



## Identify motor cables when colour is unknown - 1 phase

Standard for Centrifugal Pumps for Petroleum, Petrochemical and Natural Gas Industries

If the colours of an individual drop cable cannot be identified, you can use an ohmmeter to measure the resistance to determine the lead colour and return the winding.

Measure:

- Cable 1 to Cable 2
- Cable 2 to Cable 3
- Cable 3 to Cable 1

Measure the above cables and note the resistance readings and find the highest figure

The lead NOT used in the highest reading is the BROWN lead

Now, use the Brown lead and each of the other two leads to obtain another two readings:

Highest reading is the BLACK lead  
Lowest reading is the BLUE lead

	AUS	EURO
Main/Run Winding	Blue	Blue/Grey
Start/Aux Winding	White	Black
Common	Red	Brown

An example of ohmmeter readings:

- Cable 1 to Cable 2 = 7 ohms
- Cable 2 to Cable 3 = 2 ohms
- Cable 3 to Cable 1 = 4.5 ohms

The lead used in the highest reading (7 ohms) was cable 3

Cable 3 is the BROWN lead

Now from the BROWN lead, the highest reading (4.5 ohms) was to Cable 1

Cable 1 is the BLACK lead

Now from the BROWN lead, the lowest reading (2 ohms) was to Cable 2

Cable 2 is the BLUE/GREY lead

Now knowing the colours, use the table above to identify the Main/Run, Start/Aux and Common cables.