General sequence networks

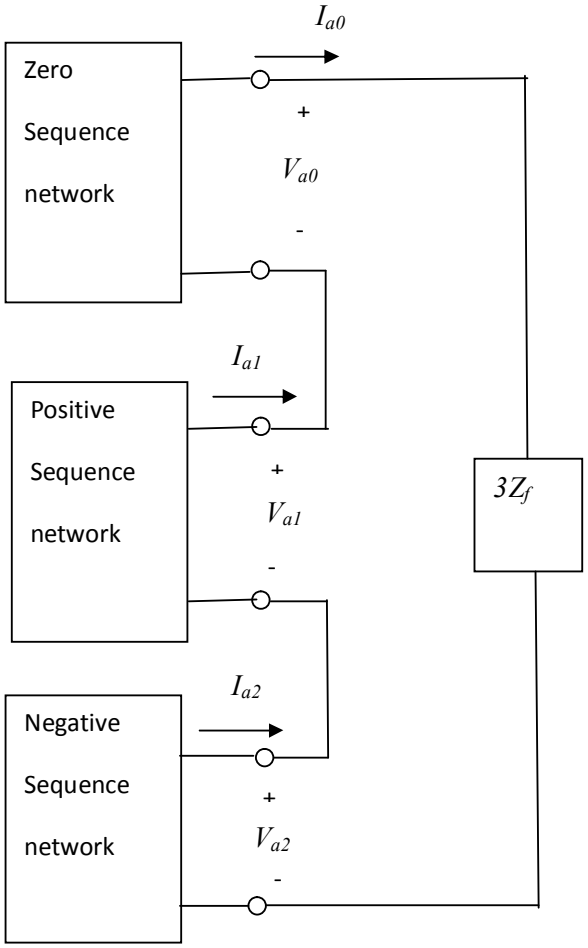

Fig.3.3 (a)

Equivalent sequence networks

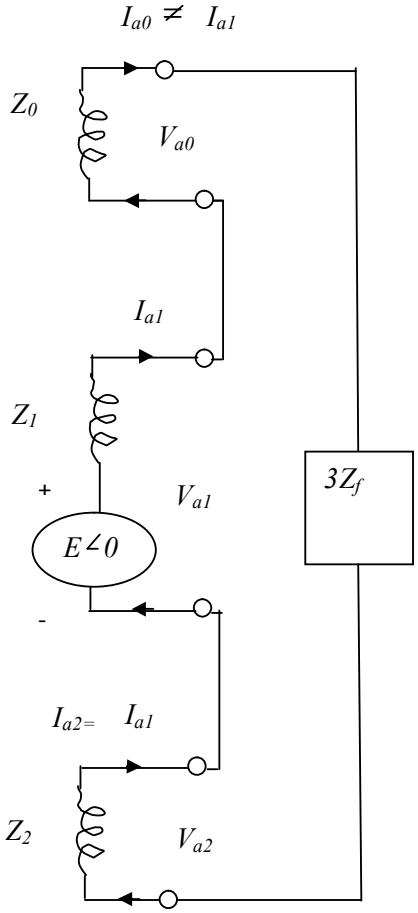

Fig.3.3 (b)

2.4.2 LINE TO LINE FAULT

The termination of the three- phase access port as in the fig.3.4 below simulates a line to line fault through a fault impedance Z_f .

