POWERTRON®

AUTOMATIC TRANSFER SWITCH

The POWERTRON Automatic Transfer Switch (ATS) ensures your critical loads are seamlessly transferred during a power outage. By continuously monitoring your business's power supply, the Powertron ATS detects interruptions or failures due to accidents or adverse weather and promptly switches to generator power. This keeps your essential machines, devices, and appliances running safely and efficiently.

The POWERTRON ATS features a robust NEMA 3R steel enclosure. Its user-friendly TruONE® HMI is password protected and provides access to a variety of features, including programmable set points, time delays, digital I/O, exercisers, switch status, event logging, and diagnostics.

UL 1008 LISTED

[Note: Photo of POWERTRON ATS depicts the SE version for Service Entrance]

PART NUMBER BUILDER

[Add for Service Rated Switch Only]

PRODUCT LINE	FAMILY	TYPE		AMP	PHASE POLES	NEUTRAL		CONT-ROLLER	VOLT-AGE	ENCLOSURE		SERVICE ENTRANCE	BREAKER TYPE		INTERRUPTING RATINGS (SE Model Only)		VOLTAGE (SE Model Only)	
P (Powertron)	**OX**	A	Open Transition	060	2**	**X**	**Solid Neutral**	2	**Q** 200-480V	**MS3R**	**NEMA 3R**	SE	TM	Thermal Mag Molded Case - 80% Rated	N	65K @240V 35K @ 480V	2	208-240
				100	**3**	S	Switched Neutral	**3**		SS3R304	NEMA 3R, Stainless Steel 304		ET	Electronic Trip (LS/I)	H	150K @240V 65K @ 480V	4	480
				200	4			4		SS3R316	NEMA 3R, Stainless Steel 316							
				260						SS4X304	NEMA 4X, Stainless Steel 304							
				400						SS4X316	NEMA 4X, Stainless Steel 316							
				600														
				800														
				1000 ***														
				1200 ***														

*__Bold__ denotes standard product offering

** 2 phase poles available only with 60-600 Amp units

*** Must specify voltage for SE models

Example Part # - POXA8003X3QMS3R 800 Amp, 3 Pole, Solid Neutral, Level 3 Controller, 200-480V, NEMA 3R Enclosure

FEATURES

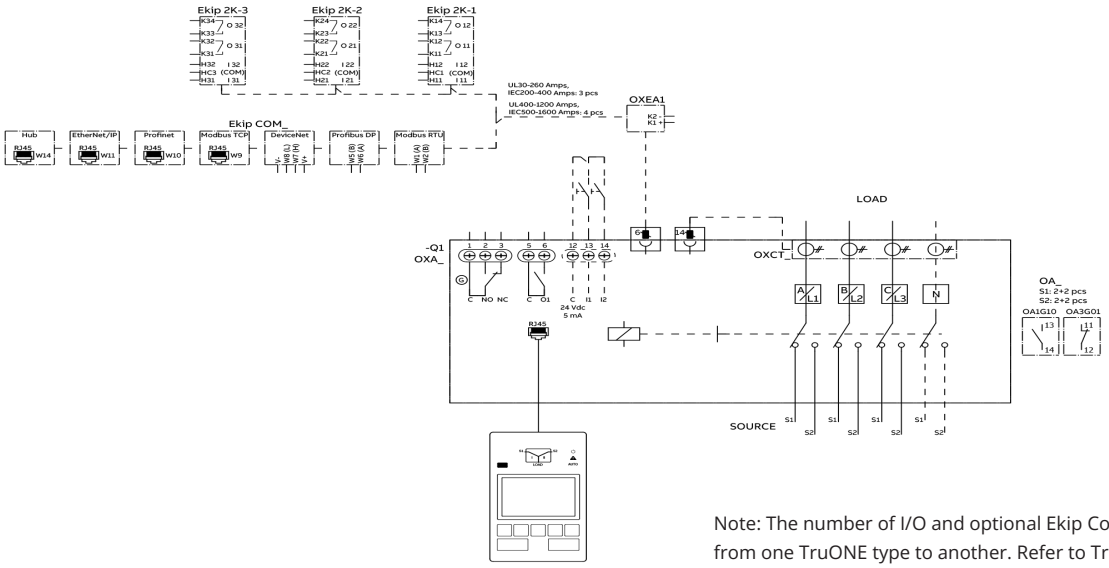
- Comes standard as NEMA 3R enclosure, level 3 controller
- UL Listed
- User-friendly digital controller comes factory set with common trips and time delays
- Easy to change parameters, test and has the option to switch to manual mode if needed

