

ISO 10816-21:2015-05 (E)

Mechanical vibration - Evaluation of machine vibration by measurements on non-rotating parts - Part 21: Horizontal axis wind turbines with gearbox

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	2
3	Terms and definitions	2
4	Basic principles	2
4.1	Measurement and characteristic quantities	2
4.2	Averaging methods and evaluation quantities for wind turbine vibration	3
4.3	Evaluation period	3
5	Instructions on measurement and interpretation	4
5.1	General	4
5.2	Nacelle and tower	4
5.3	Rotor bearing	5
5.4	Gearbox	5
5.5	Generator	6
5.6	Requirements for the measurement equipment	6
5.7	Mounting and connection of the vibration transducers	7
5.8	Operating conditions during measurements	7
6	Evaluation criteria	8
6.1	General	8
6.2	Evaluation zones	8
6.3	Change in vibration magnitude	9
7	Evaluation zone boundaries	9
8	Setting of operational limits	9
8.1	General	9
8.2	ALERT limits	10
8.3	ALARM limits	10
8.4	TRIP limits	10
9	Information on vibration monitoring	10
9.1	Monitoring broad-band vibration	10
9.2	Condition monitoring	10
Annex A (informative) Evaluation zone boundaries		12
Annex B (informative) Schematic diagrams of two typical wind turbine designs with gearbox		13
Bibliography		15