

Eaton low voltage transfer switches

We make
critical power
automatic



EATON

Powering Business Worldwide

Built with experience

In critical power applications, there is no room for error. You need a transfer switch that is built to last. With more than 100 years of experience, Eaton has engineered reliable solutions to meet the specific demands of your application — completely designed and configurable to your needs.

In today's business critical environment, customers are driving our transformation from a leading global electrical assemblies provider into a customer-centric solutions partner who understands your business. We do this through in-depth collaboration with customers combined with subject-matter experts who study the issues inherent in electrical power distribution and control systems.

Eaton offers the broadest selection of UL® 1008 Listed transfer switches in the market, which deliver a host of features and benefits to meet your application needs, including:

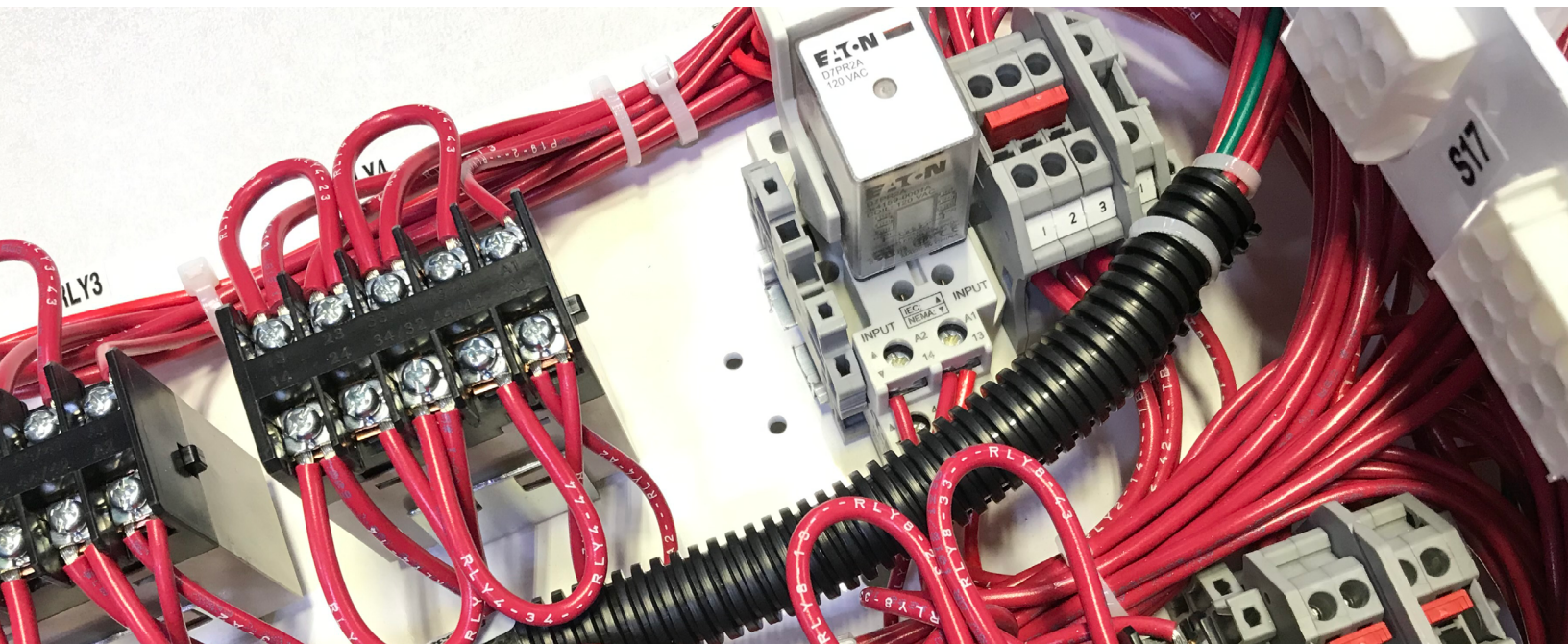
- Contactor and circuit breaker construction
- Open (time delayed, in-phase, load voltage decay) and closed transition switching
- Bypass-isolation functionality
- Automatic transfer switch (ATS) controller and remote annunciator family
- Integral overcurrent protection
- Service entrance rating
- Arcflash Reduction Maintenance System™ (ARMS)

- Serviceability and safety attributes that facilitate concurrent maintenance
- UL 1008 short-circuit and short-time withstand closing current ratings
- Integration into switchboards and motor control centers
- Integral Cam-Lok docking station to connect a temporary generator and/or load bank

Eaton transfer switches are tested and listed to the UL 1008 Transfer Switch Equipment - Standard For Safety ensuring robust performance and reliability for thousands of operation cycles.

