

## Static Transfer Switch MODEL C1

The **Model C1** is our single phase wall mounted Static Transfer Switch (STS). Designed to provide uninterrupted power in industrial / commercial sites where Point of Distribution type Static Transfer Switches are inappropriate because of the load types and fault levels and where the STS is to be located.

Your equipment is automatically protected switching between two independent power sources upon detection of a problem. To avoid the dangers of paralleling power sources, all switching is break-before-make and ensures no disruption to the operation of your connected equipment.

With limited install infrastructure this unit offers zero footprint and industries smallest physical size. For wall or within switchboard mounting. Only 280 mm depth (Size 400 wide x 400 high, (mm)).

**Available as single or double pole as either a Standardized fused design or a ruggedized high fault capacity type.**

### High Capacity

The high capacity type enables installations into 16 and 20 kA distribution environments ensuring that down stream faults do not cause loss of output due to failed fuses or damage to the devices.

These units are extra rugged and contain generously overrated, high fault capacity solid state thyristors (500 Amperes or more) for installation into distribution systems with 16, 20 or 36 kA short circuit capability. These unit do not contain fuses or circuit breakers and rely on up stream and down stream discrimination to clear load faults.

### Standard Capacity

The low capacity fused design is still suitable for installations up to 20kA, however is designed for installations where the prospective fault currents are low due to long cable runs between the source to STS and STS to load. Thus loss of output due to internal STS failure is not likely to occur except for the most arduous operating conditions.

We would expect that the down stream fuses in the faulty equipment will always clear first. In practice down stream equipments contain small fuses where discrimination ensures that they clear first. The fault currents for these installations are very low generally below what would cause the fuse to isolate.

For overloads for up to 100 Amperes for in excess of 30 seconds and 200 Amperes for 25 cycles, (1/2 second).

With overload and fault withstand capacities of at least 400A for 100msec without rupture of internal 100A fuse and without damage to the STS semiconductors.

For fault Current characteristics where fault currents approach 2000 Amperes the internal 100A fuse will rupture safely and the STS semiconductors will not be damaged.

At fault current between 2kA and 20kA, the internal 100A fuse will rupture safely and the STS semiconductors will fail safely.

### The Range:

Rated from **10 to 200 Amperes** in 1 or 2 pole configurations complete with optional 3 position CAM operated "No-Break" maintenance bypass facility.

Units up to 63 Amperes are naturally air cooled. Larger capacity units are provided with redundant low noise (<60dB(A)) fans.



(Just 400mm W x 400mm H x 280mm D)

### Maximum Reliability:

The Model C1 *i-STS* features a high reliability, low maintenance, robust design with redundant circuitry inbuilt. The units use DSP high speed digital sampling for stable, reliable and predictable operation. Through the use of digital circuitry and redundant and independent controls MTBFs of 800,000 Hrs are attainable. We are so confident of the reliability of our equipment, we offer the industry's longest warranty period.



### Simplicity Is The Key:

Bi-colour LED mimic and backlit graphic LCD panel to provide useful realtime information such all variables that are displayed on a single screen, power quality, 100 deep event log and utilisation history.

The *i-STS* can be easily transferred from one supply to the other by using the 'TRANSFER' pushbutton while the LCD has an uncomplicated easy to read and interpret control hierarchy which is operated using the down and right arrow pushbuttons.

Setting of all STS parameters is achieved via the LCD or using the web browser interface, (password protected). Dual setpoints for Manual and Auto Mode from User Control Panel.

User selectable preferred source and a controls override function, 7 discrete volt free contacts for remote monitoring and 3 control inputs.

### Communication:

Each *i-STS* is fitted with five voltage-free contacts and three remote inputs. For more advanced monitoring, we also offer MODBUS or a web browser or optionally SNMP interface to monitor and if needed, control the STS. Setting of all STS parameters is achieved using the web browser interface.

# Specifications

These specifications refer to a typical three phase Model C1 Static Transfer Switch

Rating	20/40/63/100/150/200 Amperes RMS
Voltage Rating	110/220/230/400 V $\pm$ 20%
Permissible Voltage Distortion	20% THDV
Frequency	50 / 60 Hz $\pm$ 5%
Type	1-phase, (1-pole, or 2-pole)
Efficiency	99 %
Transfer Type (current)	Thyristor (break-before-make, no source overlap, zero)
Detection	Digital (< 1 msec)
dV/dt	>1000 V/ $\mu$ sec
MTBF	> 800,000 Hrs
Device Ratings	120/500 Amperes RMS, 1600 Volts
Fault rating	2/ 16 kA & 20kA or 36 kA for special application only
Fault Current Setting	300% Amperes peak (transfer lock-out)
Protection	External
Overload Capacity	Up to 120% for 30 seconds 200% Amperes for 0.5 second 500% Amperes for 100 msec (1000%) 2,000 Amperes for 10 msec (16 & 20kA High Capacity Unit)
Remote I/O	7 x Voltage free contacts (50 V DC, 1 Ampere N/C)
LAN Browser	Standard
ModbusTCP	Optional
Modbus RTU (RS232)	Standard (RS485 optional with external adapter)
SNMP	Optional
Operating Temperature	0 - 45 °C
Cooling	Natural to 63 amperes, Fan forced, redundant for > 100
Amperes	
Noise	< 60 dB(A) typically
Physical Size	<b>400mm high x 400mm wide x 280mm deep</b>
Cable Entry	Bottom via glands / terminal block
Maintenance Access	Front Only
Weight	25 kg (typical)
Colour	RAL7035 (off white)
Compliance	AS3100 & ASNZ/IEC 62310-1, CE (for STSs)
Warranty	24 months

Subject to change without notice.

## Static Transfer Switches

*i*- STS Manufacturing is a subsidiary of  
**STATIC POWER PTY. LTD.**  
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