

THE NATIONAL ELECTRICAL  
CONTRACTOR VOLUME 14



# The National Electrical Contractor Volume 14

United States General Accounting  
Office, Anonymous



This historic book may have numerous typos and missing text. Purchasers can usually download a free scanned copy of the original book (without typos) from the publisher. Not indexed. Not illustrated. 1914 edition. Excerpt: ...25 per cent overload, hence I would put I25 amp. fuses for the running fuses at the motor. QUERIES PAGE--(Continued.) If I wanted to know the voltage drop in the leads to the motor. I would use this formula:  $V = \frac{2 \times I \times L}{A}$  A In this formula: : volts lost in conductors. I: current in amperes in each of the conductors. L: length (one way) of the circuit in feet. A: circular mils size of the wire. This formula is used only for three-phase circuits. Now I will assume that the circuit to this 20 horsepower motor is 100 ft. long, from source of constant voltage to motor, and work out the problem to find what the volts drop in the circuit of No. 2 wire would be when the motor was carrying its full load current of 51 amp. I find in Rule 18. that the circular mil size of No. 2 wire is 66,370. Now putting these numbers in the formula.  $\frac{2 \times 51 \times 100}{66,370} = 0.154$  V. A 66.370 66.370 This gives a drop of only 1.5 volts which is very low. It is a drop of only 1.5-1-220: 0.7 per cent--seven tenths of 1 per cent. A 5 per cent drop is often permitted on motor circuits and a 5 per cent drop on a 220-volt circuit is 11 volts, so our No. 2 wire, where the circuit is only 100 ft. long. brings us way inside of the limit. It has taken a lot of words to explain this but I do not see how I could do it with fewer and I hope it will be of some assistance.-----H.. Connley. St. Louis, Mo. Albany, N. Y., April 5, 1915. Editor, The National Electrical Contractor. In April you asked this: QUESTION.--VWhat is a good practical way of figuring the size wire to use for a 3 phase, 220 volt motor circuit? Here is our answer.--The calculation of wire for multiphase motor circuits is more or less a question of judgment. A simple practical...

- [Natural Liberty : Rediscovering Self-Induced Abortion Methods](#)
- [The Natural Paint Decorator : Recipes, Finishes, Techniques](#)
- [Native Herb and Other Stories from Thailand](#)
- [National Lampoon` Vacation](#)
- [The National Gallery, London](#)
- [The National Lottery \(Licence Fees\) Order 1994 : National Lottery](#)
- [A Naturalist` Rambles about Home](#)
- [National Economic Security : Perceptions, Threats and Policies](#)
- [National Parks : Sustainable Development, Conservation Strategies and Environmental Impacts](#)