CONTROL AT YOUR FINGERTIPS

Once sources are connected, an innovative auto-configure function via the HMI sets electrical system parameters in seconds. Because of the innovative technology, no additional control wiring or troubleshooting is required on-site. And any programming changes can be done from the HMI with a few keystrokes, making commissioning quick and painless.

WIRING DIAGRAM

TruONE ATS, open transition (types OXA_)



Note: The number of I/O and optional Ekip Com modules vary from one TruONE type to another. Refer to TruONE feature comparison and accessory pages for more details.

ENCLOSURE SPECIFICATIONS

Part Number	Approx. Unit Total Wt.	Enclosure Size	Input Lugs Source 1 (Non SE only)	Input Lugs Source 2	Output Lugs
POXA060...	125lbs	42”Hx24”Wx10”D	14AWG-2/0AWG; Qty 1/pole	14AWG-2/0AWG; Qty 1/pole	14AWG-2/0AWG; Qty 1/pole
POXA100...	125lbs		6AWG-300MCM; Qty 1/pole	4AWG-300MCM; Qty 1/pole	6AWG-300MCM; Qty 1/pole
POXA200...	125lbs		6AWG-300MCM; Qty 1/pole	4AWG-300MCM; Qty 1/pole	6AWG-300MCM; Qty 1/pole
POXA260...	200lbs	48”Hx36”Wx16”D	4AWG-600MCM; Qty 1/pole or 1/0AWG-250MCM; Qty 2/pole	4AWG-600MCM; Qty 1/pole	4AWG-600MCM; Qty 1/pole
POXA400...	205lbs		4AWG-600MCM; Qty 1/pole or 1/0AWG-250MCM; Qty 2/pole	4AWG-600MCM; Qty 1/pole	4AWG-600MCM; Qty 1/pole
POXA600...	280lbs	60”Hx36”Wx16”D	2AWG-600MCM; Qty 2/pole	2AWG-600MCM; Qty 2/pole	2AWG-600MCM; Qty 2/pole
POXA800...	365lbs	72”Hx36”Wx16”D	2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole
POXA1000...	365lbs		2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole
POXA1200...	365lbs		2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole
			Input Lugs On Brkr (SE only)		
POXA060...SE	130lbs	42”Hx24”Wx10”D	14AWG-1/0AWG; Qty 1/pole	14AWG-2/0AWG; Qty 1/pole	14AWG-2/0AWG; Qty 1/pole
POXA100...SE	130lbs		14AWG-1/0AWG; Qty 1/pole	4AWG-300MCM; Qty 1/pole	6AWG-300MCM; Qty 1/pole
POXA200...SE	135lbs		4AWG-300MCM; Qty 1/pole	4AWG-300MCM; Qty 1/pole	6AWG-300MCM; Qty 1/pole
POXA260...SE	210lbs	48”Hx36”Wx16”D	4AWG-300MCM; Qty 1/pole	4AWG-600MCM; Qty 1/pole	4AWG-600MCM; Qty 1/pole
POXA400...SE	220lbs		2/0AWG-500MCM; Qty 2/pole	4AWG-600MCM; Qty 1/pole	4AWG-600MCM; Qty 1/pole
POXA600...SE	300lbs	60”Hx36”Wx16”D	2/0AWG-500MCM; Qty 2/pole	2AWG-600MCM; Qty 2/pole	2AWG-600MCM; Qty 2/pole
POXA800...SE	400lbs	72”Hx36”Wx16”D	2/0AWG-400MCM; Qty 3/pole	2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole
POXA1000...SE	400lbs		4/0AWG-500MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole
POXA1200...SE	400lbs		4/0AWG-500MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole	2AWG-600MCM; Qty 4/pole

Features

Main features in the table below.

