STATIC POWER

SMART | SOLID | SAFE

iSTS B1 vs iSTS A1

October 18

iSTS B1

iSTS

MAINTENANCE BYPASS EXPANSION
Rear View

Available Options

- Maintenance bypass expansion with hot socket field replaceable power module
- Three-phase expansion module
- Various inlet and outlet configurations
- Wall mount bracket

The Smart Solution

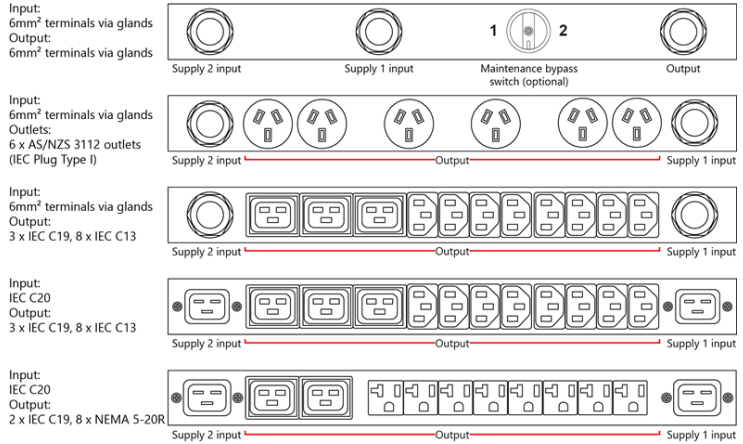
With up to 32A of switching capacity, the Model B1 is perfect for any small to medium rack-based installation. iSTS Model B1 is fully featured and offers optional maintenance bypass and three-phase expansions.

Fully configurable, the LED mimic and graphic OLED display interface enables easy access to user settings and operating variables. All events are recorded in real-time with time synchronisation available via NTP.

Remote connectivity is achieved via Ethernet and 20-way header.

Key Features

- Built-in transient voltage protection
- UPS Eco-Mode compatible
- RCD site compatible
- Safe asynchronous source transfers
- Very high MTBF (>800,000 hours)
- Back feed protection contactors
- Manual or automatic transfer selection
- Integrated web server
- High-level interface - MODBUS, SNMP
- Email alerts
- Clock synchronisation with NTP
- Remote operation
- Various input/output configuration
- Preferred source selection
- Incoming source isolator switches
- Visual and sound alarms
- LED mimic with graphic OLED interface and load indicator
- Additional voltage free general alarm contact
- Australian designed & manufactured



iSTS A1

iSTS

The ATS alternative

Superior in performance and ruggedness to relay based transfer switches, the Model A1 is a true solid-state Static Transfer Switch that allows safe and seamless switching of a critical load between two power supplies.

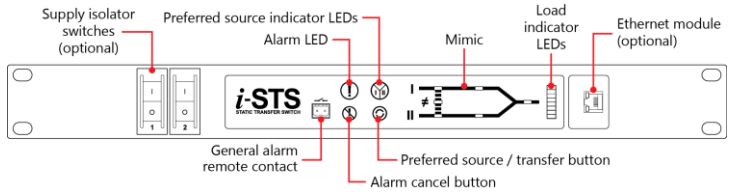
Key Features

- Small 1RU design
- 1-phase, 2-pole
- Built-in transient voltage protection
- UPS Eco-Mode compatible
- RCD site compatibility
- Safe asynchronous source transfers
- Very high MTBF (>1,000,000 hours)
- Back feed protection contactors
- Manual and automatic transfers selection
- Various input/output configuration
- Preferred source selection
- Visual and sound alarms
- Bi-colour LED mimic and load indicator
- Voltage free general alarm contact
- Australian designed & manufactured

