

## 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
<b>Neutral configuration</b>	
Switched	Yes
<b>Product type</b>	
Open transition (I-II)	Yes
<b>Voltage and frequency settings</b>	
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%
<b>Time delay settings</b>	
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
<b>Source failure detections</b>	
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
<b>Field-mount accessories (Optional)</b>	
Auxiliary contacts for position indication	Yes
Digital input/output modules	Yes
12-24 Vdc aux supply module for controller	Yes
Communication modules	Yes
<b>Connectivity capability (Optional Modules)</b>	
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
<b>For applications</b>	
Mains - Mains	Yes
Mains - Generator (minimum size 20kVA)	Yes
<b>UL short circuit withstand ratings</b>	
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

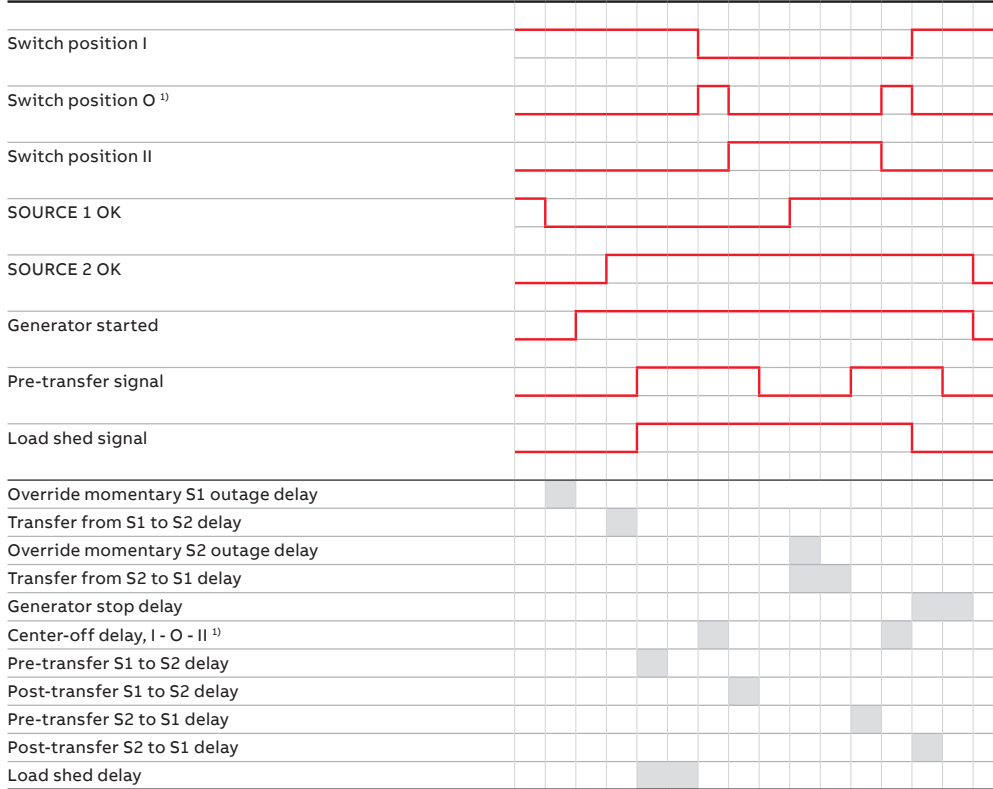


Video: Transfer from primary to backup power



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

#### SOURCE 1 priority (SOURCE 2 = generator)



<sup>1)</sup> Off position included in sequence for delayed transition only