Custom order engineering

In many cases, standard product can be custom-order engineered to meet your application needs. For additional information, **please contact your local Eaton sales representative.**



Transfer switch product series

		Contactor	Molded Case	Power Frame	Bypass Isolation Contactor	Bypass Isolation Power Frame
Application configuration	Standard	Yes	Yes	Yes		
	Bypass isolation				Yes	Yes
	Service entrance ¹	Yes	Yes	Yes	Yes	Yes
	Overcurrent protection	Yes	Yes	Yes	Yes	Yes
	ArcFlash Reduction Maintenance System (ARMS)	Yes	Yes	Yes	Yes	Yes
	Integral generator docking station (Cam-Lok)	Yes	Yes	Yes	Yes	Yes
	Integral load bank docking station (Cam-Lok)	Yes		Yes	Yes	Yes
Electrical	Amperage	40 - 3000 A	40 - 1000 A	200 - 5000 A	100 - 3000 A	200 - 5000 A
	Voltage	up to 600 Vac	up to 600 Vac	up to 600 Vac	up to 600 Vac	up to 600 Vac
	Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
	AC power system	single and three-phase	single and three-phase	single and three-phase	single and three-phase	single and three-phase
	Wire configuration	3 or 4-wire	3 or 4-wire	3 or 4-wire	3 or 4-wire	3 or 4-wire
	Power poles	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4	2, 3, 4
Transition	Open	Yes	Yes	Yes	Yes	Yes
	Open (time delayed)	Yes	Yes	Yes	Yes	Yes
	Open (load voltage decay)	Yes	Yes	Yes	Yes	Yes
	Open (in-phase)	Yes		Yes	Yes	Yes
	Closed (with fallback to open option)	Yes		Yes	Yes	Yes
Operation	Automatic	Yes	Yes	Yes	Yes	Yes
	Non-Automatic	Yes	Yes	Yes	Yes	Yes
	Manual	Yes ²	Yes	Yes	Yes ²	Yes
Neutral configuration	Solid	Yes	Yes	Yes	Yes	Yes
	Switched	Yes	Yes	Yes	Yes	Yes
Enclosure type	NEMA	1, 3R, 4X, 12	1, 3R, 4X, 12	1, 3R, 3RX	1, 3R, 4X, 12	1, 3R, 3RX
Product standard	UL 1008 listed	Yes	Yes	Yes	Yes	Yes
	CSA C22.2 No. 178.1 certified	Yes	Yes	Yes	Yes	Yes
		Design Guide	Design Guide	Design Guide	Design Guide	Design Guide

1. Entire assembly, including source 1 (normal side) circuit breaker, is UL Listed to carry a continuous load current equal to 100% of transfer switch amperage rating.

2. Limited to unloaded manual operation for some product configurations.

Bypass isolation transfer switches

The bypass isolation switch is designed for applications where maintenance, inspection and testing must be performed while maintaining continuous power to the load. This is typically required in critical life support systems and standby power situations calling for safe system maintenance with no power disruptions. Eaton offers a bypass isolation option for both contactor and power frame series transfer switches.