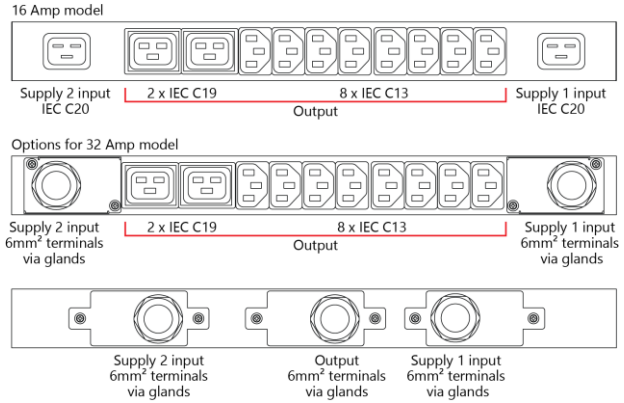
Available Options

- Incoming source isolator switches
- Ethernet module for LAN/TCP, Modbus & SNMP
- Wall mount bracket

LED MIMIC & LOAD DISPLAY



INPUT – OUTPUT CONFIGURATIONS



iSTS B1 Vs iSTS A1

iSTS

iSTS B1

POWER	
Type	1-Phase/2-Pole or 3-Phase/4-Pole – *3Ph models are 4-wire + earth unless otherwise stated*
Current rating	Up to 32A
Voltage rating	All region-specific voltages selectable ±10%
Safe install environment	20kA, 100A internally fused
Frequency	50Hz and 60Hz, ±10% - *Auto detection*
Max THDV	15% - *Max allowable source voltage distortion*
Power factor	No practical limit
Crest factor	3.5 : 1
Loading	0 - 100% @45°C ambient
Overload capacity @45°C ambient	63A for 30s 100A for 1s 225A for 0.1 s
Input options	6 mm² terminals with glands or 2 x IEC C20
Output options	6 mm² terminals with glands 6 x AS/NZ3112-IEC Type 1 sockets 3 x IEC C19 + 8 x IEC C13 sockets 3 x IEC C19 + 8 x NEMA 5-20R sockets
Maintenance bypass	Optional maintenance bypass expansion - *3-position switch on rear*
Isolation	Incoming source isolator switches, front mounted – *Removal of switches optional*
SWITCHING	
Transfer type	Transfer at zero current by break-before-make by Thyristors / SCR
Detection	Digital: <1ms
Break time	<1ms to ¼ cycle
Asynchronous break time	Settable from 0ms to 150ms or Vt proportional - *Default*
dV/dt max	800V/µs
MTBF	800,000 hours @25°C ambient - *Recommend Routine Preventative Maintenance @ 200,000h*
Device ratings	$150A_{RMS}$, 1400V, 2kA 1 cycle
Fault current setting	>350% peak with load fault transfer inhibit
Protection	100A fuses - BS88/FE100

iSTS A1

POWER	
Type	1-Phase/2-Pole
Current rating	16A to 32A
Voltage rating	115V or 230V, ±15%
Safe install environment	20kA, 100A internally fused
Frequency	50Hz and 60Hz, ±10% - *Auto detection*
Max THDV	10% - *Max allowable source voltage distortion*
Power factor	No practical limit
Crest factor	3 : 1
Loading	0 - 100% @40°C ambient
Overload capacity @40°C ambient	40A for 30s 50A for 1s 115A for 0.1 s
Input options	16A model: IEC C20 sockets 32A model: 6 mm² terminals with glands
Output options	16A model: 2 x IEC C19 + 8 x IEC C13 sockets 32A model: 2 x IEC C19 + 8 x IEC C13 sockets or 6 mm² terminals with glands
Isolation	Optional incoming source isolator switches, front mounted
SWITCHING	
Transfer type	Transfer at zero current by break-before-make by Thyristors / SCR
Detection	Digital: <1ms
Break time	<1ms to ¼ cycle
Asynchronous break time	0ms, 10ms, 50ms or Vt proportional - *user settable*
dV/dt max	800V/µs
MTBF	1,000,000 hours - *Recommend Routine Preventative Maintenance @ 200,000h*
Device ratings	$80A_{RMS}$, 1400V, 1kA 1 cycle
Fault current setting	300% peak with load fault transfer inhibit
Protection	100A fuses - BS88/FE100