Ampere sizes available	UL 60 - 1200
Rated voltage	200-480Vac
Rated frequency	50 / 60 Hz
Phase system	Single and Three
Number of poles	2, 3 and 4

Neutral configuration	
Switched	Yes

Product type	
Open transition (I-II)	Yes

Voltage and frequency settings	
Pick up Voltage Source 1	71-99%, 101-119%
Drop out Voltage Source 1 *	70-98%, 102-120%
Pick up Voltage Source 2	71-99%, 101-119%
Drop out Voltage Source 2 *	70-98%, 102-120%
Pick up Frequency Source 1	80.5-99.5%, 100.5-119.5%
Drop out Frequency Source 1	80-99%, 101-120%
Pick up Frequency Source 2	80.5-99.5%, 100.5-119. 5%
Drop out Frequency Source 2	80-99%, 101-120%

Time delay settings	
Override momentary Source 1 Outage, sec	0-60
Transfer from Source 1 to Source 2, sec	0-3600
Override momentary Source 2 Outage, sec	0-60
Transfer from Source 2 to Source 1, min	0-120
Generator stop delay, min	0-60
Center-OFF delay, sec	0-300
Pre-transfer delay S1 to S2, sec	0-300
Post-transfer delay S1 to S2 , sec	0-300
Pre-transfer delay S2 to S1, sec	0-300
Post-transfer delay S2 to S1, sec	0-300
Elevator Pre-signal delay S1 to S2, sec	0-60
Elevator Post-signal delay S1 to S2, sec	0-60
Elevator Pre-signal delay S2 to S1, sec	0-60
Elevator Post-signal delay S2 to S1, sec	0-60
Load shed delay, sec	0-300

Source failure detections	
No voltage	Yes
Undervoltage	Yes
Overvoltage	Yes
Phase missing	Yes
Voltage unbalance	Yes
Invalid frequency	Yes
Incorrect phase sequence	Yes

* Drop out voltage settings possible as low as 70% for 240V-480V systems.

Features

Main features in the table below.

Controls	LCD + keys
LED indications for ATS, S1 and S2 status	Yes
Open transition - Standard digital inputs/outputs	1 / 1
Delayed transition - Standard digital inputs/outputs	2 / 1
Programmable digital inputs/outputs	Yes
Auto config (voltage, frequency, phase system)	Yes
Source priority	Source 1/2, No priority
Manual re-transfer	Yes
In-phase monitor (synchro check)	Yes
Genset exercising: on-load, off-load	Yes
In-built power meter module	No
Load shedding	Yes
Real time clock	Yes
Event log	Yes
Predictive maintenance	No
Voltage and current harmonics measuring	No

Field-mount accessories (Optional)	
Auxiliary contacts for position indication	Yes
Digital input/output modules	Yes
12-24 Vdc aux supply module for controller	Yes
Communication modules	Yes

Connectivity capability (Optional Modules)	
Modbus RTU (RS-485)	Yes
Modbus/TCP	Yes
Profibus DP	Yes
ProfiNet	Yes
DeviceNet	Yes
Ethernet IP	Yes
Monitoring via ABB Ability™: Energy and Asset Manager	Yes

For applications	
Mains - Mains	Yes
Mains - Generator (minimum size 20kVA)	Yes

UL short circuit withstand ratings	
Coordinated breaker WCR	Yes

Description of basic functionality

Operation of time delays and corresponding relay output signals

Example for SOURCE 1 Priority, SOURCE 2 = Generator

The automatic switching sequence can be summarized in the following steps:

- An anomaly occurs on the SOURCE 1
- Override momentary S1 outage delay
- Generator start
- SOURCE 2 OK
- Transfer from S1 to S2 delay
- Pre-transfer signal on
- Load shed signal on
- Pre-transfer S1 to S2 delay
- Load shed delay
- Transfer switch (SOURCE 1) to the position O
- Center-off delay
  (only with Delayed transition I - O - II type)
- Transfer switch (SOURCE 2) to the position II
- Post-transfer S1 to S2 delay
- Pre-transfer signal off

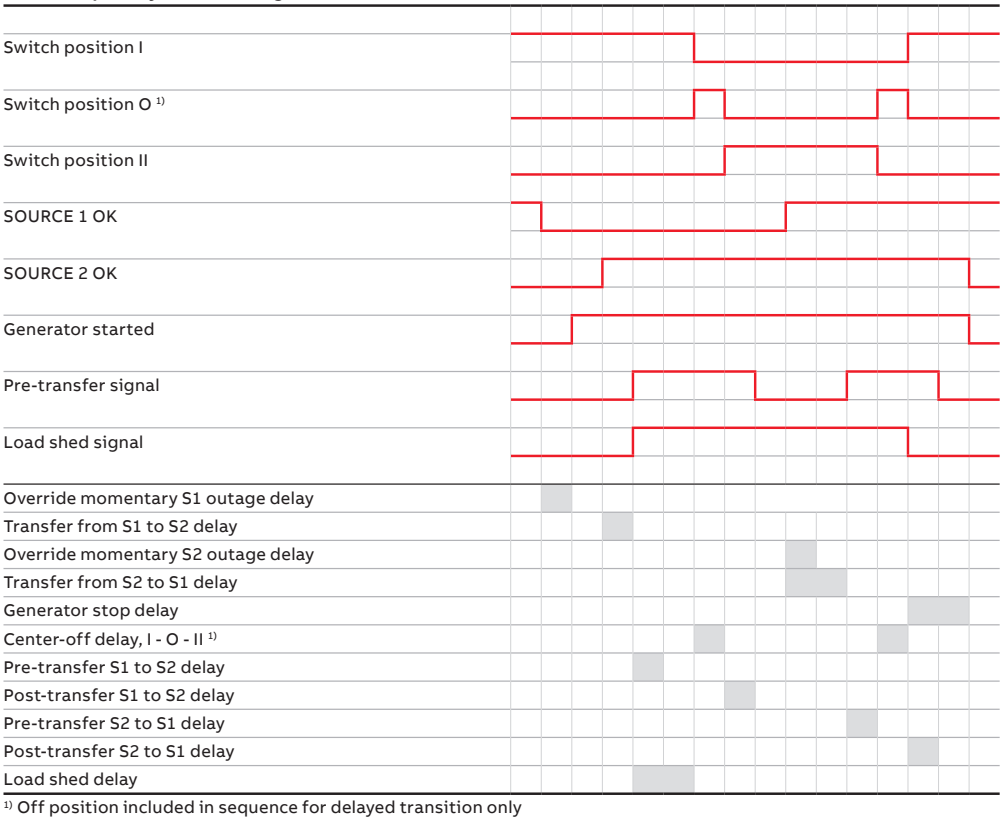
The re-transfer sequence can be summarized in the following steps:

- The SOURCE 1 is restored
- Transfer from S2 to S1 delay
- Pre-transfer signal on
- Pre-transfer S2 to S1 delay
- Transfer switch (SOURCE 2)
  to the position O
- Center-off delay
  (only with Delayed transition I - O - II type)
- Transfer switch (SOURCE 1) to the position I
- Load shed signal off
- Generator stop delay
- Post-transfer S2 to S1 delay
- Pre-transfer signal off
- Generator stop
- SOURCE 2 off

Video: Transfer from primary to backup power

Video: Transfer from backup to primary source after power is restored

SOURCE 1 priority (SOURCE 2 = generator)



1) Off position included in sequence for delayed transition only

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