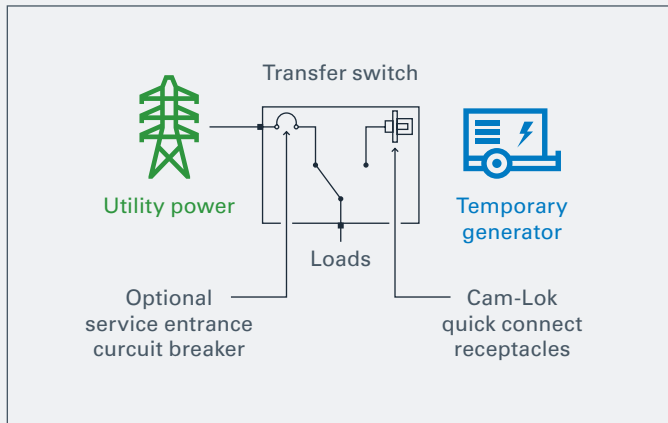
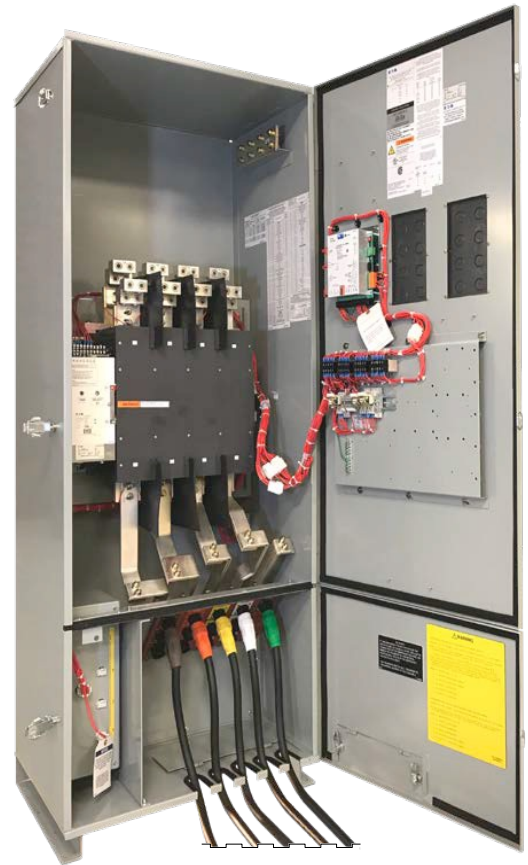
Non-Auto Operation:
1) Rotate SOURCE SELECT to
connected Source.
2) Rotate AUTO/NON-AUTO
OPERATION SELECT to
3) Rotate SOURCE SELECT

Integral Cam-Lok power panel provides docking station for temporary generator

- Integral Cam-Lok power panel option is available with Contactor, Molded Case, and Power Frame transfer switch series
- E1016 series Cam-Lok receptacles allow quick connection of power cables to temporary standby generator
- Isolated compartment, with independent locking door, houses Cam-Lok power panel eliminating exposure to energized transfer switch
- Hinged flap at enclosure bottom secures in closed position when generator cables not installed
- “Field conversion ready” design allows connection of future permanent generator
- Cam-Lok connections are color-coded with engraved identification nameplates secured via metal hardware for ease of identification

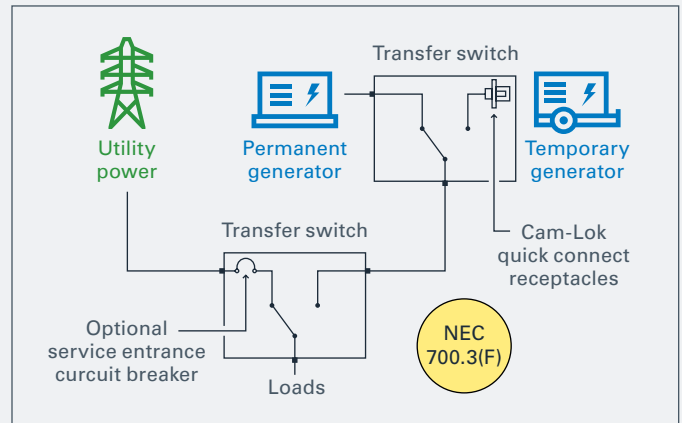


1200 A Cam-Lok power panel with 25% ground ampacity



Application example 1

Transfer switch equipped with Cam-Lok receptacles for quick connection to a temporary roll-up generator during a utility power outage.



Application example 2

First transfer switch is equipped with Cam-Lok receptacles for quick connection to a temporary roll-up generator (during maintenance of the permanent generator) and feeds a second transfer switch. First transfer switch provides compliance to NEC Article 700.3(F) in an emergency system. Application variant would include second Cam-Lok connection point for temporary load bank.