iSTS B1 Vs iSTS A1

iSTS

iSTS B1

COMMUNICATION AND CONTROL	
User interface	Bi-colour LED mimic decal with graphic OLED display and information interface Preferred supply selection Source transfer selection Alarm cancel pushbutton
Contact	In: 2 Self wetting transfer control inputs Out: 5 Voltage free change-over status indicators, Form C
Ethernet	HTTP - *Web browser interface for reporting & control* SNMP - *120 unique reports & transfer control* MODBUS TCP - *120 unique reports & transfer control* EMAIL – *User configurable alerts* NTP - *Clock synchronisation*
ENVIRONMENTAL	
Dimensions H x W x D	44 x 483 x 390mm and 44 x 483 x 510mm with maintenance bypass expansion
Weight	Base: 7kg, Maintenance bypass: 4kg, 3-phase extension module: 5kg
Temperature	0 – 45°C
Cooling	Passive
Humidity	5 – 95% non-condensing
IP rating	IP31
COMPLIANCE	
Regulatory approvals	IEC 62310-1,2,3 - IEC 60950 - IEC 61000-6-1,2,3,4 – CE – RCM - UL Capable - RoHS
Standard warranty	24 months offsite repair or replacement policy

iSTS A1

COMMUNICATION AND CONTROL	
User interface	LED mimic decal with load indication Preferred supply selection Source transfer selection Alarm cancel button
Contact	One voltage free general alarm indicator, Form A or Form B - SPST
Ethernet - *Optional*	HTTP - *Web browser interface for reporting & control* SNMP - *120 unique reports & transfer control* MODBUS TCP - *120 unique reports & transfer control* EMAIL – *User configurable alerts* NTP - *Clock synchronisation*
ENVIRONMENTAL	
Dimensions H x W x D	Model 16A: 44 x 483 x 285mm Model 32A: 44 x 483 x 307mm
Weight	5kg
Temperature	0 – 40°C
Cooling	Passive
Humidity	5 – 95% non-condensing
IP rating	IP31
COMPLIANCE	
Regulatory approvals	IEC 62310-1,2,3 - IEC 60950 - IEC 61000-6-1,2,3,4 – CE – RCM - UL Capable - RoHS
Standard warranty	36 months offsite repair or replacement policy

iSTS B1 Vs iSTS A1

iSTS

#	Features	Advantages	Benefit	Differentiator	Evidence
1	**iSTS B1 has OLED Display**	Easily interrogate the status, events history, utilisation, set-up and loading and of the STS.	Correlate events, real time information, variables usage data and diagnostics	Model A1 has exactly the same technology implementation without display	OLED technology is capable of absolute blacks and bright whites. Longer life and no need for backlighting as per LCDs
2	**Fully digital user settings and thresholds**	Password protected, enables all operating parameters, calibration and alarm thresholds to be adjusted by the user	Future proof and enables exception operation for future new equipment deployments	iSTS A1 has factory default settings and only a 15 user settable options by switch selector	When there is an event its always beneficial to be able to interrogate a device to determine the sequence
3	**More inlet and outlet power options**	Less reliance on PDU usage and more flexibility when catering for differing load items	Works in any country, with more flexibility in respect to inlets and outlets. Bespoke arrangements possible	iSTS A1 has only 3 options reliance on terminal inlets OR IEC C20 inlet sockets, IEC Outlets or terminal outlets	iSTS B1 has up to 10 power inlet and outlet options. iSTS A1 has the 3 most used combinations only
4	**Maintenance Bypass Option**	A no-break alternative power path enables device maintenance / replacement without affecting the load	Guaranteed no interruption to services b/c of failsafe logic and transparent STS changeovers for critical loads	Maintenance Bypass has 3 positions - *S1, Normal & S2* - and cradle arrangement to allow hot socket field replacement	Although failures are rare and the need for maintenance is minimal if no disruption to the critical load is possible then
5	**More Discrete Inputs & Remote Control**	Can be easily monitored by BMS or remote alarm panel. Allows remote transfer and fire stop, all change-over volt free contacts	Provides simplified monitoring functions	iSTS A1 has 1 only General / Summary Alarm normally open or normally closed contact for remote monitoring	5 of the most important status monitoring change-over contacts and three remote control inputs

