

**Technical Specifications:**      Status : 11-09-14 (Rev 05-09-14 / 10-07-14)

**Product:** SST330i-M-ES HW6.0, SW 4.02

Description: SimpleStarter SST330i with USB and MODBUS Serial interfaces, without on-board power supply.  
Required Control and Monitoring PC Program: SST Diagnostics v4.10.2 ( Modbus development version )

## **Specifications:**

### **General**

- Designed to comply with VDE EN60335-1.
- Printed Circuit Board for power part, add-on PCB for control functions. Board quality: FR-4.
- Dimensions: LxWxH = 190x107x49mm.
- Protection class: IP00 ( PCB trace clearance/creepage: 4.4mm (Pollution degree: 3)).
- Weight: approx. 380gr. Nett.
- 4 corner mounting holes 3.0mm, assymetrical placed.
- Mounting: Open Frame device; user has to provide a proper housing, safe and with sufficient coolant air circulation.
- Min. circuit recovering time switching mains off-on: 0.3s.
- Mains Supply frequency: 42-70 Hz, maximum frequency variation: 20 Hz/s.
- Overcurrent protection: during starting and continuous operation (semi motor overload relay function).
- Operating temperature: -20 to +80° C: depending on the type of the enclosure.
- Temperature reading and protection.
- Storage temperature: -40 to +85° C, relative humidity <90 %, condensation not allowed.
- Humidity: 98% at 20°C, 85% at 55°C, occasional condensation may happen.
- Altitude: max. 1000m. for devices to be used at higher altitudes consult your supplier.
- USB 1.0 Interface for communication with Intecma's "SST Diagnostics" program, the controller part of the device can be operated with the USB 5V supply, no external supply required for status reading and adjustment.
- Warranty period 24 months after purchase.

### **Power**

- External power supply +24Vdc. Under voltage level detection and USB voltage reading.
- Power consumption power supply Starter at +24.0Vdc:  
at Standby mode 35mA / 0.84W, during start 52mA / 1.25W, at Motor running mode 170mA / 4.1W after 60s.
- Motor maximum starting current limit level: 47Arms.
- Motor maximum continuous current level: 30Arms.
- Rating integrated bypass relay: 30Arms.
- Powerloss during start typ. 96W /3 phases, Ie 30Arms.
- Powerloss in continuous mode typ. 26.5W / phases, Ie 30Arms.
- Mains supply: 3 phase, 400Vac, +10%, -15%. Under voltage level detection and USB voltage reading.
- 3 phase mains phase sequence detection.
- Minimum number of switching cycles over lifetime: Bypassrelay >1.000.000, semiconductors.>10.000.000.
- Number of starts max.: 12 / hour, depending on temperature, motor temperature and load conditions.
- Maximum peak line voltage: 1000V
- Critical rate of rise of on state voltage (dV/dt): 1000V/μs.
- Critical rate of rise of on-state current (dI/dt): 50A/μs.
- Insulation voltage of the power semiconductors: 3kVac/1sec, 2.5kVac/1min.
- Power supply under voltage lockout 18Vdc, hysteresis 2V.
- Mains undervoltage lockout: Switch-off at voltage level < 300V(motor running), hysteresis 20V.
- Mains and motor screw block L1-R-(1), L2-S-(3), L3-T-(5) and T1-R-(2), T2-V-(4), T3-W-(6): 4.0mm<sup>2</sup> /11AWG, depending on motor current rating.
- PE grounding (Common /0V) of the device is a SELV ( Safe Extra Low Voltage ) with a 6.3x0.8mm male Faston terminal.

### ***Starter control***

- Starting time: motor current controlled.
- Control inputs: Manual Start-Stop; +5V/0V potential free contact .
- USB ( with PC program HID interface SST Diagnostics for parameter setting and monitoring)
- MODBUS RTU

### **MODBUS –RTU Serial Port**

- RTU data transfer mode (max. 32 receivers over the network)
- Half Duplex bus, single transceiver (1 transmittir and 1 receiver)
- EIA/TIA-RS485 balanced (complementary) bi-directional Multi-point MODBUS Serial Line
- 2 wire twisted pair communications with separate ground wire/shielding (D+,D-,0V) or 0V over PE frame.
- RS485 data lines configuration: RL= 150Ohms, twisted pair idle load D1: Rpu =680Ohms - ∞, D0 Rpd= 680Ohms - ∞.
- Default configuration: Resistors not placed (can be placed on request, PO QTY >1000pcs/batch ).
- RS485 twisted pair connection: 4 pole male crimp contact terminal ( Minifit ), vertical outgoing
- Discharge voltage peaks up to 4kV on D1(+) and D0(-) pins, +/-18Vdc max.
- Twisted pair shielded cable, AWG24 wires.
- Galvanic connection between Master and Slave; common Ground
- Temperature range -40 : +85°C
- Voltage supply +4.5 : + 5.5Vdc
- Bus speed 9600 bits/s baudrate, 3% oscillator dividing speed tolerance
- Data range RS485 transceiver: 250Kbit/s, slew rate limited driver for reduced EMI
- Default Data Transfer: 1 Start bit, 8 Data bits, 2 Stop bits, No Parity bit

