FMS Systems / RTM

RTM X42.PC Multi-Channel Wireless Tension Control System with PC-RTM-Software Package

- **Optimised for Wire Tension Monitoring over a PC:**
  Having always the full overview over production relevant data
- **Powerful software for tension monitoring, data logging and data analysis:**
  Higher quality standards thanks quality reports and analysis capabilities
- **Force limits and wire break detection capability:**
  Increases production yield and machine efficiency
- **Wireless transmission in the 2.4 GHz band:**
  Secure data link up to 30 m, no slip rings necessary

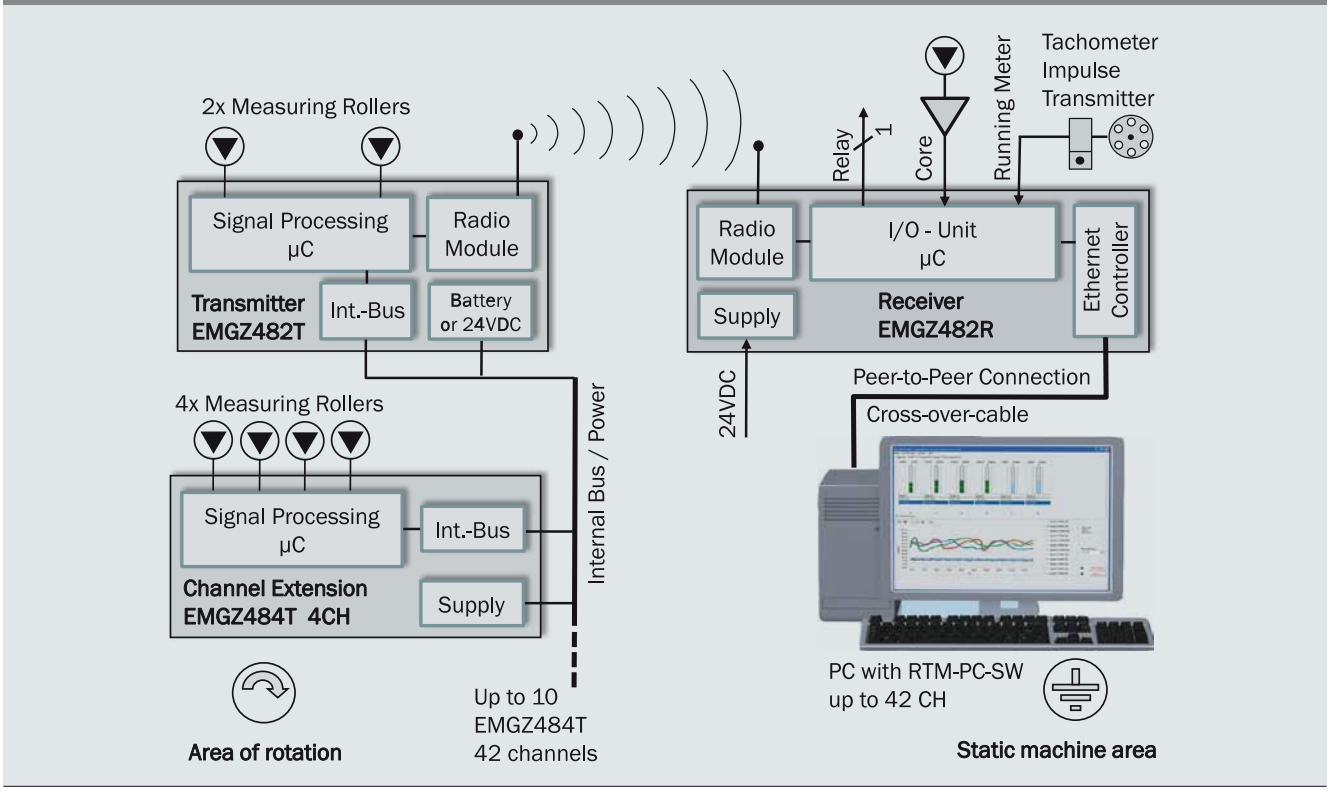
RTM X42.PC System

FMS' „**R**adio Transmitted **T**ension **M**onitoring" System RTM X42 has been developed to provide for the efficient and accurate measurement, transmission, and evaluation of material tension values on rotating Wire Processing Machinery. The RTM X42.PC System with its PC-based processing and analysis unit is optimised for tension monitoring. Its expandable features make the system ideal for applications in planetary cage, tubular and rigid frame stranding machines with up to 42 pay-off stations. RTM X42.PC is a compelling solution for use by OEMs on New Machinery or by Integrators/End Users when upgrading Existing Machinery.

