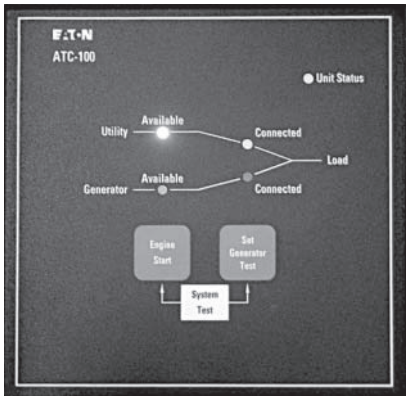
ATC-100 Controller



ATC-100 Controller

General Description

The ATC-100 Controller is a comprehensive, multifunction, microprocessor-based ATS controller. It is a compact, self-contained, panel-mounted device designed to replace traditional relay and solid-state logic panels.

Application Description

The ATC-100 Controller provides both fixed and jumper-selectable settings to allow for a range of applications. It operates from all system voltages between 120 and 480 Vac, single-phase and three-phase, at 50 or 60 Hz. In addition, a period of no control power operation is provided.

The ATC-100 Controller monitors the condition of the three-phase line-to-line voltage and frequency of both the utility and generator power sources. It can also be set up for single-phase operation. The ATC-100 controller provides the necessary intelligence to ensure that the transfer switch operates properly through a series of sensing and timing functions.

The ATC-100 controller can be used with both the breaker-based design and the contactor-based design. See **Table 25.4-4** for ranges and factory settings.

Features, Benefits and Functions

Standard Features

- Auxiliary relay contacts:
  - Source 1 present 2NO and 2NC
  - Source 2 present 2NO and 2NC
- Switch position indication contacts:
  - Source 1 position 1NO and 1NC
  - Source 2 position 1NO and 1NC
- Source 1 and Source 2 sensing:
  - Undervoltage/underfrequency
  - Overvoltage/overfrequency
- Controller settings via jumpers located at the rear of the unit
- Mimic diagram with source available and connected LED indication
- Time-stamped history log
- System TEST pushbutton
- Selectable—OFF, daily, 7-, 14-, 28-day interval fixed run time 15 minutes no load/load with fail-safe
- Monitor utility and generator power source voltages and generator power source frequency
- Provide undervoltage protection of the utility and generator power sources
- Provide underfrequency and over-frequency protection of the utility and generator power source
- Permit easy customer setup
- Permit system testing
- Provide faceplate source status indications

Standards and Certifications

- UL listed component
- IEC 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-11
- CISPR 11, Class B
- FCC Part 15, Class B

Technical Data

Table 25.4-3. ATC-100 Controller Specifications

Description	Specification
Input control voltage	95 to 145 Vac 50/60 Hz
Voltage measurements of	Utility V_{AB} Generator V_{AB} Utility V_{BC} Generator V_{BC} Utility V_{CA} Generator V_{CA}
Voltage measurement range	0 to 575 Vac rms (50/60 Hz)
Voltage measurement accuracy	±1% of full scale
Frequency measurements of	Generator
Frequency measurement range	40 Hz to 70 Hz
Frequency measurement accuracy	±0.3 Hz over the measurement range
Operating temperature range	–20° to +70°C (–4° to +158°F)
Storage temperature range	–0° to +85°C (–22° to +185°F)
Operating humidity	0 to 95% relative humidity (noncondensing)
Operating environment	Resistant to ammonia, methane, nitrogen, hydrogen and hydrocarbons
Generator start relay	5A, 1/6 hp at 250 Vac 5A at 30 Vdc with a 150W maximum load
K1, K2 relays	10A, 1–3 hp at 250 Vac 10A at 30 Vdc
Enclosure compatibility	NEMA 1, NEMA 3R and NEMA 12 UV-resistant ATC-100 faceplate

Table 25.4-4. Adjustable Features with Range and Factory Default

Set Point	Fixed/ Adjustable	Description	Range	Factory Default	
				Breakers	Contactors
TDES	Fixed	Time delay engine start	3 seconds	3 seconds	3 seconds
TDNE	Jumper-selectable	Time delay normal to emergency	2 or 15 seconds	15 seconds	15 seconds
TDEN	Fixed	Time delay emergency to normal	5 minutes	5 minutes	5 minutes
TDEC	Fixed	Time delay engine cool-off	1 minute	1 minute	1 minute
NOM FREQ	Jumper-selectable	Nominal frequency	50 or 60 Hz	As ordered	As ordered
NOM VOLTS	Jumper-selectable	Nominal voltage	120, 208, 220, 230, 240, 380 and 480V	As ordered	As ordered
S1 UV DROP	Fixed	Utility undervoltage dropout	80% of NOMV	80% of NOMV in volts	80% of NOMV in volts
S2 UV DROP	Fixed	Generator undervoltage dropout	80% of NOMV	80% of NOMV in volts	80% of NOMV in volts
S1 UV PICK	Fixed	Utility undervoltage pickup	90% of NOMV	90% of NOMV in volts	90% of NOMV in volts
S2 UV PICK	Fixed	Generator undervoltage pickup	90% of NOMV	90% of NOMV in volts	90% of NOMV in volts
S2 UF DROP	Fixed	Utility underfrequency dropout	90% of NOMF	90% of NOMF in hertz	90% of NOMF in hertz
S2 UF PICK	Fixed	Generator underfrequency pickup	95% of NOMF	95% of NOMF in hertz	95% of NOMF in hertz
S2 OF DROP	Jumper-selectable	Generator overfrequency dropout	Off or 115% of NOMF (contactor)	Off	115%
S2 OF PICK	Jumper-selectable	Generator overfrequency pickup	Off or 110% of NOMF	Off	110%
Generator test	Jumper-selectable	Generator test programming	7-, 14- or 28-day	7-day	7-day
Test mode	Jumper-selectable	Test mode	Off, No Load, Load	Off	Off
TER	Fixed	Engine run test time	15 minutes	15 minutes	15 minutes
PHASES	Jumper-selectable	Three-phase or single-phase	1 or 3	As ordered	As ordered
TDEF	Fixed	Time delay emergency fail timer	6 seconds	6 seconds	6 seconds
TDN	Jumper-selectable	Time delay neutral	Disabled (0 seconds) or enabled (2 seconds)	Enabled (2 seconds)	Enabled (2 seconds)