DFI

Real-Time Monitoring Solution

DFI Robust Compact Embedded System Enables Your Real-Time Monitoring Solution

Pneumatic equipment is prevailing in modern factories to convey adequate and clean compressed air for air-driven motors or operating tools. DFI provides a robust and WiFi-support industrial PC to build a real-time monitoring solution. The solution aims at helping operators have full control of the machine and reach the purpose of energy saving.

Region: Asia Pacific

Country: Taiwan

Application: Factory Monitoring

www.dfi.com / inquiry@dfi.com / +886 (2) 2697-2986

“ This means that the monitoring system has to notify operators in real-time to do the maintenance when the anomalies happen. ”

EC 700-BT

The Challenge

The air compressor uses the most power-consuming power supply amongst the three basic power supplies (electricity, hydraulic, and pneumatic) in circuit printing factory. According to the US Department of Energy stats, about 25% of compressor’s consumption is due to air leakage caused by extra operating. To detect operating anomalies caused by air leakage and pressure supply variation, it is critical to build a stable and reliable monitoring system. The monitoring system has to be able to alert operators to adjust the wrong-working machine.

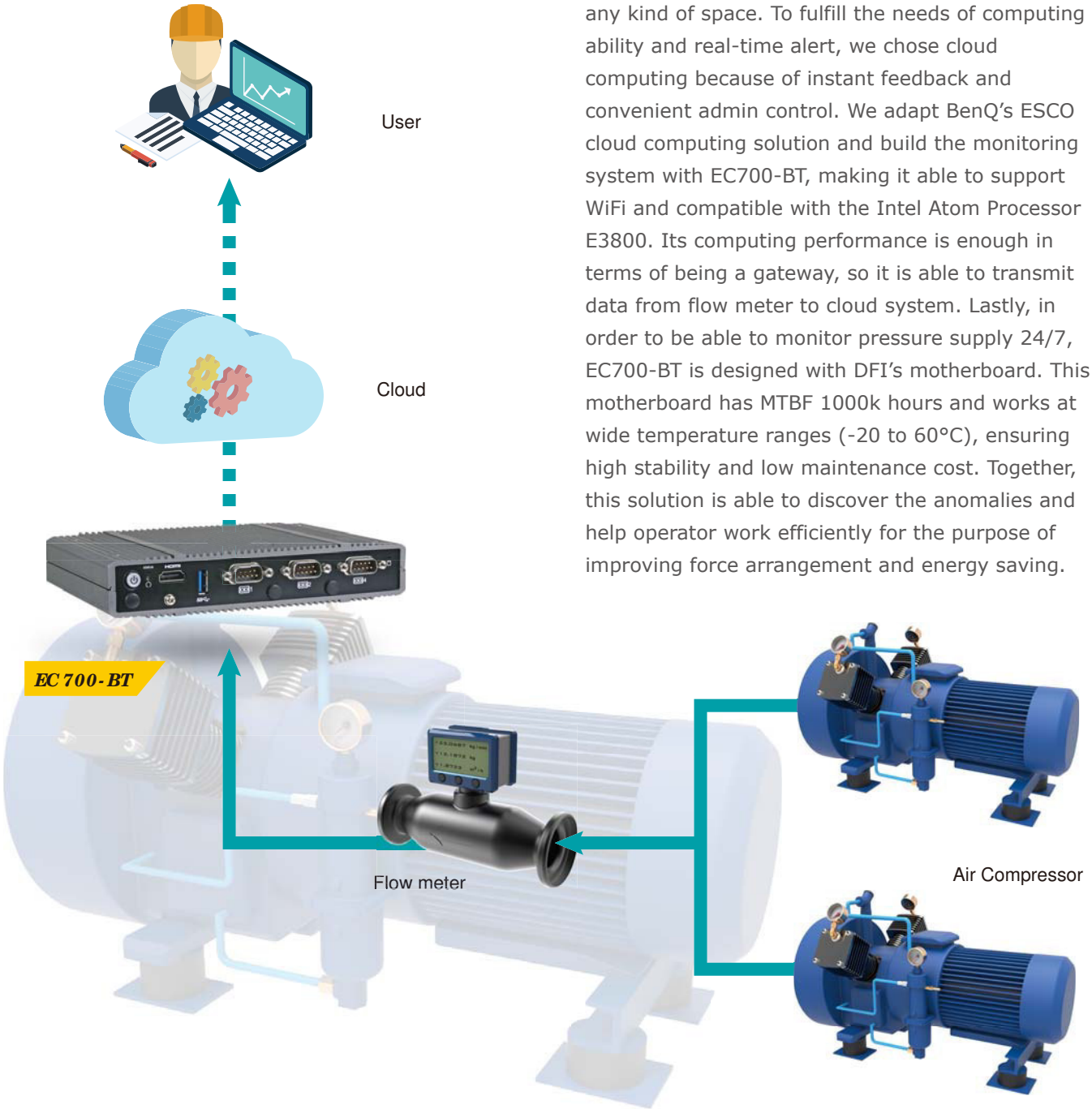
Requirements

The occurrence of pressure supply anomalies is unpredictable due to its volatility nature. Operators are also not able to discover abnormal operations instantly. This means that the monitoring system has to notify operators in real-time to do the maintenance when the anomalies happen. Thus operators do not need to do frequent checkups and have more time to work on other tasks. This monitoring system needs to collect data 24/7, and will maximize power saving.