Transfer switch withstand closing current ratings

UL 1008 listed short-circuit withstand closing current ratings (kA), up to 480 V ¹

Ampere rating	Number of poles	Short-circuit (0.05 sec) ²							Short-circuit (specific circuit breaker)				
		Contactor			Molded case	Bypass contactor		Power frame (Magnum)	Contactor			Bypass contactor	
		C2	C3/C5 ³	F5/G5		C3/C5	F5/G5		C2	C3/C5	F5/G5	C3/C5	F5/G5
30	2, 3, 4	-	-	-	65	-	-	-	-	-	-	-	-
40	2, 3, 4	10	30	-	-	-	-	-	30	50	-	-	-
70	2, 3, 4	-	-	-	65	-	-	-	-	-	-	-	-
80	2, 3, 4	10	30	-	-	-	-	-	30	50	-	-	-
100	2, 3, 4	10	30	-	65	30	-	-	30	50	-	50	-
150	2, 3, 4	10	30	-	65	30	-	-	30	50	-	50	-
200	2, 3, 4	10	30	-	65	30	-	100	30	50	-	50	-
225	2, 3, 4	30	30	-	65	30	-	100	50	50	-	50	-
260	2, 3, 4	30	30	-	-	30	-	100	50	50	-	50	-
300	2, 3, 4	-	-	-	65	-	-	100	-	-	-	-	-
400	2, 3, 4	30	30	-	65	30	-	100	50	50	-	50	-
600	2, 3, 4	-	50	-	65/50 ⁴	50	-	100	-	65	-	65	-
800	2, 3, 4	-	50	100	50	50	100	100	-	65	100	65	100
1000	2, 3, 4	-	50	100	50	50	100	100	-	65	100	65	100
1200	2, 3, 4	-	50	100	-	50	100	100	-	65	100	65	100
1600	2, 3, 4	-	50	100	-	50	100	100	-	65	100	65	100
2000	2, 3, 4	-	-	100	-	-	100	100	-	-	100	-	100
2600 ⁵	2, 3, 4	-	-	100	-	-	100	100	-	-	100	-	100
3000	2, 3, 4	-	-	100	-	-	100	100	-	-	100	-	100
3200	2, 3, 4	-	-	-	-	-	-	100	-	-	-	-	-
4000	2, 3, 4	-	-	-	-	-	-	100	-	-	-	-	-
5000	2, 3, 4	-	-	-	-	-	-	100 ⁶	-	-	-	-	-

- See Eaton transfer switch design guides for additional ratings at 240 V and 600 V.
- For open transition (C2 device type) and closed transition (C3 device type) transfer switches rated 40–200 A, the time duration is 0.025 seconds.
- For closed transition transfer switches rated 40–200 A (C3 device type), the short-circuit withstand closing current ratings in column C2 apply.
- Rating varies based on molded case frame size. See Eaton transfer switch design guide for more information.
- For power frame, ampere rating is 2500 A.
- UL 1066 short-circuit withstand rating.

UL 1008 listed short-circuit and short-time withstand and closing current ratings (kA), up to 480 V ¹

Ampere rating	Number of poles	Short-circuit (specific fuse) ²							Short-time (0.5 sec)				
		Contactor			Molded case	Bypass contactor		Power frame (Magnum)	Contactor		Bypass contactor		Power frame (Magnum)
		C2	C3/C5	F5/G5		C3/C5	F5/G5		C3/C5	G5	C3/C5	G5	
30	2, 3, 4	-	-	-	200	-	-	-	-	-	-	-	-
40	2, 3, 4	100	200	-	200	-	-	-	-	-	-	-	-
70	2, 3, 4	-	-	-	200	-	-	-	-	-	-	-	-
80	2, 3, 4	100	200	-	200	-	-	-	-	-	-	-	-
100	2, 3, 4	100	200	-	200	200	-	-	-	-	-	-	-
150	2, 3, 4	100	200	-	200	200	-	-	-	-	-	-	-
200	2, 3, 4	100	200	-	200	200	-	200	-	-	-	-	85
225	2, 3, 4	200	200	-	200	200	-	-	-	-	-	-	-
260	2, 3, 4	200	200	-	200	200	-	-	-	-	-	-	-
300	2, 3, 4	-	-	-	200	-	-	200	-	-	-	-	85
400	2, 3, 4	200	200	-	200	200	-	200	-	-	-	-	85
600	2, 3, 4	-	200	-	100/200 ³	200	-	200	30 ⁴	-	30 ⁴	-	85
800	2, 3, 4	-	200	200	100/200 ³	200	200	200	30 ⁴	85	30 ⁴	85	85
1000	2, 3, 4	-	200	200	200	200	200	200	-	85	-	85	85
1200	2, 3, 4	-	200	200	-	200	200	200	-	85	-	85	85
1600	2, 3, 4	-	200	200	-	200	200	200	-	85	-	85	85
2000	2, 3, 4	-	-	200	-	200	200	200	-	85	-	85	85
2600	2, 3, 4	-	-	200	-	200	200	200	-	85	-	85	85
3000	2, 3, 4	-	-	200	-	200	200	200	-	85	-	85	85
3200	2, 3, 4	-	-	-	-	-	-	200	-	-	-	-	85
4000	2, 3, 4	-	-	-	-	-	-	-	-	-	-	-	85 ⁵
5000	2, 3, 4	-	-	-	-	-	-	-	-	-	-	-	85 ⁵

