)
Power wire & bus bar	Copper

3 Operational characteristics

3.1 Operational specifications

Full load efficiency	Up to 99.4% (480V), 98.7% (208V)
Sense + transfer time (in-phase)	< 4ms patented A9 transfer method
Sense + transfer time (out-of-phase)	< 16ms patented Real Time Flux Control™ for DIR method
Downstream transformer inrush[1]	< 1.2x nominal transformer rating
Bypass	System guided via local display
MTBDE	1.5 million hours

[1] Based on DIR transfer

3.2 Power quality and metering

Loss of source detection	2ms, PLL detection per phase
Voltage	Each source and output. True RMS, up to 13th harmonic
Current	Each source and output. True RMS, up to 13th harmonic
Peak current detection	Each source, resettable
Source reacquisition	3 cycles

4 Control and communications

4.1 Communications interfaces

Modbus over RTU (via RS485)	Standard
Modbus over TCP (via Ethernet)	Standard
Serial service port (via USB)	Standard
Customer download port (via USB)	Standard
Local EPO	No
Remote EPO - Emergency Power OFF (n/c contact, customer supplied)	Standard
User Interface Board (UIB)	Standard (*see section 4.10 of installation guide for additional details*)
Alarm relays	16 form “C” relays
Building alarm inputs	10 dry contact inputs

5 Options

5.1 Accessories

1. Seismic rated floorstands (12” – 48”H)
2. Heavy duty casters

https://new.abb.com/ups/static-switches

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