iSTS B1 Vs iSTS A1

iSTS

#	Features	Advantages	Benefit	Differentiator	Evidence
6	**Rugged and higher safety margins**	Can supply higher inrush and overload conditions for longer as no internals are stressed	Improved reliability and product lifetime. Highest industry Overload capacity	iSTS B1 has more than 500% over current and 500% safety margin on voltage. iSTS A1 has 300%	iSTS B1 is our flagship STS, it has all of the features and the redundancy that you would normally find in a large STS
7	**Engineered for higher reliability**	Longer life and outperforms any other product available on the market	Extraordinarily perfected, higher reliability, better exception handling & reporting	iSTS B1 has triple redundant power supplies, double redundant monitoring of inputs and outputs, partitioned & independent functional circuitry	One-Up implementation, no compromise in respect to engineering excellence
8	**Fully Optioned No Extras**	LAN, inlets, outlets, remote monitoring, display, OH&S incoming front panel isolators are all standard	Everything is built into provide a most reliable and affective critical load redundancy	To make the iSTS A1 more affordable; LAN, front panel isolators, display are add-ons options	See brochure for further option differentiators
9	**Compatible with RCD environment**	Will not trip RCD/EL devices on the input or output. Fully compatible with AUS/NZ and international safety standards	Worry free computer room installation meeting all AUS/NZ legislative requirements	iSTS A1 can have RCD option, however, it is often not required or legislated	Uses medical grade internal low leakage componentry and all units laboratory tested prior to shipping
10	**iSTS B1 can be optioned to provide 32A, 3-Phase/4-Pole in 1RU**	Used here space is at a premium, this capability shows the sophistication of the iSTS B1 product	Where space is a premium and there is a need to standardize this is the only 1RU 3-phase STS on market	iSTS A1 is only 1-phase/2-pole switching. iSTS B2 is 2RU	No one else has this as an option nor a product that is available in 1RU, 32A, 3P/4P

iSTS B1 Vs iSTS A1

iSTS

#	Features	Advantages	Benefit	Differentiator	Evidence
11	**CE, RoHS, IEC62310 & IEC60950 compliant**	Operational and safety standards ensure the safe, reliable and known operational usage	Rest assured that this product is a true universal product that has been designed and manufactured to meet	iSTS A1 also conforms to these standards, however, some manufacturers products may not	RoHS Recast Directive 2011/65/EU of European Parliament and of the Council of 8 June 2011 and its amendments including Directive 2015/863/EU we declare not to use any of the restricted substances in all of our products
12	**Compatible with all world Voltages & Frequencies**	Use anywhere in the world, digitally settable/calibrated voltages and frequencies from 100V to 265V @50/60Hz	Standardize and stock, lower, inventory costs	iSTS B1 also has advanced features and extended operating ranges than other opposition product alternatives	Most other suppliers are analogue based and you need to specify a specific different STS from where you are.
13	**Fully solid-state switching components**	iSTS technology uses solid state switches to achieve the most rapid and dependable transfer process, suitable for even the most sensitive equipment	More secure, faster & more predictable and transparent changeovers always	Others use electromechanical / relays which have limited life time and fault handling capacity & longer break times	Power Thyristors - SCRs as used in our iSTS are the true power switching component and have the highest reliability and ruggedness
14	**Highest MTBF**	Having a reliable proven product means there will be no in-service failures	Guaranteed security for your critical loads. The most reliable power item within your power distribution	Other ATS/STS are known to fail whilst in service or when needed most costing your organization $1,000's	Highest true MTBF of 800,000 hours, Proven field service analysis