- See Eaton design guide for 240 V and 600 V ratings.
- See Eaton design guide for specific fuse classes.
- Rating varies based on molded case frame size. See Eaton transfer switch design guide for more information.
- Time duration is 0.13 sec.
- UL 1066 short-time withstand rating.

Automatic transfer switch controller family

Eaton's automatic transfer switch (ATS) controller family provides intelligence uniquely designed for monitoring and controlling transfer switch equipment in low-voltage power distribution systems.

Designs are intended for use in emergency, legally required, optional standby, and critical operation power systems as defined by the National Electrical Code (NEC).

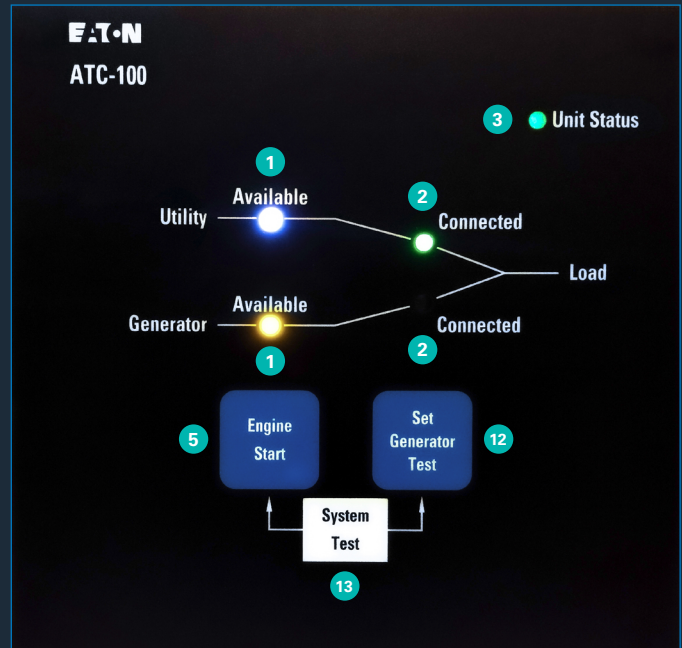
[Download the ATS Controller Design Guide](#)

ATS CONTROLLER FEATURES

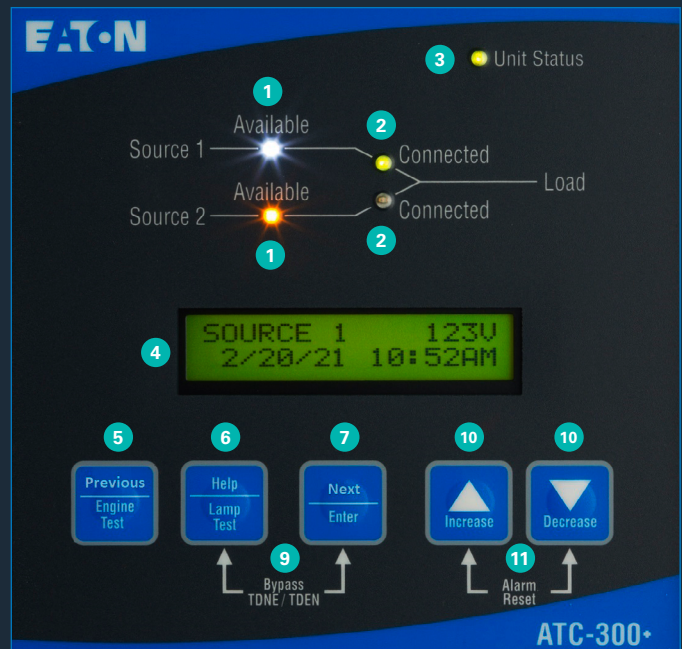
1. Source availability indication
2. Source position indication
3. Diagnostic status indication
4. Liquid crystal display (LCD)
5. Engine start pushbutton
6. Help/lamp test pushbutton
7. Step/enter pushbutton
8. Navigation pushbuttons
9. Bypass timer pushbuttons
10. Increase/decrease pushbuttons
11. Alarm reset pushbuttons
12. Set generator test pushbutton
13. System test pushbutton



