

## 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 control system**  
Monitors, and saves 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 state-of-the-art tension measuring technology.

### ● Functional description

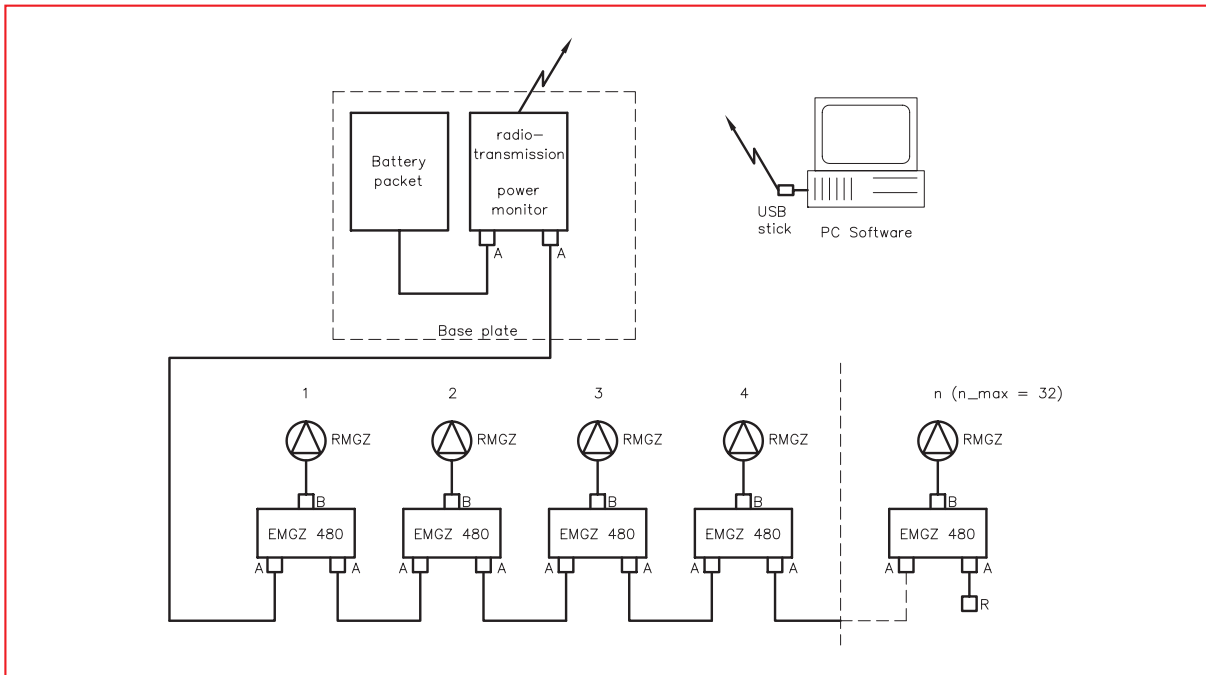
All individual tension sensor (load cells) data is collected over a BUS system mounted on the rotating portion of the machine. A dedicated unit on the bus system transmits the information over radio frequency to a PC near the machine. A Bluetooth® USB stick receives the tension data on the operator side. 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 24 V supply 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 power pack voltage 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 EMGZ 480 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>RTM 01</b>	<ul style="list-style-type: none"> <li>– Battery power pack</li> <li>– 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.</li> </ul>	<ul style="list-style-type: none"> <li>– USB 2.4 GHz Bluetooth® stick</li> <li>– Base station including: 8000 mAh battery power pack, power monitor and radio transmitter</li> <li>– Battery charger</li> <li>– Software for PC Based Data Monitoring</li> <li>– Tension sensors (load cells) and EMGZ 480 BUS system amplifiers are included in the package, however, the quantity of each is specific to the application requirements.</li> </ul>
<b>RTM 02</b>	<ul style="list-style-type: none"> <li>– External 24 V power supply</li> <li>– This Radio Transmission package requires 24 VDC over slip rings. It offers up to 32 individual measuring positions with tension sensors and amplifiers.</li> </ul>	<ul style="list-style-type: none"> <li>– USB 2.4GHz Bluetooth® stick</li> <li>– Power monitor and radio transmitter</li> <li>– Software for PC Based Data Monitoring</li> <li>– Tension sensors (load cells) and EMGZ 480 BUS system amplifiers are included in the package, however, the quantity of each is specific to the application requirements.</li> </ul>

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