

Motor Circuit Analysis found 26% Resistive Imbalance Returned 875 GBP per annum.



AS FOUND

Removing the Insulation Tape, look what was found

Badly Crimped with High Resistance

Exposed Conductor

Scored Conductor Strands

AT ALL-TEST PRO MOTOR GENIE® Condition Calculator™ - Report Jul 1, 2022, 10.51 AM

Motor ID: ODOUREXFAN
Test Date: Jul 1, 2022, 10.51 AM

	T1-T2	T1-T3	T2-T3	Conclusion
Resistance:	0.08	0.05	0.06	26.32
Impedance:	8.88	8.11	9.38	7.74
I/F:	-41	-40	-41	1.0
Phase Angle:	58	57	59	2.0
Phase Balance:				
Insulation:	100 megaOhm			
Test Volt:	500			
Test Freq:	200			
Rotor Comp:	No			
Direct Test:	No			

Findings: - Check for loose connections
- Recommend check at motor if tested from MCC

AS LEFT

Low Resistance Crimps

Torqued Terminations

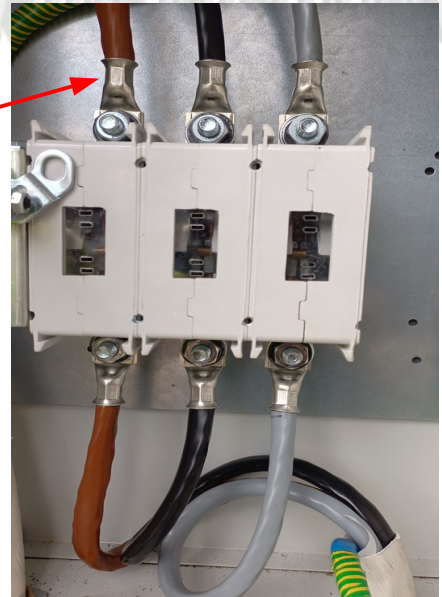
Good Quality Cable Preparation

AT ALL-TEST PRO MOTOR GENIE® Condition Calculator™ - Report Jul 1, 2022, 11.25 AM

Motor ID: ODOUREXFAN
Test Date: Jul 1, 2022, 11.25 AM

	T1-T2	T1-T3	T2-T3	Conclusion
Resistance:	0.00	0.00	0.00	0.0
Impedance:	9.02	8.20	9.47	7.83
I/F:	-40	-40	-41	1.0
Phase Angle:	58	57	59	2.0
Phase Balance:				
Insulation:	500 megaOhm			
Test Volt:	500			
Test Freq:	200			
Rotor Comp:	No			
Direct Test:	Yes			

Findings: -



Results:

Example: Fan 26.32% Resistive Imbalance est 90kW 156 Amp rated.

$(0.08-0.05)R \cdot 100^2 = 300\text{Watts } 525 \text{ pound p.a.}$

$(0.08-0.06)R \cdot 100^2 = 200\text{Watts } 350 \text{ pound p.a.}$

Assuming 20 pence kWhr 875 pound per annum in I^2R loss.

<http://www.3Phi-reliability.com/blog>