ATC-900



ATC-100



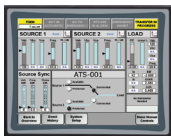
ATC-300+

ATS controller features

Description	Automatic controller		
	ATC-100	ATC-300+	ATC-900
Basic transfer control plant exerciser time delays self diagnostics and system settings	Standard	Standard	Standard
Source mimic diagram with LED indication	Standard	Standard	Standard
Engine test and start contact	Standard	Standard	Standard
Dual source control power input	Standard	Standard	Standard
Liquid crystal display (LCD)		Standard	Standard
Programmable set points and plant exerciser		Standard	Standard
Password protection		Standard	Standard
Time-stamped history and event log		Standard	Standard
Time delay bypass		Standard	Standard
Go to source 2 control input		Standard	Standard
Pre-transfer and general alarm control outputs		Standard	Standard
Lockout and monitor modes		Standard	Standard
Source status output relay contacts		Standard	Standard
Serial communication port (Modbus RTU)		Standard	Standard
Manual retransfer control input		Optional	Standard
Source 2 inhibit / load shed input		Optional	Standard
USB port—metering data, setpoint and firmware management			Standard
Preferred source selection			Standard
Dual generator capability			Standard
User configurable inputs/outputs			Standard
Advanced diagnostics and troubleshooting with pre-/post-event data capture			Standard
Integrated load metering			Optional
Load management with selective load shed			Optional
DC voltage control power input			Optional
Three-source ATS—primary/secondary control			Optional
Ethernet communication ¹		Optional	Optional

1. Ethernet communication option requires use of serial port.

Remote management



HMI Remote Annunciator controller

Eaton’s HMI Remote Annunciator Controller series provides users with the ability to remotely monitor and control multiple transfer switches from one intuitive, touchscreen user interface.

- Seven-inch color display with touchscreen graphical interface
- Analyze metering and trend data of power sources and load
- View and program transfer switch controller set points, control inputs and relay outputs
- Password protection for all control and setup functions
- Mimic bus reports source availability, position indication and preferred source
- Date and time-stamped alarm history
- Flush mount design compatible with Eaton’s ATC-300+ and ATC-900 automatic microprocessor controllers
- Serial (Modbus RTU) and Ethernet communication
- Audible alarm with silence feature

Network connectivity



Power Xpert® Gateway

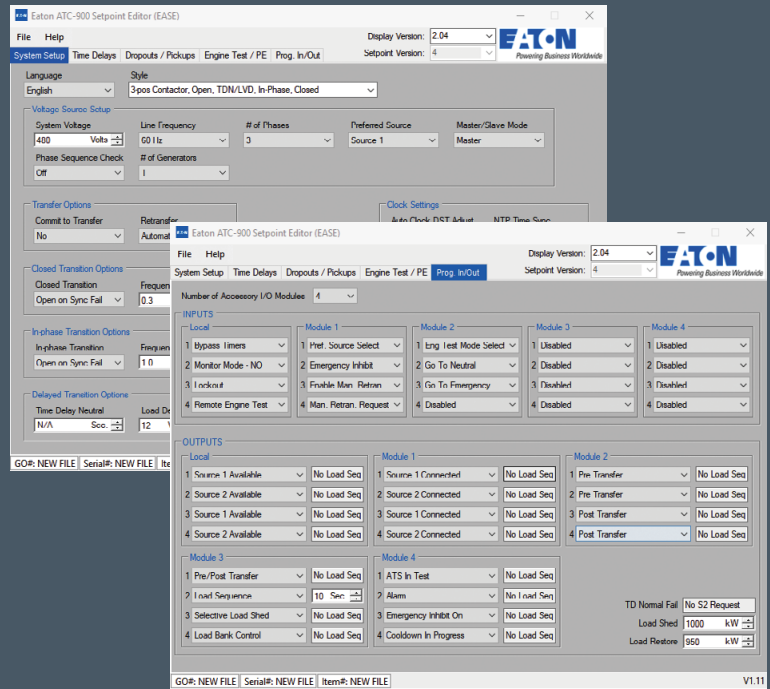
The Power Xpert Gateway allows you to easily integrate your Eaton automatic transfer switch directly into your Ethernet infrastructure.