Functional Description

The RTM X42.PC System consists of Transmitter, Receiver, channel extension modules, a processing and analysis unit and the force measuring rollers. From the rollers captured tension data is amplified, digitised and fed to the Transmitter EMGZ 482T. This unit is responsible for processing and transmitting the feedback values wirelessly and in real-time to the Receiver EMGZ 482R. In conjunction with the PC-unit tension data is displayed graphically or as a bar diagram on a high resolution monitor.
The system provides extensive opportunities for data logging and data analysis.
Force limits or wire breaks are detected and can via a collective relay output trigger an alarm or emergency stop.

RTM X42.PC | Blockschaltbild



EMGZ 482T Transmitter

Signal conditioning and wireless transmission

- Reliable 2-channel amplifier for 2 force sensors
- Highly stable force sensor power supply
- Wireless transmission in the 2.4 GHz band
- Power supply via battery or slip rings (24 VDC)
- Lowest power consumption, long battery autonomy

EMGZ 484T Channel Extension

4-channel expansion per module

- Channel expansion over bus connector cables on the transmitter side

Processing / Analysis Unit

Evaluation of tension data

- Parameter setting
- Data storage
- Display of data, histograms
- Data logging and printout

EMGZ 482R Receiver

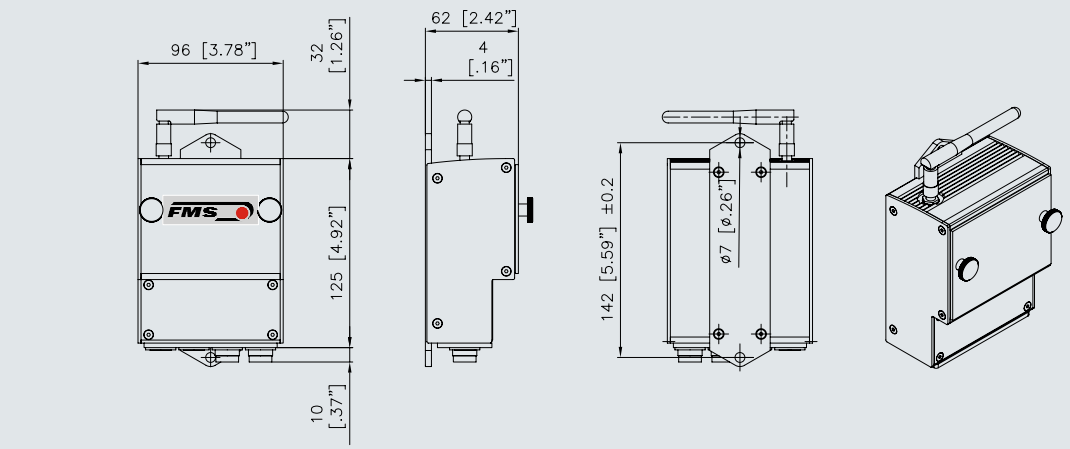
Parameter setting
Wireless reception

- User friendly operation panel with 2-line LCD
- Battery charge level indication
- Parameter setting over the front panel or web browser
- Connection to processing and analysis unit (PC)

