



VOLTAGE DROP

A.C $V_d = \sqrt{3} \cdot l \cdot I_{total} \cdot Z_{ac}$

D.C $V_d = 2 \cdot l \cdot I_{total} \cdot R_{dc}$

- V_d = Voltage Drop in Volts
- I_{total} = Total Current in Amps
- Z_{ac} = Impedence in Ohms/Mtr
- R_{dc} = Resistance in Ohms/Mtr
- l = Effective Length in Mtrs
- L = System length in Mtrs
- = Power Feed
- = Collector

CONDUCTOR	60A	100A	125A	160A	250A	400A	200A	315A
Material	Galvanised Steel			Copper			Aluminium/SS	
Impedence milli Ohms/M +35 °C	3.55	2.86	1.92	0.36	0.30	0.22	0.32	0.29
DC Resistance milli Ohms/M +35 °C	3.52	2.84	1.92	0.35	0.27	0.18	0.30	0.26

Power Feed Position	Schematic Diagram . Collector Symbol Indicates Position Of Maximum Voltage Drop	Effective Length l for voltage drop calculation
End Feed		$l = L$
Centre Feed		$l = \frac{L}{2}$
Two Power Feed at both ends		$l = \frac{L}{4}$
Two Power Feeds at $\frac{L}{6}$ from each end of system		$l = \frac{L}{6}$
Three power feeds at $\frac{L}{10}$ from each end and one at centre		$l = \frac{L}{10}$