6th Baptist Church

Dammon Engineering

Available Fault Current Calculation

by:John Sokolik Ver. 7.2
jmp1jds@comcast.net

Utility Fault Current 29,740 amperes

kVA =
E = 208

I = kVA x 1000 = trans. FLA
E x 1.732

trans. FLA = 0

I_{sca} = trans. FLA x 100 x PF / transformer Z =

PF =
Z =

I_{sca} = ampere short-circuit current RMS symmetrical.

I_{sca} = 0 amperes

Point to Point Method

Three Phase 208/120

'f ' factor = 1.732 x L x I / N x C x E_{L-N}

Length (distance) FEET — L = 50 — Copper in Nonmetallic Raceway
(ASC) — I_{sca} = 29,740
conductors per phase — N = 2
Phase conductor constant — C = 16,673 — **Phase Conductor** 4/0
Volt Line to Line — E_{L-L} = **208** Volt
f = 0.371
Neutral conductor constant — C = 16,673 — **Neutral Conductor** 4/0
Multiplier Volt Line to Neutral — E_{L-N} = **120** Volt
f = 0.965

M = 1 / (1 + f)

Line to Line — M = 0.729
Line to Neutral — M = 0.509

Fault Current at Service Equipment

I_{sca} x M = fault current at terminals of main disconnect **L- L =** → **21,687 amperes**
I_{sca} x M = fault current at terminals of main disconnect **L- N =** → **15,132 amperes**

Fault Current from MCC Panel — Copper in Nonmetallic Raceway

Three Phase

Three Phase Feeder

'f ' factor = 1.732 x L x I / N x C x E_{L-N}

Length (distance) — L = 100
(ASC) — I_{sca} = 21,687 Phase 15,132 Neutral
conductors per phase — N = 2
Phase conductor constant — C = 13,923 — **Phase Conductor** 3/0
Volt Line to Line — E_{L-L} = **208** Volt
f = 0.649
Neutral conductor constant — C = 13,923 — **Neutral Conductor** 3/0
Volt Line to Neutral — E_{L-N} = **120** Volt
Multiplier f = 0.784

M = 1 / (1 + f)

Line to Line — M = 0.607
Line to Neutral — M = 0.560

Isca x M = fault current at terminal of the panel L- L = 13,156 amperes
Isca x M = fault current at terminal of the panel L- N = 8,480 amperes

Calculation does not include motor contribution