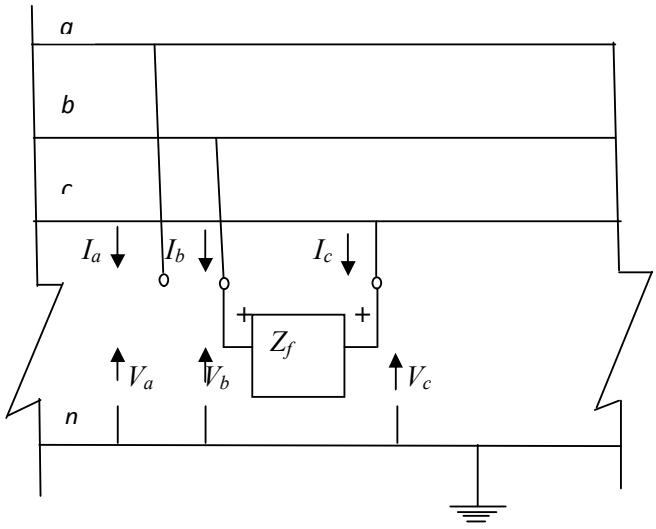

Fig. 3.4

The terminal conditions at the fault point give the following equations,

$I_a = 0$

$I_b = -I_c$

$V_b = V_c + Z_f I_b$

$I_b = -I_c = I_{a0} + a^2 I_{a1} + a I_{a2}$

Connection of sequence networks for a line to line fault and its simplified equivalent circuit are shown in the fig.3.5 (a) and fig.(b) below.

General sequence networks

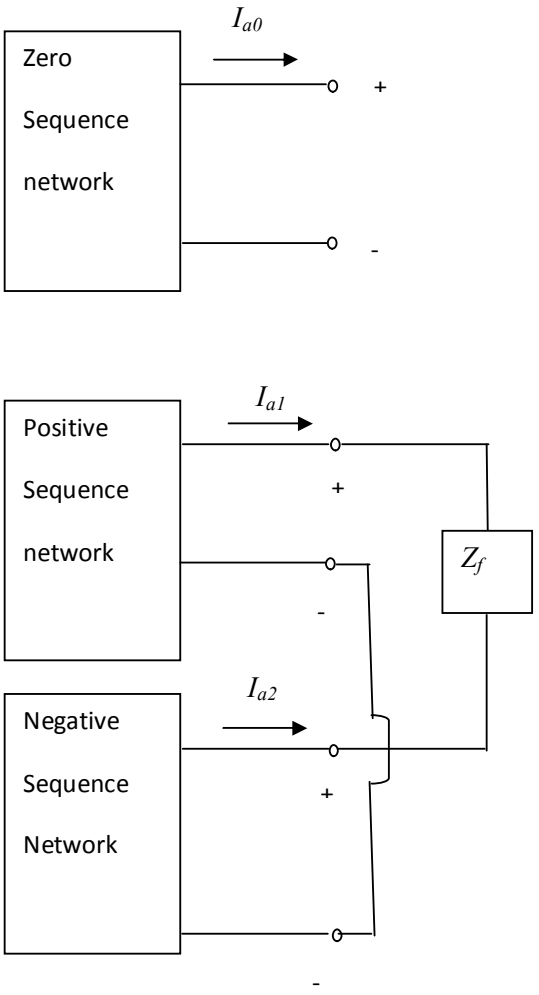

Fig. 3.5 (a)

Equivalent sequence networks

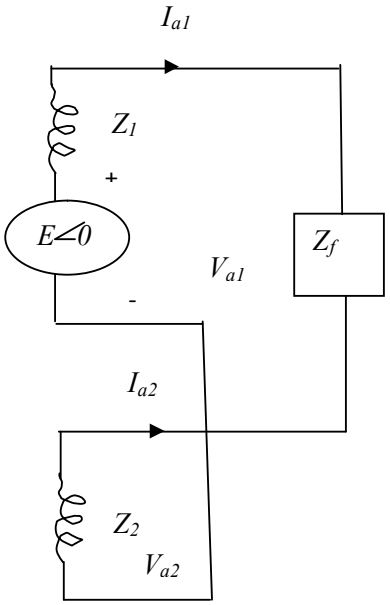

Fig.3.5 (b)

2.4.3 DOUBLE LINE TO GROUND FAULT

The termination of the three- phase access port as shown in fig.3.6 simulates a double line to ground fault through fault impedance Z_f.

