



Main-Main Open Transition

Sequence of operation

(DEV 43) 'Manual/Automatic' switch is used to place the Automatic Transfer Scheme in 'Manual' or 'Automatic' operation.

(DEV 43_10) 'P1/P2' switch indicates what incoming line is preferred in case both incoming lines are available.

Initial startup

Place selector switch (DEV 43) in 'Manual' mode. Close the preferred main breaker and open alternate main breaker by their respective control switch (DEV CS). Place selector switch in 'Automatic' mode.

Normal plant operation is with preferred main breaker closed and selector switch (DEV 43) in 'Automatic' mode.

Electrical interlock

The two incoming lines are electrically interlocked such that the two incoming breakers cannot be closed at the same time.

In event of the protective relay trip via lockout relay (dev 86), the opened main cannot be closed until the fault is removed, and lockout relay is reset.

Manual mode - (selector switch (DEV 43) in 'Manual')

Each main breaker can be closed by their respective breaker control switch (DEV CS) subject to electrical interlock above.

Automatic mode - (selector switch (DEV 43) in 'Automatic')

(a)
Loss of voltage (UV or NEG SEQ) on preferred incoming line will after a time delay cause its main breaker to open and then the alternate breaker will close, provided that voltage is present on the alternate incoming line.

When the voltage is restored to the preferred line, the alternate main breaker would after a time delay automatically open and then the preferred breaker will close.

(b)
However, if the voltage is subsequently lost on the second line after the transfer has occurred as described in (a) above, the second line will after a time delay open.

Return of voltage to the preferred line first will after a time delay cause its main breaker to close, returning the system back to normal.

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Return of voltage to the alternate line first will after a time delay cause its main breaker to close. When voltage returns to the preferred line, the alternate breaker will after a time delay open, and then the preferred breaker will close, restoring the system to normal.

(c)

Simultaneous loss (or restoration) of both sources will after a time delay cause the preferred main breaker to open (or close), leaving the alternate breaker open.

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