

## **RTM Radio Transmitted Tension Monitoring System for Rotating Machinery Applications**

---

**Bluetooth® transmission in 2.4GHz band**

**Very high quality data transmission**

---

**Battery powered transmitter**

**No slip rings required**

---

**PC based Software System**

**Monitor, output, and save tension process data**

---

**Packaged to easily install and set-up**

**Requires no major machine modifications**

---



● **RTM System**

The FMS Radio Transmitted Tension Monitoring System (RTM) is designed to monitor tension of individual wires or cables in rotating applications. This system sends all the collected data via radio transmission and operates on battery power so that it does not require slip rings. The RTM System is a complete tension monitoring package designed to easily retrofit onto older machines. It is ideal for upgrading existing machinery to current tension measuring technology.

● **Functional Description**

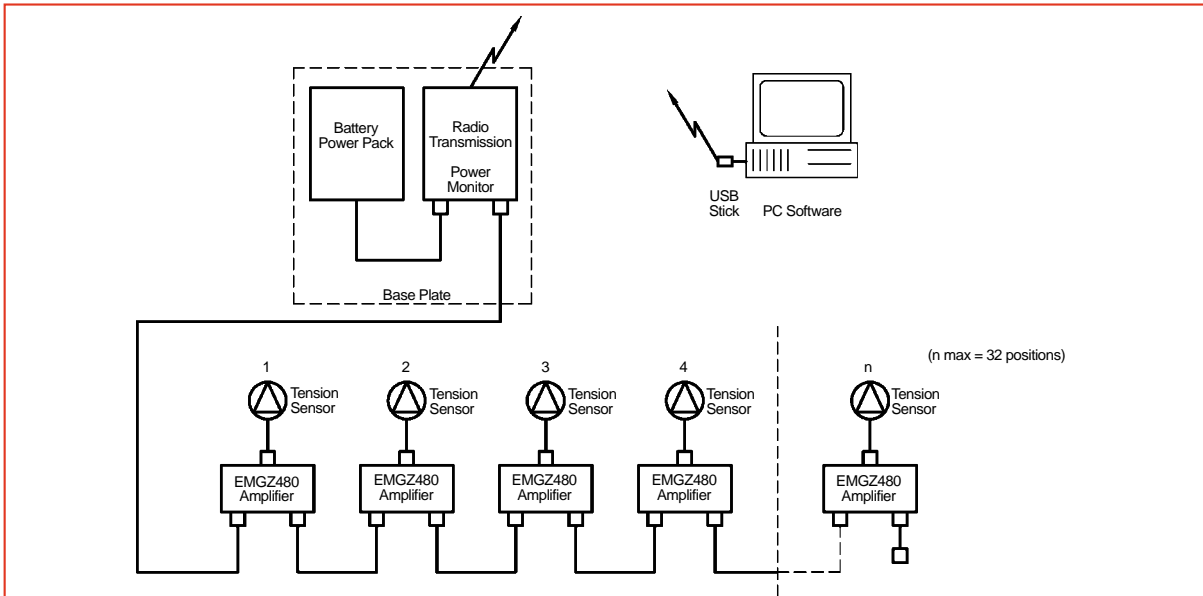
All individual tension sensor (load cell) data is collected over a BUS system mounted on the rotating portion of the machine. A dedicated unit on the bus system transmits the information over radio frequency to a PC or PLC near the machine. A Bluetooth® USB stick receives the communication on the operator side. Values of all of the individual tension sensors can be monitored real-time on the screen. They can also be viewed in a continuous rolling screen format and can be stored on a hard-disk.

**Power options:** For machines without 24V available on the rotating portion of the machine, the RTM offers a power pack that keeps the whole system running for one full shift utilizing battery power. The battery pack power level can be monitored on the screen and a warning is displayed when

the battery power gets too low. The battery pack can then simply be exchanged for a fully charged one within seconds. A battery charger is included with the RTM System.

**Sensors & Amplifiers:** The new FMS EMGZ480 Bus system amplifiers were designed specifically to be utilized in rotating applications. The amplifiers are all linked over a BUS system. They provide excitation voltage to the sensors and convert the output signal into digital values. Tension sensors (load cells) for any application can be chosen from the wide range of standard FMS sensors designed specifically for the wire and cable industry. FMS offers years of experience utilizing tension sensors in rotating applications and most are designed to not be affected by centrifugal or coriolis forces. Therefore only the true tension value is measured.

**RTM System ● Block diagram**



**RTM System ● Packages**

Package	Description	Scope of delivery
<b>RTM01</b>	<p>Battery power pack</p> <p>This Radio Transmission package utilizes a battery powered central unit, therefore, requires no slip rings. It offers up to 32 individual measuring positions with tension sensors and amplifiers.</p>	<p>USB 2.4GHz Bluetooth® stick</p> <p>Base station including: 8000mAh battery power pack, power monitor and radio transmitter</p> <p>Battery charger</p> <p>Software for PC Based Data Monitoring</p> <p>Tension sensors (load cells) and EMGZ480 BUS system amplifiers are included in the package, however, the quantity of each is specific to the application requirements.</p>
<b>RTM02</b>	<p>External 24V power supply</p> <p>This Radio Transmission package requires 24VDC over slip rings. It offers up to 32 individual measuring positions with tension sensors and amplifiers.</p>	<p>USB 2.4GHz Bluetooth® stick</p> <p>Base station including: Power monitor and radio transmitter</p> <p>Software for PC Based Data Monitoring</p> <p>Tension sensors (load cells) and EMGZ480 BUS system amplifiers are included in the package, however, the quantity of each is specific to the application requirements.</p>

**World Headquarters:**

**FMS Force Measuring Systems AG**  
 Aspstrasse 6  
 8154 Oberglatt (Switzerland)  
 Tel. + 41 44 852 80 80  
 Fax + 41 44 850 60 06  
 info@fms-technology.com

**FMS USA, Inc.**  
 925 East Rand Road · Suite 207  
 Arlington Heights, IL 60004  
 Phone 847 392 7872  
 Fax 847 392 7873  
 fmsusa@fms-technology.com

**FMS UK**  
 Highfield, Atch Lench Road  
 Church Lench  
 Evesham WR 11 4UG  
 Phone + 44 1386 871023  
 Fax + 44 1386 871021  
 fmsuk@fms-technology.com

**www.fms-technology.com**