

PROFIBUS COMPETENCY CENTRE, AUSTRALIA TECHNICAL SERIES

DATE: Feb, 09

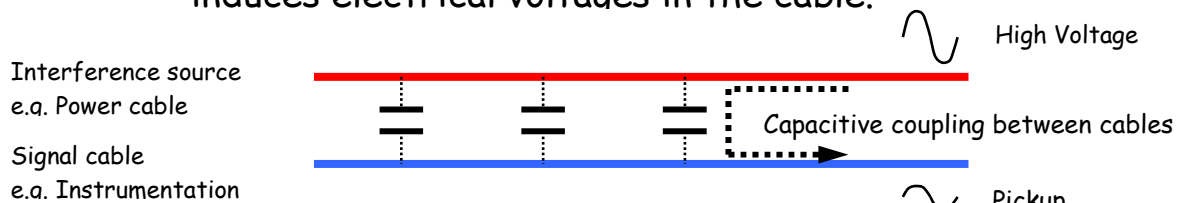
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DOCUMENT REF: 09/010

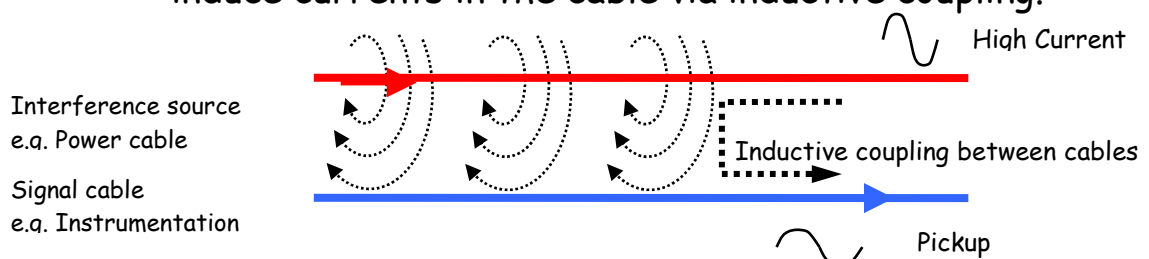
SUBJECT: PICK UP IN FIELDBUS CABLES & REDUCTION

There are two main mechanisms for pickup of interference from other electrical cables or equipment:

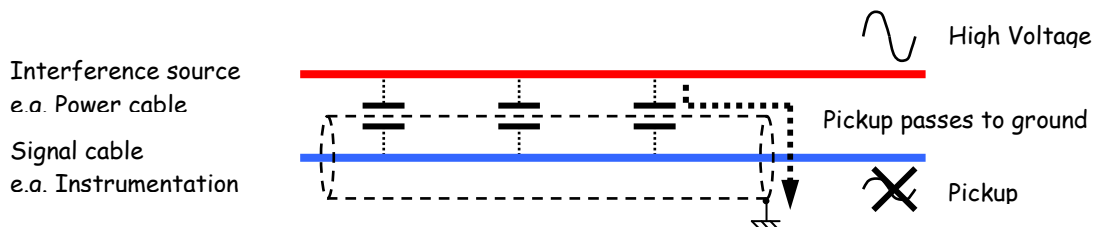
- **Electrostatic pickup** – where capacitive coupling induces electrical voltages in the cable.



- **Electromagnetic pickup** – where magnetic fields induce currents in the cable via inductive coupling.



Shielding or screening the signal cable can reduce electrostatic pickup.



However, shielding is only effective when the shield is properly connected to earth (ground).

Unearthed screening has no effect whatsoever – in fact it can make the pickup worse!

References:

ⁱ CPIC Presentation L02 Verwer Training & Consultancy Ltd.
The New and Rapid Way to PROFIBUS DP, Manfred Popp

<http://www.profibuscetre.com.au>
<http://www.profibus.com/>