- Remotely monitor and manage your automatic transfer switch from any computer, via a secure web browser interface
- Provides access to real time information from ATC-300+ and ATC-900 automatic transfer switch controllers and other Eaton communicating devices
- Ability to integrate your automatic transfer switch into existing building management or network management systems to include protocol translation
- Provides optional email notification of user-defined events
- Serial communication with support for Modbus RTU and INCOM protocols
- Ethernet communication with support for Modbus TCP/IP, DHCP, NTP, SMTP, BACNet/IP and SNMP network protocols
- Pass-through and cached data modes
- Dual RJ-45 network connectors for daisy-chain applications

EASE

Eaton's Setpoint Editor tool allows you to easily create, edit and save configuration files for upload to your ATC-900 controller via a USB flash drive.

- Create a single configuration file to simplify startup when commissioning one or more transfer switches
- Download an existing configuration file to make setpoint edits, reproduce for use with new transfer switch equipment, create a backup copy or forward to the Eaton technical support team for troubleshooting assistance



Network Connectivity

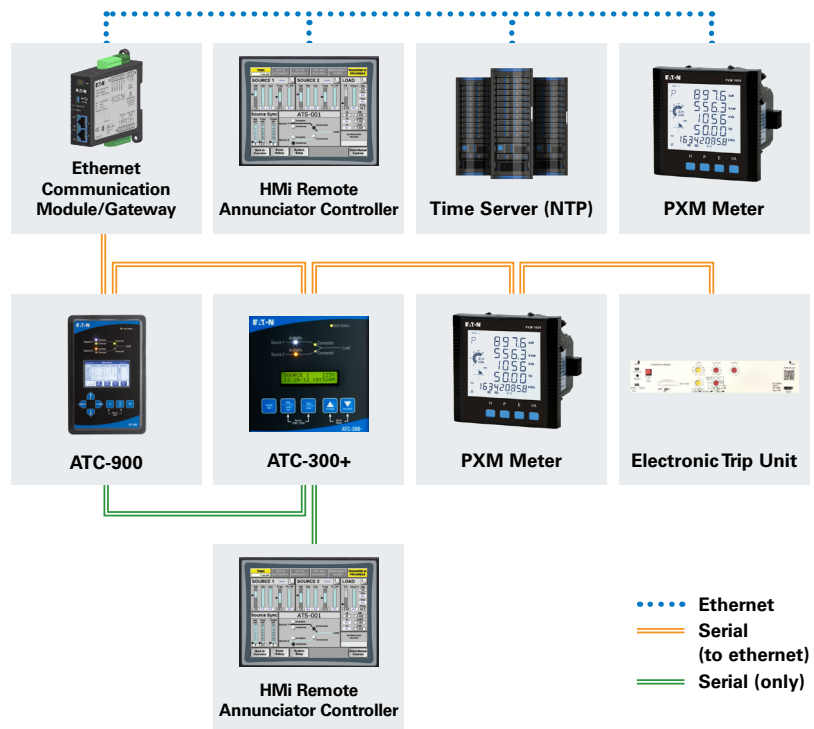


ATS Ethernet Communications Adapter Module (ATS-ECAM)

The ATS-ECAM expands the communication capabilities of Eaton's automatic transfer switch controller (ATC) family and other serial devices such as the Power Xpert Meter (PXM) series.

- Enables serial (Modbus RTU) devices to communicate with an Ethernet network
- Supports Modbus TCP/IP, DHCP, and SNTP protocols
- Provides intuitive HTML5 Web interface for remote configuration and monitoring
- Compact, DIN rail mounted design with removable terminal blocks offers space savings and ease of installation
- Dual RJ-45 Ethernet ports support daisy-chaining for efficient wiring
- Front-facing LED provides at-a-glance status

Network layout architecture



Meter overview

Eaton’s advanced meters provide accurate real-time system values, capture waveforms and system events, and display data directly on the device through on-board web servers or through a software monitoring solution.

Featuring options that can be integrated in Eaton’s transfer switches. For details, go to Eaton.com/meters.