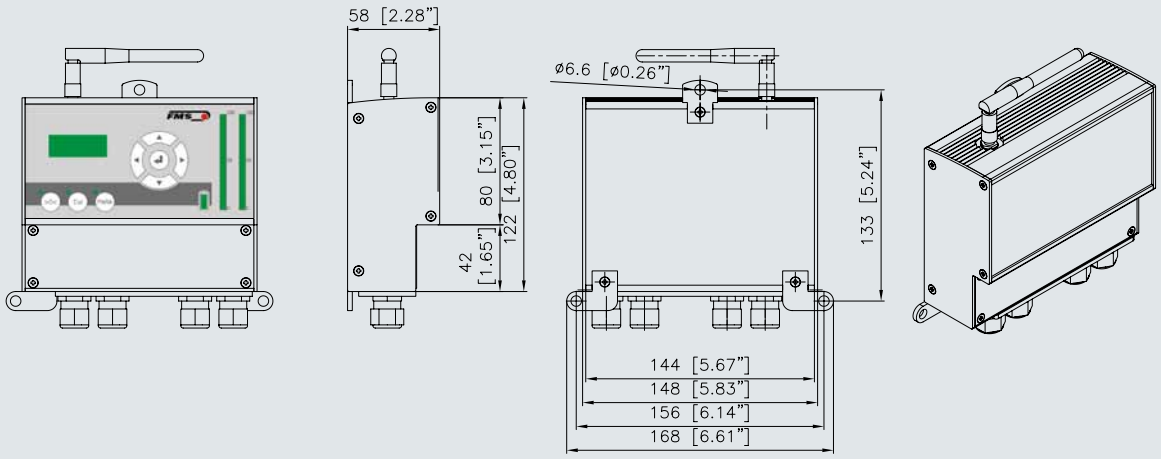
EMGZ 482T Series Technical Data	
Number of Channel	2 channels for 2 sensors
Measuring error	<0.05 % FS
Sensor Supply	3.0 VDC, max. 20 mA, high stability
Power supply	3.7 V battery Li Ion (6.7 Ah) or 24 VDC via slip rings (18...36 VDC / 10 W max. 0.5 A)
Options	EMGZ 482T.24 V for 24 V supply via slip rings
Wireless Interface	2.44 GHz
Resolution A/D-Converter	±8192 Digit (14 Bit)
Analogue inputs 1 – 2	Each for 1 sensor with strain gauges @ 350 Ω (0...5.4 mV, max. 7.4 mV)
Temperature range	0...50 °C [32...122 °F]
Protection class	IP 52
Weight	0.52 kg [1.15 lbs]
EMGZ 482R Series Technical Data	
Number of Channel	2 channels
Displays	LCD 2 x 8 characters (5 mm) 2 LED rows for tension indication Battery load / power indicator
Propagation delay	≤20 ms
Control interface	Ethernet via web browser (Internet Explorer 7 or higher)
Wireless interface	2.44 GHz
Digital input	24 VDC galvanically isolated (tachometer impulse for running meter)
Analogue input	0...10 VDC; min. 1.2 kΩ (for core channel)
Relay outputs (limit violations, alarms)	4 Relay contacts; DC: 24 V/0.5 A/12 W; AC: 24 V/0.5 A/62.12 VA
Power supply	24 VDC (18...36 VDC) / 10 W (max. 0.5 A)
Temperature range	0...50 °C [32...122 °F]
Protection class	IP 52
Weight	0.65 kg [1.43 lbs]
EMGZ 484T Series Technical Data	
Number of Channel	4 channels for 4 sensors
Measuring error	<0.05 % FS
Sensor Supply	3.0 VDC, max. 20 mA, high stability
Power supply	24 VDC over Bus & Power cable from EMGZ 482 T
Resolution A/D-Converter	±8192 Digit (14 Bit)
Analogue inputs 1 – 4	Each for 1 sensor @ 350 Ω (like EMGZ 482 T)
Temperature range	0...50 °C [32...122 °F]
Protection class	IP 52
Weight	0.45 kg [1.0 lb]

RTM X42 System 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

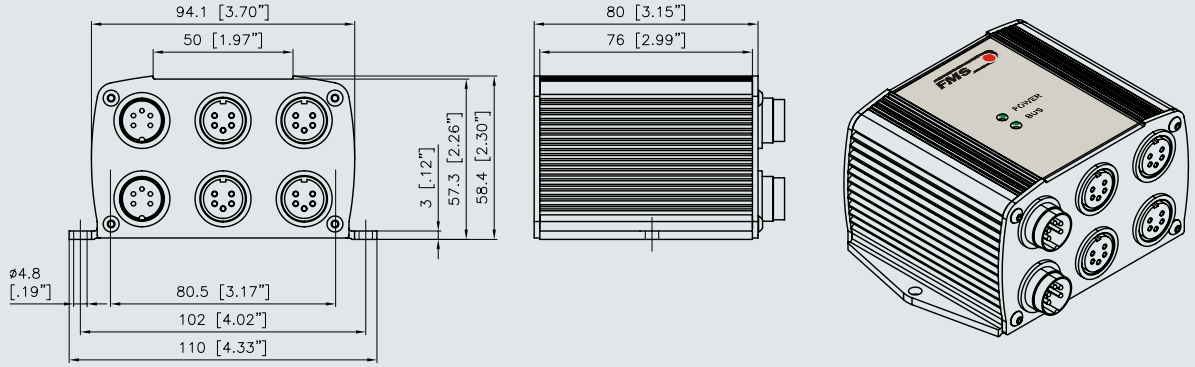
EMGZ 482T RTM X42 Transmitter, Outline Drawing | Dimensions in mm or [in]



EMGZ 482T RTM X42 Receiver, Outline Drawing | Dimensions in mm or [in]



EMGZ 484T RTM X42 Channel Extension, Outline Drawing | Dimensions in mm or [in]



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