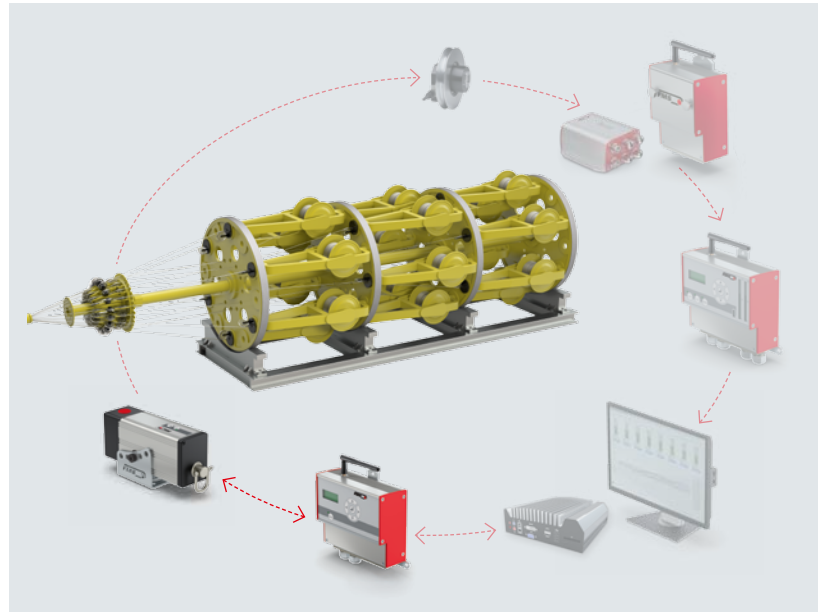


FMS Telemetry Systems / Extensions

RTM X42.BC Brake Control System Extension for Continuous Tension Control

- **Continuous Production with Reproducible Processes:**
Fully automatic control with configurable settings, no manual brake adjustment
- **Highest Product Quality:**
Constant wire tension during the entire production run
- **Maintenance Free with Highest Effectivity:**
Robust components for long service life in difficult environments
- **Easy Retrofitting and Operation:**
For rope and belt style brakes on cage and tubular type stranding machines of many types and sizes



RTM X42.BC Brake Control

The RTM X42.BC Brake Control is a system extension to the FMS Telemetry Systems, and expands the functionality of the RTM X42 System from a simple tension measurement tool to an automatic control system with closed loop control of wire tension.

The RTM X42.BC Brake Control automates the manual re-adjustment of the payoff brake systems according to the specified tension limits of the wire or strand. Deviations to the reference value are automatically compensated for and result in constant tension of all strands along the entire production process. Uninterrupted stranding with constant high product quality leads to increased efficiency of the machine and a reduction of work load for the operator.

The simple, modular concept and robust components make it a straightforward process to retrofit an RTM X42.BC Brake Control on almost any stranding machine with friction brakes. The RTM X42.BC Brake Control and the RTM X42.CC Control Center are system extensions to the RTM X42 Telemetry System.

Functional description

The RTM X42.BC Brake Control consists of a transceiver and several individually operating actuators mounted to the friction brake. The basic RTM X42 system captures the wire tension and sends it to the RTM X42.CC Control Center near the operator's station. The Control Center processes the data, calculates the difference of the actual and reference value, and then sends the control values for each brake to the transceiver of the RTM X42.BC Brake Control. The individual control signal for each brake actuator are then transmitted wirelessly into the machine. Each actuator receives its own signal and works independently from the others. The use of proven radio and battery technology does not require slip rings or additional wiring on the machine for either power supply or data transmission.

All available data can also be sent to a PLC via an optional Gateway.

The diagram illustrates the RTM control system architecture, divided into two main sections: the Operator's Station and the Rotating Machine.

Operator's Station: This section includes the RTM Control Center (a computer monitor and unit), a Switch, a Receiver, a Transceiver, a PLC (Programmable Logic Controller), and a Gateway. The Receiver and Transceiver are connected to the Switch via dashed lines. The Receiver is also connected to the Core (a small red box) and the Cont. production length (a small red box). The Transceiver is connected to the PLC and the Gateway. The Receiver and Transceiver are also connected to the Core and Cont. production length via dashed lines.

Rotating Machine: This section includes the Transmitter, Extension module up to 10 modules for a total of 42 force sensors, and Brake actuators. The Transmitter is connected to the Receiver via a dashed line. The Transmitter is also connected to the Extension module via a dashed line. The Extension module is connected to the Brake actuators via dashed lines. The Brake actuators are connected to the Transceiver via dashed lines.

Linear actuator for each brake

Signal processing and management of the individual brake actuators

Additional battery-packs,
battery charger



- Various sizes for all applications
- Robust design for high loads and continuous operation
- Embedded housing for best protection against dirt
- Universal installation set for the mounting on the cradle and the connection to the rope/belt of the brake
- Ultra-long operating time with proven battery technology and optimized control mode



- Reliable communication with up to 42 individual brake actuators
- Compact dimensions for simple installation

- Quick release, reverse polarity protection
- Robust and compact design

RTM X42.BC.BA.600N	RTM Brake Actuator for nominal brake force up to 600 N [135 lbf]
Installation & Start-up	Our specialist can provide on-site support if required

RTM X42.BC.T/R Transmitter / Receiver Technical Data	
Number of channels	Control of up to 42 individual brake actuators
Display and operation	Modification of IP-address via operating panel
Propagation delay	200 ms per brake actuator
Control interface	Ethernet via web browser
Radio interface	2.44 GHz
Power supply	24 VDC (18 to 36 VDC) / 10 W (max. 0.5 A)
Temperature range	0 to 50 °C [32 to 122 °F]
Protection class	IP 52
Weight	0.65 kg [1.43 lb]