“ We adapt BenQ’s ESCO cloud computing solution and build the monitoring system with EC700-BT, making it able to support WiFi and compatible with the Intel Atom Processor E3800. ”

DFI Solution

DFI has 7 air compressors at our factory. To deploy new monitoring systems to detect anomalies of pressure supply, we need a flow meter on all major outlet pipes of the air compressors and connect the meter to a computer in order to collect pressure data. DFI’s EC700-BT was chosen as the Gateway for data acquisition. Its small size and multi-mounting support allows it to be installed in any kind of space. To fulfill the needs of computing ability and real-time alert, we chose cloud computing because of instant feedback and convenient admin control. We adapt BenQ’s ESCO cloud computing solution and build the monitoring system with EC700-BT, making it able to support WiFi and compatible with the Intel Atom Processor E3800. Its computing performance is enough in terms of being a gateway, so it is able to transmit data from flow meter to cloud system. Lastly, in order to be able to monitor pressure supply 24/7, EC700-BT is designed with DFI’s motherboard. This motherboard has MTBF 1000k hours and works at wide temperature ranges (-20 to 60°C), ensuring high stability and low maintenance cost. Together, this solution is able to discover the anomalies and help operator work efficiently for the purpose of improving force arrangement and energy saving.



EC 700-BT

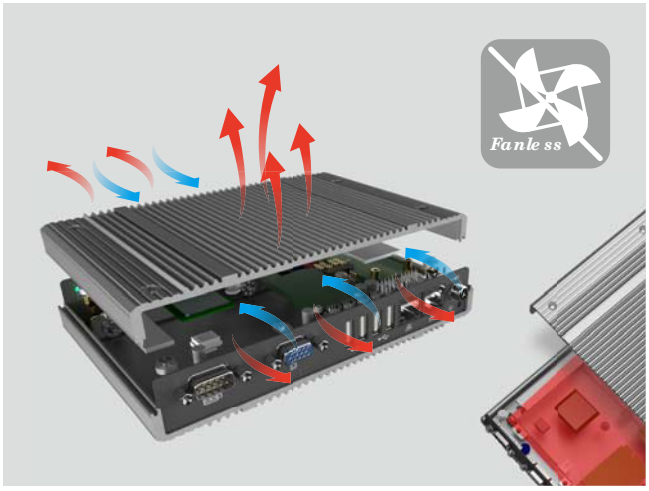
Fanless Embedded System
Intel® Atom™ E3800
DDR3L onboard
3 Mini PCIe
1 DVI-I or 1 VGA + 1 HDMI

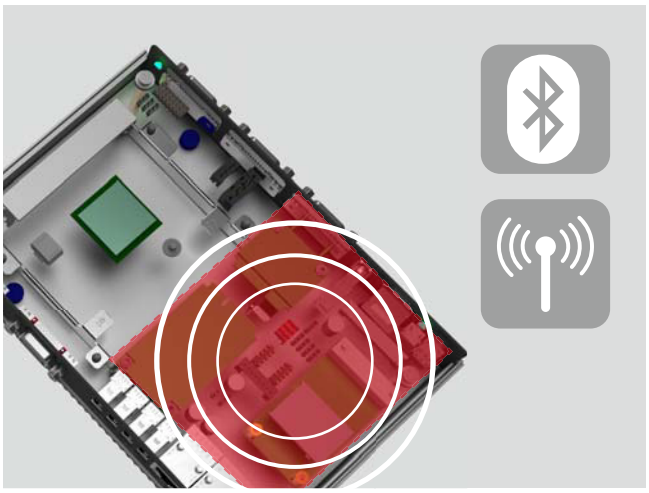
EC 500-HD

Embedded System
4th Gen Intel® Core™, Intel H81
2 DDR3 SODIMM
1 Mini PCIe, 1 VGA

EC 70A-SU

High Performance Fanless Embedded System
6th Gen Intel® Core™
Dual DDR4
2 Mini-PCIe





DFI's Low Power & Compact Embedded System

DFI's industrial compact embedded systems powered by 6th Gen Intel® Core™ U series processors and/or Intel® Atom™ processor, and can deliver extremely low power in an ultra-small size as well as efficient fanless thermal solutions. The systems are also capable with extensive I/O interfaces and have efficient wireless connectivity to the cloud; making them an ideal candidate to a wide range of industrial applications such as factory automation, IoT gateways, and smart healthcare.

DFI

Founded in 1981, DFI is a global leading provider of high-performance computing technology across multiple embedded industries. With its innovative design and premium quality management system, DFI's industrial-grade solutions enable customers to optimize their equipment and ensure high reliability, long-term life cycle, and 24/7 durability in a breadth of markets including factory automation, medical, gaming, transportation, smart energy, defense, and intelligent retail.

Website: www.dfi.com

eStore: estore.dfi.com

For more information, please contact your DFI regional sales representative or send us an email: inquiry@dfi.com