SUGGESTED TECHNICAL SPECIFICATION

ATS Controller / ATS Control relay / ATS Control Module

**Purpose of this specification**

This specification describes ATS (Automatic Transfer Switch) Controller designed to pilot remotely operated or automatic transfer switches with a safe and reliable transfer from one supply source to the other, independently of the type of sources (transformers or gensets or both).

1. **Standards and certificates**

The ATS controller must comply fully with the following standards whilst compliance with the said standards must be shown on the product label:

* IEC 61010-2-201
* GB/T 14048.11 Annex C

The ATS controller is to be designed and built by a recognised transfer switch manufacturer and shall be tested to IEC 61010-2-201, the standard that specifies the safety requirements and related verification tests for any product performing the function of control equipment.

Its research and development as well as the manufacturing facility must be certified to ISO 14001 for environmental management systems and to ISO 9001 for quality management.

1. **General Characteristics**

The ATS Controller shall include:

* User selectable working modes for maintained or impulse logic RTSE
* Electronic controlled orders for open transition break-before-make (I – 0 – II) transfers, in full compliance with IEC 60947-6-1 when type tested with an IEC 60947-6-1 RTSE, avoiding source overlapping (both sources closing contacts must not be active at the same time in automatic or control mode).
* Panel door and back plate mounting possibilities.
* Product self-supplied from the voltage sensing on both sources.
* 3 phase sensing on both source supplies.
* 24VDC auxiliary supply for optional DC power input.
* Off line options for setting configurations
* Dedicated pushbuttons for Control (remote control for the switch) and Automatic mode selection.
* Embedded RS485 Modbus communications
* HMI must show with LED the availability of the source, position of the switch and state of the switch.
* Double power supply for RTSE motor supply up to 6A general use AC and 6A general us DC.

The ATS Controller shall be IEC 60664 overvoltage category CATIII and it must be able to withstand minimum 6kV between phases of different sources and 4kV between phases of the same source according to GB/T 14048.11 Annex C.

The ATS Controller shall have a minimum of 4 inputs and 4 volt-free relay outputs. Outputs shall be rated for minimum 5A AC1 250VAC 50/60Hz and 5A DC1 24VDC

The ATS controller shall include an input to receive availability information from the RTSE. The controller shall analyse / test its condition (self-test) periodically and communicate through dry contacts or communications to report the ability of the transfer switching equipment to operate (watchdog function).

1. **Functions and performance**

The ATS controller shall also include the following functions:

* Phase rotation detection when both sources are available
* Configurable timers, thresholds and alarms through the HMI.
* 24 VDC activated fire input

The ATS controller shall include On-Load tests associated with Mains-Gen applications. A dedicated TEST button, for On-load testing, shall be provided on the front face for initiating tests as well as a test ongoing LED.

The ATS controller shall have a Maintenance mode where service operators can enter the last inspection date as well as configure maintenance alarms according to the number of cycles, switch operations, time since last inspection and genset running times. The operator shall be able to add a maintenance phone number which is to be displayed in case of failure or maintenance requirement.

The ATS Controller shall have real-time measurements for both sources available through RS485 communication. A “source present” indication shall be provided in case a source is present but not within its availability thresholds.

If a major fault or a critical alarm is activated, the controller shall alert the user through an LED on its front face, and a buzzer sound.

1. **Manufacturer**

Acceptable manufacturer in line with this specification is SOCOMEC “ATyS C25, ATyS C55, ATyS C65” or equal and approved. Alternative solutions must list any deviations from this specification.