

Matrix Telecom Static Transfer Switch, INV-STS-100



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Powering Business Worldwide

STS AC Input voltage range

110/115/120 Vac	89 to 138Vac
208/220/230/240 Vac	176 to 276Vac
Frequency	50/60Hz $\pm 2.5\%$ (synchronize range of inverters)

STS AC Output

Nominal Output Voltage	Same as utility voltage or inverter output
Permissible Frequency Range	Max. $\pm 2.5\%$ (inverter synchronization)
Transfer Time	Typical 1/4 cycle
Rated Current (Inom)	100A
Operation Methods	Inverter priority / Mains priority
Overload protection	20s @ 120% Inom 5s @ 160% Inom 3200A < 10ms (mains bypass) <i>Note: The STS will not transfer from Off-line mode to On-line mode if the load exceeds the estimated capacity of the inverter system.</i>

Over Temperature Operation

On-line mode	When the temperature of heat sink in the STS is too high, the static switch will power the load through the internal bypass relay. If the temperature reaches a critical threshold, the bypass relay will be open, and the load will be disconnected. The system will return to normal operation when the temperature drops to acceptable levels.
Off-line mode	When the temperature of heat sink in STS is over 85°C, the static switch will transfer to on-line mode. Over temperature protection is then the same as on-line mode.

Static Switch Transfer Voltages

INV-4810, INV-4815 Inverters					
Nominal Output Voltage		110V	115V	120V	
Over Voltage: Range		117~127V	122~132V	127~138V	
Default Value		127V	132V	138V	
Under Voltage: Range		89~105V	93~110V	100~114V	
Default Value		89V	93V	100V	
INV-4810E, INV-4815E Inverters					
Nominal Output Voltage		208V	220V	230V	240V
Over Voltage: Range		220~240V	233~252V	244~264V	254~276V
Default Value		240V	252V	264V	276V
Under Voltage: Range		176~198V	176~209V	185~218V	193~228V
Default Value		176V	176V	185V	193V

Environmental Requirements

Operating temperature range	-20°C to 70°C (-4°F to 158°F) -5°C to 50 °C (23°F to 122°F), full performance
Storage temperature	-30°C to 85°C (-22°F to 185°F)
Operating humidity	95% Relative Humidity (non condensing)
Operating Attitude	1500m
Audible noise	55dB ETS 300 753, class 3.1

Mechanical

Dimension (D, W, H)	270mm, 218mm, 88mm (10.6", 8.6", 3.5")
Weight	4.4kg (9.7 lb)
Heat dissipation	Forced air cooling
Front Panel LEDs	
Power Output	Green (25%, 50%, 75%, 100%)
Warning	Yellow
Fault	Red
Mains OK, Mains Bypass, Inverter Bypass, STS on Mains, STS on Inverter, Inverter OK, Output OK	Green

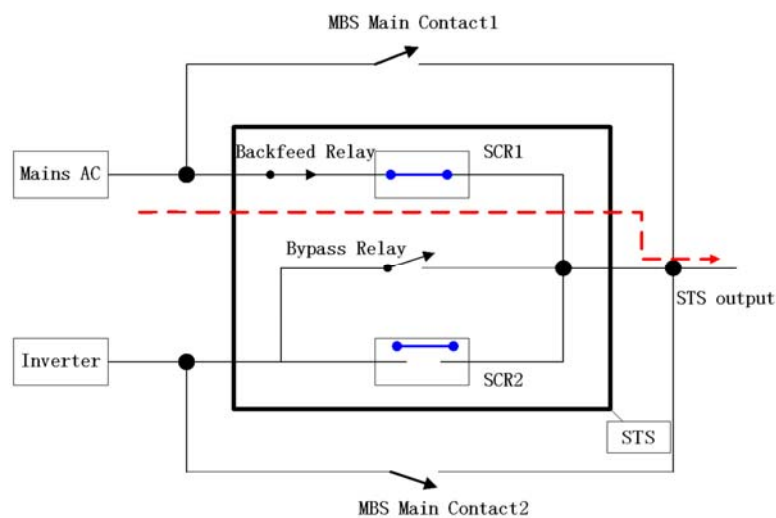
Compliances

Safety:	EN62040-1 / UL-1778, IEC62310-1
EMC - immunity	
Electrostatic Discharge	EN 61000-4-2
Radiated radio frequency	EN 61000-4-3
Electrical fast Transients	EN 61000-4-4
Surge	EN 61000-4-5
Conducted Radio Frequency	EN 61000-4-6
EMC – emissions	
Emissions (AC)	EN 55022 (Class B)
Harmonics	EN 61000-3-2
Static transfer systems (STS) - Electromagnetic compatibility (EMC) requirements	IEC 62310-2

Certifications

Europe	CE-mark
USA	UL

Schematic of Static Bypass Switch (shown in mains priority mode)



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