STATIC BYPASS SWITCH
STS118- SERIES

The new static switch of the series STS118 is a compact electronic switch. The digital PLL guarantees minimized synchronization time of inverter and mains frequency. Due to the high synchronization speed the unit can also be used in combination with diesel gensets as bypass mains supply. The transfer time between both inputs is less than four ms. Therefore, the use within an IT environment is possible.

STATIC BYPASS SWITCH STS118

AC INPUT 2x230V / AC OUTPUT 230V
SWITCHING CAPACITY 18kVA / DC INPUT 38 TO 75V OR 90 TO 275V

DOC 24XXXX.100.DS3 – REV1

DESCRIPTION

The STS monitors both incoming sources according to the voltage level, frequency and their synchronization. In combination with the inverter series INV the unit can operate in offline or online mode. This function is programmable at site.

All main functional parameters and measuring values are displayed on the front side LCD panel. For highest reliability the internal circuits are supplied in redundancy by both AC inputs as well as by the battery circuit of the AC system.

For the communication between STS and inverter a CAN-Bus communication is used. The unit has an Ethernet interface for remote connection via SNMP protocol or WEB-Browser.

APPLICATIONS

Power Utilities
- Control & protection
- Circuit breaker power
- Scada
- Communication

Railway & Metro
- Control & protection
- GSM-R - communication
- Signaling
- Emergency lightning
- Wireless Monitoring Systems

Oil & Gas
- Production solution for platform, rig, or FPSO/FSo
- Fire & Gas detection systems (only 24V)
- Emergency Shotdown (only 24V)
- GTL & ING facilities
- Heli-Port lightning

KEY FEATURES

- 19", 1U
- "HOT PLUG-IN" DESIGN WITH BACKPLANE CONNECTION
- OPTIMIZED SYNCHRONIZATION SPEED WITH DIGITAL PLL
- CAN-BUS INTERFACE
- DISPLAY FOR ALL MAIN OPERATING PARAMETERS, SETTINGS AND MEASURING VALUES
- FRONT-TO-REAR AIRFLOW WITH TEMPERATURE-CONTROLLED FAN COOLING
- SNMP INTERFACE AND MONITORING BY WEB-BROWSER INCLUDED

STATIC SWITCH STS118

AC INPUT 2x230V / AC OUTPUT 230V

Model	STS118-230/230 LV	STS118-230/230 HV
Part number	601-180-511.00	601-180-711.00
INPUT DATA		
Nominal input voltage - Source 1	230 VAC ±20 %	
Nominal input voltage - Source 2	230 VAC ±20 %	
Redundant circuitry supply	38 to 75 VDC and from both AC inputs	90 to 275 VDC and from both AC inputs
Input frequency	50 or 60 Hz, adjustable (factory-set to 50 Hz)	
Synchronization range	±10 %	
Efficiency	≥99 %	
Mains input fuse	80 A semiconductor protection	
External mains fuse	recommended; 100 A gL or MCB characteristic B	
OUTPUT DATA		
Nominal output voltage	230 VAC; voltage range acc. to input values; switch over threshold ±5 to ±20 % programmable	
Nominal output current	78 AAC	
Nominal switching capacity	18 kVA	
Overload capability	1000 % for 10 ms (fuse tripping of 80 A gL is guaranteed)	
Output frequency	acc. to the input frequency	
Synchronization range	48 to 52 Hz/58 to 62 Hz	
Transfer time	≤4 ms	
OTHER SPECIFICATIONS		
LED signaling	Operation (green), Inverter OK (green), Mains OK (green), Load on Inverter (green), Load on Mains (green), Synchronization (green), Alarm (red)	
Main processor	16 Bit Fujitsu	
Monitoring functions	Voltage/frequency of sources 1 and 2; synchronization mains-inverter; over temperature; CAN communication lost; synchronization bus interrupted	
Configuration	Via front side operating buttons UP/DOWN/ENTER/ESC and LCD (4x16 characters); via SNMP and HTTP	
Fault signalization	Text message on LCD; one isolated alarm relay output (NC, NO, COM), max. load: 60 VDC/0.5 A; one isolated alarm relay output (NC, COM), max. load: 220 VDC/0.3 A//230 VAC/5 A; email or SNMP (trap) signals	
Communications interface	CAN-Bus at the rear, proprietary protocol, power supply 8 V/500 mA for external units; synchronization bus; Ethernet 10Base-T	
Ambient temperature	Operation: -20 °C to +55 °C, storage: -40 °C to +85 °C	
Cooling	Fan cooling (temperature-regulated)	
Electrical connectors	Rear side: AC inputs/output, DC input and signalization: DIN41612-M-connector Front side: Ethernet (RJ45)	
Climatic conditions	TBD (according to IEC 721-3-3 class 3K3/3Z1/3B1/3C2/3S2/3M2)	
Max. installation altitude	2000 m	
Noise emission	<50 dB (A)	
Type of construction	19“, 1U	
Dimensions (W/H/D)	483/44.4/335 mm + 25.5 mm handle length / min. installation depth using the STS118 sub rack: 400 mm + 25.5 mm handle length	
Weight	approx. 6 kg	
Type of enclosure / Protection class	IP20 (front panel) / 1	
Color	Front panel: RAL 7035, print: neutral, black RAL 9005	
DESIGN STANDARDS		
CE conformity	Yes	
Compliance to safety standards	EN60950-1; UL60950; VDE0100 T410; VDE0110; EN50178; EN60146	
Compliance to EMC standards	EN55011/22 class “B“; EN61000-4 T2-5; EN61000-6-5 (Immunity for Power Station and MV Substation Environments)	

Specifications are subject to change without notice