iSTS B1 Vs iSTS A1

iSTS

#	Features	Advantages	Benefit	Differentiator	Evidence
15	**20kA Safe install**	Protected against risk of fire due to inadequate upstream protection or internal ruggedness	Safe and easy to install without special considerations	No one else has this. Most are limited to between 1kA and 6kA, but they won't mention this. iSTS A1 is 20kA safe	Consideration and internal bracing, Fuses inside ensure safe to 20kA install environment
16	**Asynchronous Transfers are not a problem**	Able to safely transfer even when supplies are not in synchronism	Optimized asynchronous transfers, safe for any load type	Others either ignore or have long breaks, both approaches will cause issues with some loads	iSTS A1 also has this feature of safe asynchronous optimized transfers
17	**Highest Overload Capacity**	Lots of additional capacity for high demand loads such as motors or transformers	No careful determination and load matching required by end-user	We have higher transient and surge capacity than any opposition	Large Devices & fuses allow typically 400% to 2000% overcapacity for start-up of equipment and surges
18	**Safe load FAULT Current Operation**	Even if the load has a fault the iSTS will not transfer the fault to the alternate source. Otherwise both sources could be lost	Your whole data centre could be affected if the fault causes the source to fail and then the second source also	Most other ATSs and STSs & Hybrid units don't monitor their load currents and would transfer on voltage	Relay & Hybrid customers complain of welded contacts, failed contacts & componentry
19	**Zero Current/ Zero Power Transfers**	Because all transfers occur at zero current there is never any affect on the load. Applies to iSTS B1 & iSTS A1		Relays will open at any point in the waveform and so can affect the load and the wear on the relays	Relays opening and breaking the load current causes high voltage transients & relay wear
20	**All transfers are Break-Before Make**	No interaction between the sources. One source can never affect the other as they are never interconnected	No overlap keeps sources truly independent and redundant	This may not be the case for when relays are used as contacts could weld and this is not monitored	Customers have show us units with output has been lost because relays have blown open

iSTS B1 Vs iSTS A1

iSTS

#	Features	Advantages	Benefit	Differentiator	Evidence
21	**Wide operating temperature range**	iSTS are made for high reliability in industrial environments. You can put them anywhere in your racks	The last item you need to worry about in your computer/data centre	Some manufacturers de-rate at what should be the nominal operating current for temperatures above 25°C	All units 0-45°C & Qualified to operate to 55°C. Extended Operating range and IP rated products
22	**Both A1 & B1 have Preferred Source Selection**	Allows 1 critical and 1 stand-by alternative source selection or none.	Can have: no preferred or source 1 or source 2 preferred. Front panel settable	Some opposition units have pre-set or no preferred source – *Delta* - or Hidden and can bounce	No bounce between sources as delay before returning to preferred and number of times is set by user
23	**SCRs fully protected against voltage spikes and surges**	SCR Short or open detection assures user that load and sources are protected and STS operation is not compromised	No internal switching device failures that may compromise operation	Relay units suffer from arcing contacts, break-down. Hybrid units SCRS may fail and go unnoticed by bridging relay	No voltage break-down due to spikes b/c of large margins, dv/dt protection, transient absorbers and snubbers
24	**Easy to install & commission**	No specialized knowledge required. No individual unit set-up. Connect & Go	Lower installation costs, less chance of no chance for incorrect set-up	100% qualified product	Some manufacturers force you to use their installers and charge accordingly
25	**Designed & Made in Australia**	We know the product and can answer any queries. Easy support direct from OEM	Quality Assured Product	We don't re-badge. We design and manufacture all our products ourselves	No inferior parts, parts substitutions, variations in manufacturing or shortcuts.

STATIC POWER

SMART | SOLID | SAFE

Contact us:

Tel +61 3 9437 0494

sales@staticpower.com.au