The terminal conditions at the fault point give the following equations,

$I_a = 0$

$V_b = V_c = (\ I_b + I_c)\ Z_f$

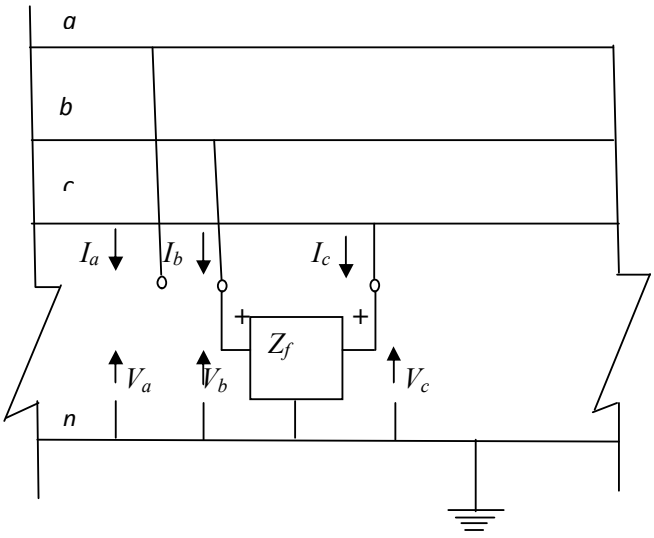

Fig. 3.6

The sequence networks and the equivalent circuit are shown by the Fig.3.7 (a) and Fig. 3.7 (b) below

General sequence networks

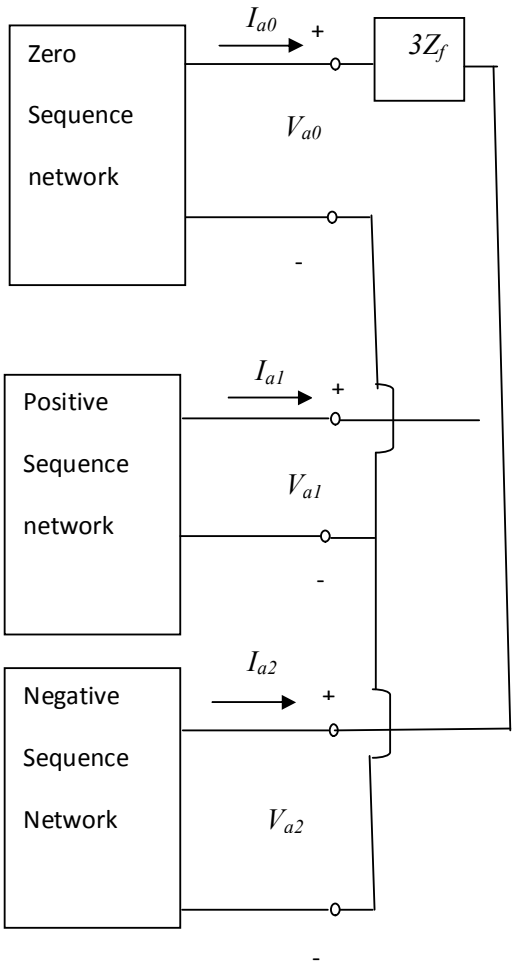

Fig. 3.7(a)

Equivalent sequence networks

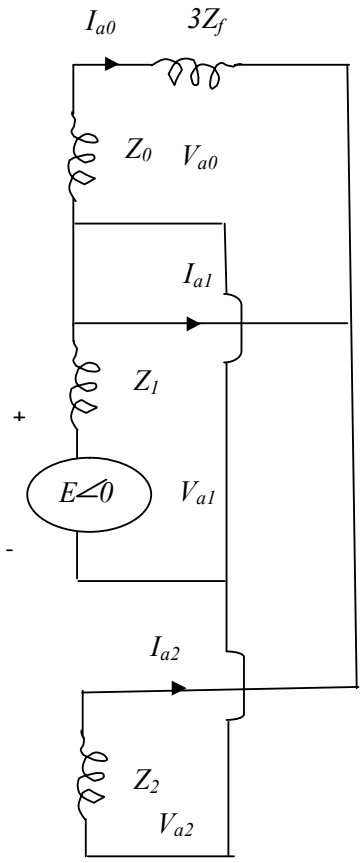

Fig.3.7 (b)