

ATS2.0

ENKO Electronic Control Systems - IZMIR / TURKIYE

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Automatic Load Transfer Switch

ATS2.0 is a very versatile load transfer switch, intended to be used in most demanding applications. Can control pulse type breaker modules directly from its output ports.



Its built-in features make ATS2.0 a perfect device for bus-bar control and load management module, integrated with enhanced user selectable functions.

Both Generator and Mains voltages are monitored in 3 phases and controller auxiliary i/o can be programmed for many specific functions.

- **SIMULTANEOUS MONITORING OF MAINS AND GENERATOR BUSBARS**
- **CONFIGURABLE I/O PORTS FOR CUSTOMER SPECIFIC APPLICATIONS**
- **MAINS FREQUENCY MONITORING**

Technical specifications:

DC power supply:	9-35Vdc @ 1W maximum power dissipation (12Vdc, relays off)
Operating temperature:	-35°C to +70°C
Relative humidity:	20%rH to 99%rH, non condensing
AC voltage measurement:	20Vac to 500Vac phase to phase
Frequency measurement:	1.0Hz to 99.9Hz, ± 0.1 Hz
Auxiliary i/o:	3 inputs, fully configurable 2 change-over relay output contacts and 2 breaker contacts
Measurement accuracy:	Phase voltages: $\pm 2\%$ of scale, Frequency: ± 0.1 Hz
System Outputs:	Remote start/stop: 10A/250Vac MCB, GCB: 10A/250Vac AUX: 6A/250Vac
Weight:	180 grams
Mounting:	96mmX96mm front panel
Protection class:	IP52 (front panel protection)
Monitoring:	Mains side (3 phase voltage) Generator side (3 phase voltage)

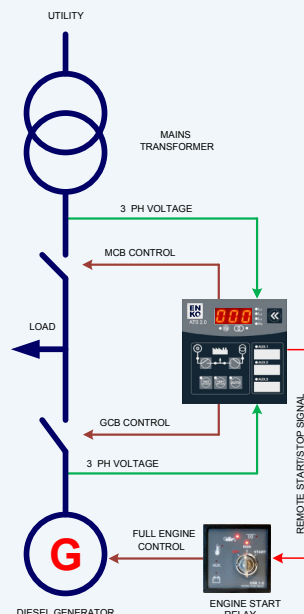
ATS2.0 is a full Automatic Load Transfer Control Switch, which monitors 3ph Mains Bus-Bar voltages and transfer the load, if any or all phase voltages go out of their respective set limits. The controller also monitors Mains frequency for the same action. These units can be used with any two voltage bus-bars, where the load is required to be controlled according to their availability. The control module also monitors all three phases of the Generator bus-bar and take action accordingly.

ATS2.0 is designed with highly functional capabilities where the user can interface with most demanding applications. The module can control MCB and GCB contactors as well as compact circuit breakers direct from its ports, where two independent signals are required for switching the breaker on and off.

The module allows the user to start the generator for testing or periodical maintenance. While the generator is running, the load can be transferred between mains and generator bus-bars, using the switches on the front panel. If, during this phase, the mains voltage fails, the unit automatically switches to "Auto" mode and connects the load to Generator output.

During operation, mains or generator phase voltages or frequency can both be displayed on the front panel, hence avoiding extra AC voltmeters to be used on the panel. All voltage values are displayed in True RMS values with high reading accuracy.

All unit parameters can be adjusted from the device configuration menu and all program parameter values can be seen on the controller display. The units can also be programmed to control the engine cool-down function, hence allowing simple engine starter units to be used with small capacity generator sets.



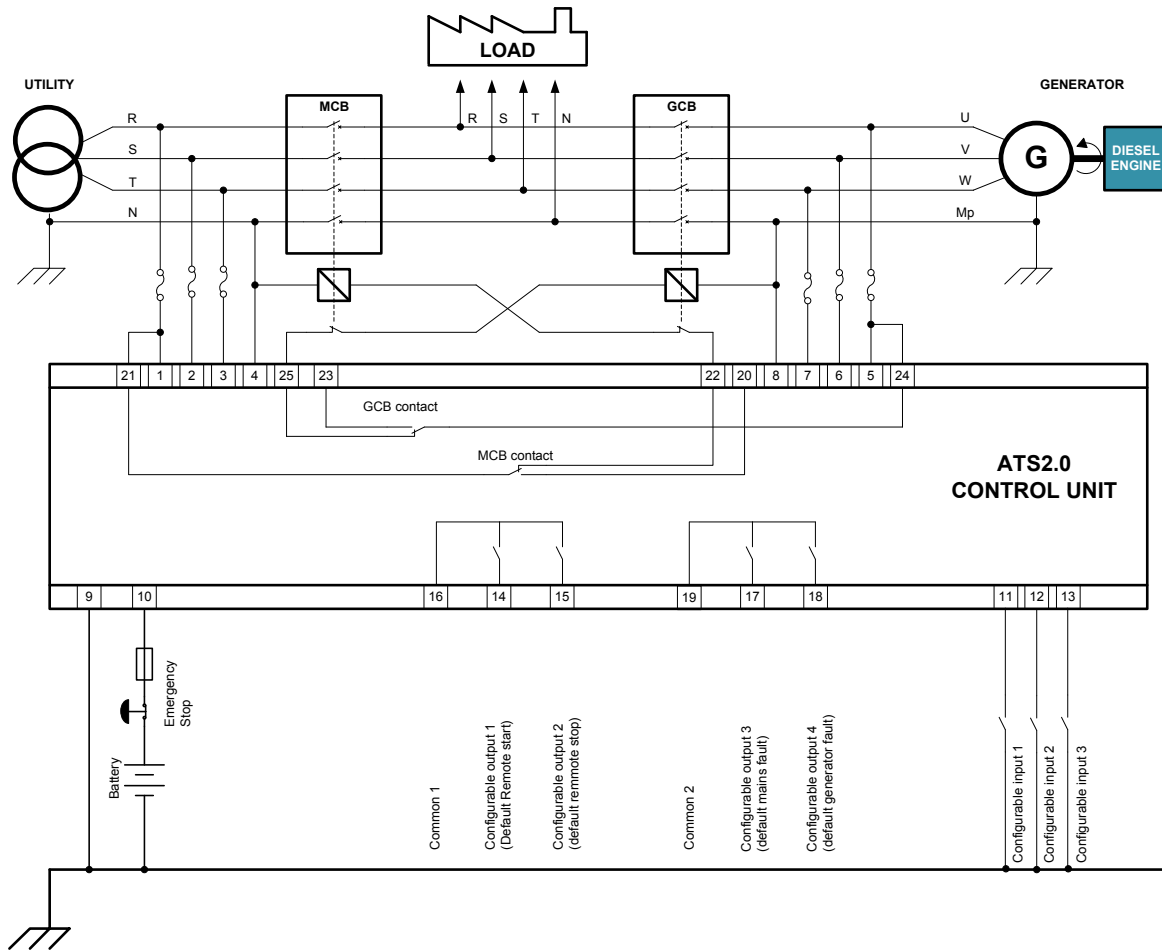
Main features:

- 3 phase Mains and Generator voltage measurement and monitoring
- 3 digit LED display for voltage readouts and parameter displaying
- 5 configurable i/o ports for engine and system controls
- Full LED indicators for bus-bar status condition indication
- AUTOMATIC, TEST on-load and TEST off-load operation modes
- Switching of MCB and GCB contactors manually with the front panel push buttons
- Full digital calibration of all analog measuring variables
- Load transfer function on Mains Frequency monitoring
- Small mechanical outline for minimal control applications
- Plug type terminals on the rear panel

Additional features:

- TRUE RMS VOLTAGE MEASUREMENTS ON BOTH BUS-BARS ✓
- WIDE OPERATING TEMP. RANGE (-35°C to +70°C) ✓
- MAINS FREQUENCY MONITORING AND CONDITIONAL LOAD TRANSFER ✓
- FULL CONFIGURATION ON CONTROLLER I/O PORTS ✓
- LOAD TRANSFER CONDITIONAL ON MAINS PHASE STATUS (LOCK-ON MAINS BUS BAR) ✓
- IP52 PROTECTION CLASS (front panel protection) ✓
- REMOTE START AND STOP OPERATION INTERFACE ✓
- ENGINE COOL-DOWN TIMER FOR SIMPLE GENERATOR CONTROLLER INTERFACE ✓

APPLICATION CONNECTION DIAGRAM



Typical connection diagram is shown above for ATS2.0 control module. All ports are configurable through the system menu.

Two stage password control protects system settings against inexperienced users.

There are separate control output signals for circuit breaker on and off control functions.

All auxiliary outputs are dry contact relay type switches, which can be connected to different potential levels, if required.

Different levels of alarm interface algorithm (C,D, E or F) allows easy interface to peripheral devices.

ATS2.0 has additional auxiliary ports for more specific applications...

Pulse type circuit breakers can be controlled direct from output ports..

ATS2.0 controller has plastic housing, designed according to DIN norms. Mechanical dimensions are shown in the drawing.

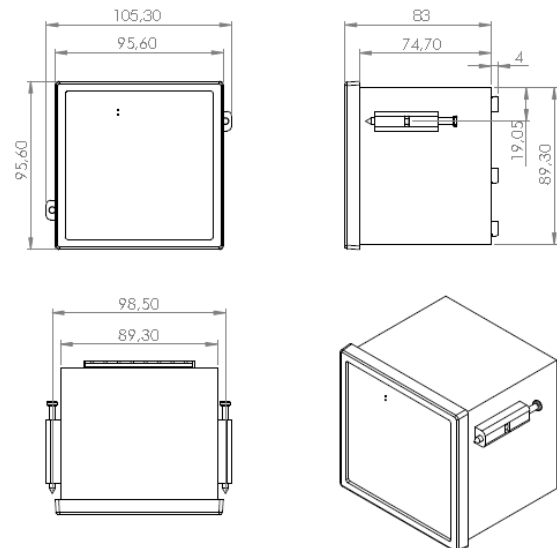
Plastic housing is made of NORYL (PPO) with added fiber, which provides high temperature resistance and good mechanical stability. The electrical characteristics of the housing is excellent.

The front panel is designed to comply with IP52 protection class. Embossed *Lexan* is used for front panel, which provides easy control of the buttons and clear reading of the digital values. ESD protection is provided for front panel.

All components are SMD mounted, including the buttons and LED indicators. The use of mechanical switches for control buttons ensures reliable operation over long periods.

Inner construction is specially tailored for resistance against vibration. Also, special chemical treatment ensures reliable operation in high humidity environments.

Mechanical dimensions



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