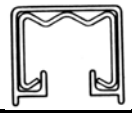
SafeTrack 1
SHROUDED CONDUCTORS
VOLTAGE DROP CALCULATIONS

Shrouded Conductor System For Cranes / Hoist
Electric Trollies/ Material Handlings Equipments



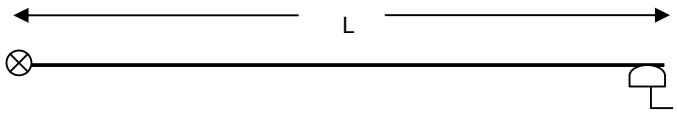
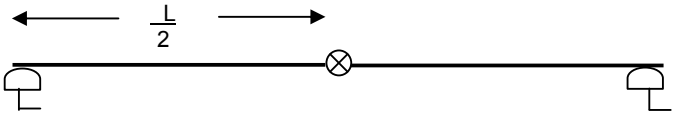
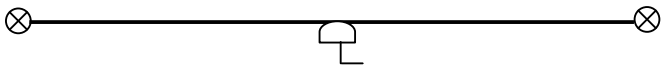
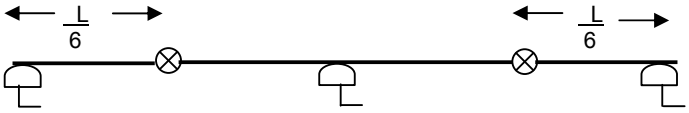
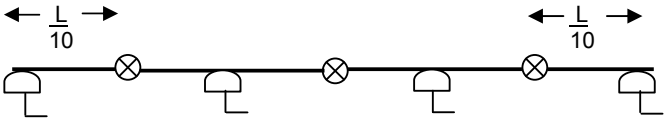
VOLTAGE DROP

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	40 A	100A	125A	250A	315A
Material	Stainless Steel	Galvanised Steel		Copper	
Impedence milli Ohms/M +35 °C	12.95	2.9	2.5	0.345	0.335
DC Resistance milli Ohms/M +35 °C	12.88	2.86	2.45	0.333	0.333

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 L/6 from each end of system		$l = \frac{L}{6}$
Three power feeds at L/10 from each end and one at centre		$l = \frac{L}{10}$

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