Available metering options with Eaton transfer switches

Feature ²	ATC-900	PXM1000	PXM1100	PXM1200	PXM1300	PXM3000	PX 4000/6000/8000
Voltage and Current	Voltage (phase, line)	power sources and load	X	X	X	X	X
	Current	Opt	X	X	X	X	X
	Current demand		X	X	X	X	X
	Calculated neutral current		X	X	X	X	X
	Frequency	power sources and load	X	X	X	X	X
	Min/Max Readings (I, V, PF, Freq, W, VAR, VA)		X	X	X	X	X
Power	Real, reactive and apparent power (W, VAR, VA)	Opt	X	X	X	X	X
	Power factor	Opt	X	X	X	X	X
	Real, reactive and apparent power demand		X	X	X	X	X
Demand Method	Block interval (sliding, fixed)		X	X	X	X	X
Energy	Real, reactive and apparent energy (Wh, VAR, Vah)		X	X	X	X	X
Time of Use	Energy/max. demand TOU, tariffs/seasons/schedules				X	X	X
	Day light savings time (DST)	X			X	X	X
Data Logging	Storage	100 events		8 MB ¹	8 MB ¹	16 MB ¹	1.5 GB
	Historical data graph	X					webview
	Custom logs			X	X	X	X
Power Quality	Under/over-voltage, event logging	X				X	X
	Voltage /current unbalance	X	X	X	X	X	X
	Symmetrical component analysis	X	X	X	X	X	X
	Waveform capture, samples/cycle	64				64	128
	THD, voltage and current		X	X	X	X	X
Inputs and Outputs (I/O)	Digital I/O	X	Opt	Opt	Opt	Opt	Opt
	Analog I/O		Opt	Opt	Opt	Opt	
Serial (RS-485) Communication	Modbus RTU	X	X	X	X	X	X
	DNP 3.0		X	X	X	X	via ethernet
Ethernet Communication	Modbus TCP/IP (RJ-45)	Opt	Opt	Opt	Opt	Opt	X
	BACnet/IP	Opt	Opt	Opt	Opt	Opt	X
	HTTP/HTTPS (webserver)	Opt	Opt	Opt	Opt	Opt	X
	SMTP (email)	Opt	Opt	Opt	Opt	Opt	X
	NTP (time sync)	Opt	Opt	Opt	Opt	Opt	X
	SNMP	Opt	Opt	Opt	Opt	Opt	X
	Phasor Diagram (web view)		Opt	Opt	Opt	Opt	X
	IPv6, EtherNet/IP, WiFi, Dual RJ-45		Opt	Opt	Opt	Opt	
Revenue Accuracy	ANSI C12.20 (0.5 or 0.2%)		0.20%	0.20%	0.20%	0.20%	0.20%

1. additional data logging storage (4 or 8 GB) with optional communication module
 2. "Opt" indicates an optional feature requiring a separate accessory module

Services and support

Eaton's comprehensive, world-class service solutions for all Eaton power distribution, software and connectivity products are designed to improve uptime, reliability, power quality and safety. We demonstrate our commitment to strong, lasting customer relationships through our technical expertise and expansive support network. With 240 field technicians in North America, 1,200 international authorized service providers and more than 100 dedicated customer support team members, we are well-positioned to solve your toughest power management challenges.

Technical support services

Combining strong technical product expertise with in-depth industry applications experience, the transfer switch technical support organization possesses an innate ability to answer your questions and troubleshoot issues remotely. From guiding a customer through a system setup to resolving critical alarms, this dedicated team of industry professionals is here to help.

Primary services

- Installation, setup, usage and troubleshooting
- Internal field engineer support for complex installations
- Advanced application diagnostic support services

The Eaton advantage



Speed

The support staff is available 24x7 and, on average, answers your call and begins working on your question or issue in an average of 120 seconds.



Knowledge

Support engineers average 11 years of experience plus continuing education in the field and classroom.



Technology

Our field service engineers are armed with the latest equipment, including Dranetz PX5 disturbance analyzers, Fluke 1750/435 power quality recorders and Hioki power quality analyzers.



The critical need for reliable backup power

Eaton offers the broadest range of low voltage transfer switches available in today's critical power market, backed by a world-class service team with expert knowledge in electrical systems. Our expertise helps customers implement a transfer switch solution specifically engineered to meet electrical reliability requirements regardless of application, budget or required customizations.



Featuring Eaton's automatic transfer switches

For more details, visit [Eaton.com/ATS](https://www.eaton.com/ATS)



Eaton
1000 Eaton Boulevard
Cleveland, OH 44122
United States
[Eaton.com](https://www.eaton.com)

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