

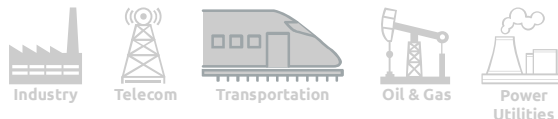
PowerSelect Series Continuous Duty STS Solutions

The **PowerSelect** STS provides automatic or manual uninterrupted transfer of power from two synchronized single phase or three pha AC sources in less than 5 milliseconds which is a quarter of a period.

The **PowerSelect** STS presents ultimate performance, highest availability, maximum robustnes & versatility.



Key Applications



Product Snapshot

- ◆ Hi-tech state of art of power electronics design with DSP (Digital Signal Processor). Intelligent control and high reliability, fully thyristor switching control.
- ◆ Enhanced reliability & robustness via true fault-tolerant redundant design, eliminated single point of failures.
- ◆ Capable of operating under harshest environments. Protections against mains low/ high, output low/ high, over temperature, short circuit.
- ◆ Supports a vast range of applications in industry, railways and telecom.
- ◆ Advanced LCD display & user interface with a full access to STS operation parameters, remote monitoring & management.
- ◆ Easy diagnostics and troubleshooting, lowers MTTR, highest MTBF in its class.

Features & Benefits

- ◆ Continuous duty, robust, ultimate performance.
- ◆ Redundant power supply design, minimizes the risk of failure.
- ◆ Built-in maintenance bypass breaker.
- ◆ Adjustable input & output values, electrical characteristics.
- ◆ Advanced serviceability, fast recovery from fault(s).

Options

- ◆ Custom design IP rated enclosures with internal air conditioner & lighting system. Optimum performance for outdoor applications.
- ◆ 4 pcs programmable relay outputs for alarms.
- ◆ Easy monitoring of input/ output voltage & current information via analog measuring instruments.
- ◆ Input/ output voltage & current transducers. (4-20 mA & 0-10V at the same time.)
- ◆ RS485 Modbus communication.
- ◆ Remote transfer.

TSINE' s **PowerSelect** Series static transfer switches (STS) are essential components of power designs for any application which is critical in facility' s operations.

Proven DSP controlled, thyristor switching static technology, high electrical and mechanical robustness, high reliability and ultimate performance at the time of one source' s faults & failures are what **PowerSelect** Series offer to mission-critical applications in industry, telecommunications, marine & military fields in harshest environments for securing the power. Its wide mains operation voltage & frequency range, unrivalled synchronization algorithm and control, transfer time less than 5 milliseconds are the keys why the users in various industries chooses it.

Multiple microprocessor control, redundant and continuously monitored power supplies, advanced user interface, next-generation connectivity standards, monitoring& management features makes it a premium device in its class.

Power density in minimised footprint, compact & modular design is what highlights it among its competitors in worldwide markets.

The extendable product warranty and coverage plans up to 5 years for international markets, extended warranty contracts are available and optimized product service life is above 10 years.

PowerSelect Series is designed to meet the needs of demanding environments and businesses worldwide.



General Characteristics

Converter Type & Technology	DSP Microprocessor Controlled, Thyristor Switching Technology, Continuous Duty, Robust, Fault-Tolerant
Standards	IEC62310-1, IEC62310-2, IEC62310-3, ISO9001
Standard Protection Features	Prevents sudden transfers of high currents, Short circuits mains low/ high voltage, output low/ high voltage, over temperature, Power limiting, Thyristor Fault Sensing (SCR Fault)
Operating Conditions	15~25 °C, <1000m Above Sea Level without downgrading, <45% to 55% RH for Best Performance
Cooling/ Isolation	Forced Air Cooling via Redundant Fans LED Indicators: S1 OK, S2 OK, S1 is ON, S2 is ON, Output Power ON, Common Alarm, S1 Maintenance, S2 Maintenance, S1 & S2 Unsynchronized
Display & Parameters & Audible Alarms	Audible Alarms: Available
Maintenance Bypass	STANDARD
Material [Casing]/ Colour	Galvanized Steel, RAL7035, RAL7032 (Standard), Custom Colors Available
Cable Entry	TOP/FRONT, BOTTOM/ REAR As per Client' s Order

Efficiency

@100% Full Load	99%
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AC Dual Input

Rated Voltage	380/ 400/ 415VAC 3P+N
Voltage Range	180~264VAC (L-N Voltages, Adjustable)
Input Phases	3 Phases, 3 Poles (Standard), 3 Phases + N, 3 Poles + N (Optional)
Rated Frequency	50/ 60 Hz
Frequency Range	±20% (Adjustable)
Distribution Compability	IT, TT, TNS, TNC

DC Output

Rated Voltage	3*190VAC / 3*220VAC / 3*360VAC 3*380VAC / 3*400VAC / 3*415VAC (L-L)
Transfer Type	Before one of the source is not available, when S1/S2 is not synchronized
Transfer Time	< 5.0 ms @ 50Hz, < 4.1ms @ 60Hz (when S1/S2 is synchronized), 10 ms (S1/S2 is not synchronized)

Communication & Supervision

Standard:	TSINE Controller, total energy system management and single point of control and monitoring of various parameters. Designed to manage today's advanced control and automation requirements. Simplified on-site system commissioning and trouble-shooting with standard features: advanced user interface, user configurable alarms and data, custom data logging, performance monitoring, 2*16 character LCD Display for measurements, status & alarms, LED status indicators for STS operation, Audible alarms & LED test, Power supply status indicators, RS232, Dry contact relay for general fault alarms, LCD language selection, Easy calibration of measured parameters via front panel, ease of programming all operation parameters (password protected), Events log up to 200 incidents with date & time, Adjustable input & output parameters,
Optional:	Touchscreen graphical LCD (HMI), RS485 Modbus Comm., TCP, SNMP IPv4 & IPv6, e-mail, GSM GPRS, Easy monitoring of input / output voltages & currents via analog measuring instruments, Programmable 4 pcs dry contact outputs, Remote monitoring, IPv4 & IPv6, e-mail,

Environment

Operating Temperature Range	(-5°C) - (+50°C) / 15°C - 25°C / -42°C ~ 70°C
Prespecified Operating T. Storage Temperature	
Altitude/ Relative Humidity	< 1000m above sea level, > 1000 m – 1% power downgrade for per 100 m, Max. Altitude < 4000m / < 95% (non-condensing)

Certifications

Safety	EN 62040-1
Electromagnetic Compability [EMC]	EN 62040-2
Performance	EN 62040-3
Quality Management	ISO 9001, CE

Optional Features & Accessories

Custom Electrical Characteristics	Available
IP Classified Enclosure	Available from IP21 ~ IP 64

Physical

Dimensions & Weight	See Ratings & Dimensions Chart
Protection Degree	IP20 (Standard)

Capacities & Model Names

Model Name	S3050 S3100 S3150 S3200 S3300 S3400 S3500 S3600
Capacity (A)	50A 100 150 200 300 400 500 600



TSINE ELEKTRONİK SANAYİ VE TİCARET LTD. ŞTİ.

Beyit St., No: 55/4, Yukarı Dudullu
P.O. BOX: 34775 İSTANBUL / TURKEY

+90 216 365 7049 info@tsinepower.com
+90 212 324 4931 www.tsinepower.com

For More Information on The
PowerSelect, Please Visit
www.tsinepower.com