RTM X42.BC.BA.600N Brake Actuator Technical Data	
Maximum brake force	600 N [135 lbf]
Maximum stroke	40 mm/1.6 in.
Battery-pack	Li Ion, 10.2 Ah, 7.2 V
Radio interface	2.44 GHz
Temperature range	0 to 50 °C [32 to 122 °F]
Drive train	Stepper motor and spindle maintenance and wear free
Speed	0.06 in/sec.
Protection class	IP 52
Weight	Drive unit: 1.7 kg [3.75 lb]; battery-pack: 0.5 kg [1.1 lb]; bracket: 0.5 kg [1.1 lb]; clevis: 0.03 kg [0.07 lb]

RTM X42.BC Brake Control Radio Certification ETSI	
Magnitude of Test (Coverage)	Article 3.2 of Directive 1999/5/EC (R&TTE Directive)
Certification	ETSI EN 300 440-2 V1.5.1 (2009-03); ETSI EN 300 440-1 V1.3.1 (2009-03)

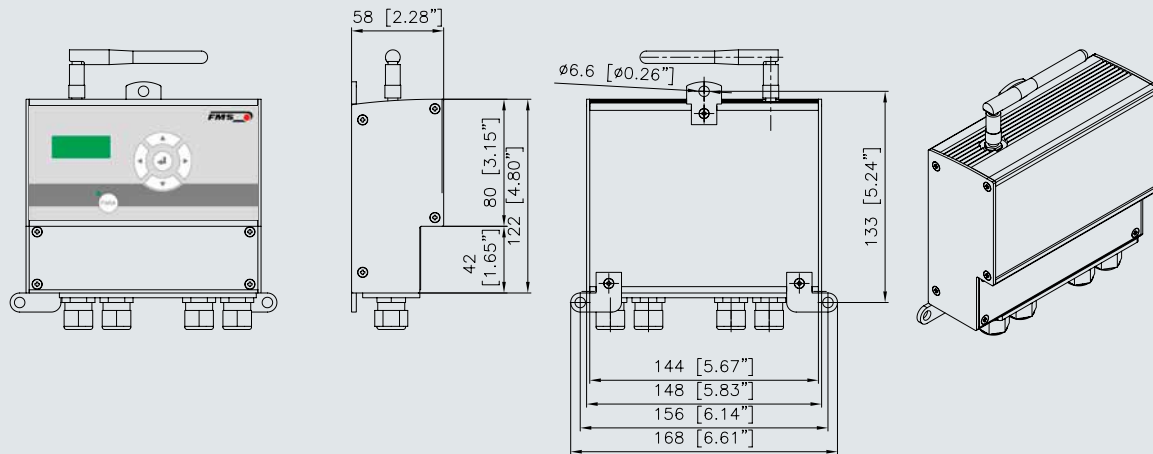
RTM X42 System FCC Certification USA, Canada	
Magnitude of Test (Coverage)	Class A digital device, pursuant to Part 15 of the FCC Rules
Certification	FCC Registration #: 0020311882

RTM X42 System CAB Radio Certification for Japan	
Magnitude of Test (Coverage)	Low power data communi. FXD; Art. 38-24, Paragraph 1 of radio law
Certification	Article 2, Clause 1 Item 19, Certification ID #: 202WWSM10126721

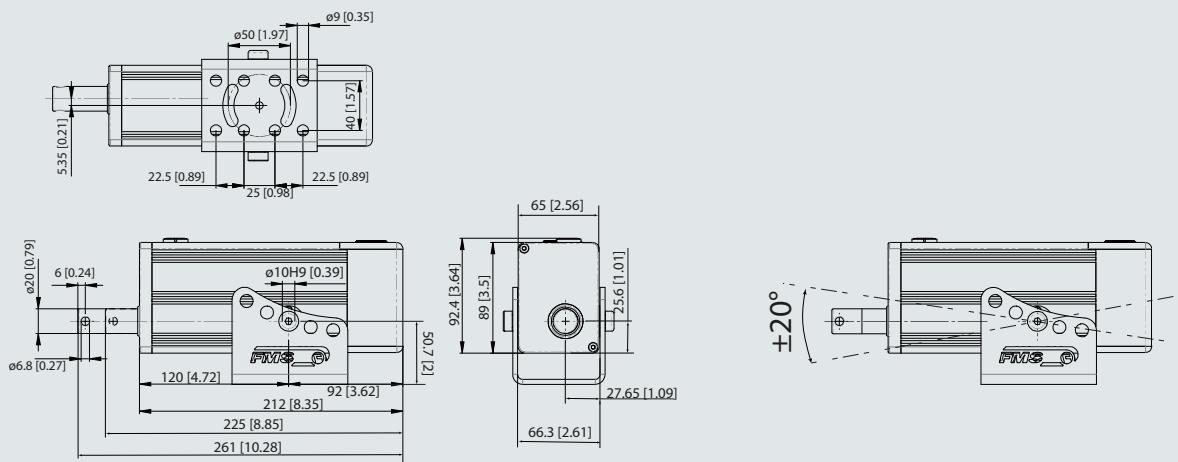
DATA SHEET

FMS Telemetry Systems | Extensions | **RTM X42.BC Brake Control**

RTM X42.BC.T/R Transmitter / Receiver | Dimensions in mm or [in]



RTM X42.BC.BA.600 Brake Actuator | Dimensions in mm or [in]



World Headquarters: FMS Force Measuring Systems AG

Aspstrasse 6 • 8154 Oberglatt (Switzerland) • Phone + 41 44 852 80 80 • Fax + 41 44 850 60 06
info@fms-technology.com • www.fms-technology.com