IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.67
Volume 5, Issue 7, March 2025

Smart Ventilator

Ms. Aayesha N. Bairagdar, Ms. Shreya B. Lohar, Ms. Payal P. Mane,
Ms. Namita S. Godale, Mrs. N. D. Jangham
Department of Electronics and Telecommunication
Sanjay Ghodawat Institute, Atigre, Maharashtra, India

Abstract: *A smart ventilator is an advanced medical device designed to provide mechanical ventilation for patients who are unable to breathe adequately on their own. These ventilators use cutting-edge technologies such as sensors, artificial intelligence (AI), and real-time data analytics to adjust breathing parameters like pressure, volume, and oxygen levels according to the patient's condition. The integration of these technologies enhances the device's adaptability, making it suitable for both critical care and home-based settings. Smart ventilators can monitor and detect changes in a patient's respiratory status, automatically adjusting settings to improve therapeutic outcomes. They also enable remote monitoring, facilitating continuous assessment by healthcare providers and reducing human error. Additionally, these ventilators can be programmed for various types of ventilation modes to cater to specific patient needs, including those suffering from conditions such as chronic obstructive pulmonary disease (COPD), pneumonia, and acute respiratory distress syndrome (ARDS). With the potential for improved patient outcomes, efficiency in healthcare settings, and better resource management, smart ventilators represent a significant advancement in modern respiratory care.*

Keywords: smart ventilator

DOI: 10.48175/IJARSCT-24422