

INGESYS

RCM

Online monitoring & data logging for rolling stock market



INGESYS™ RCM is a remote condition monitoring solution which allows you to capture and log operational data on the various elements of a train, for subsequent analysis in a remote, cloud-based control centre using advanced monitoring and analysis tools.

It is designed to improve the preventive maintenance of assets on a train with the aim of increasing their availability and reducing operational costs.

Remote Condition Monitoring

Main Functional Features

- Modular architecture that can be adapted to the needs of each application
- Designed for the rolling stock market
- Open system, programmable by the user in SIMULINK or IEC61131
- Capture and processing of a wide range of signals (position, accelerometers, temperatures, analogue values in V/I, digital signals, etc.)
- Distributed capturing via Ethernet RT
- Data logger functionality
- Integration with other automation elements using fieldbuses (CAN, RS485, etc.), Ethernet networks with MODBUS TCP, ETHERNET/IP or ETHERNET RT with PROFINET or ETHERCAT
- Communication protocols for connection to the cloud (SFTP, MQTT)
- Expandable memory for logging information
- Web server for local monitoring and parameterising



Benefits

- ✓ A wide range of protocols for the acquisition and transmission of data
- ✓ System adapted to the requirements of the railway sector
- ✓ Optimum cost solution
- ✓ Compliance with EN50155 and EN45545-2 standards

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	System
Main Power Supply	24Vdc (+25% / -30%) Class S1
Maximum Consumption	24V @ 300mA / 110V @ 80mA
Dissipated Power	8W (max.)
Memory	Program: 1Mb Data: 1Mb Non-volatile data: 62Kb Register: 32Mb expandable to 4Gb
Programming	Simulink, IEC61131-3 languages
Data Logger	Recordable variables: 1024 Consecutive logs: 32 Maximum number of variables that can be recorded in a log configuration: 64 Log buffer: 512kb Simultaneous logs: 2 Maximum number of log configurations: 32
Monitoring and Maintenance	Integrated user-configurable web server USB port for loading/unloading firmware, application, data log, etc.
Ethernet Interfaces	2 x 10/100Base TX RJ45 Ethernet ports with internal switch + 1 x 10/100Base TX RJ45 Ethernet port* Protocols: SFTP, MQTT, Modbus TCP/IP, Ethernet/IP, PROFINET, ETHERCAT
Fieldbus Interfaces	Up to 4 DB9 ports: CANOPEN(Master/Slave), Profibus DP Slave, RS232/RS485
Wireless Interfaces	WiFi, 3G
Digital Input Module	16 x DI (24Vdc @ 3mA)
Counter Input Module	1 incremental input encoder 24Vdc, 24-bit counter
Analog Input Modules	8 x AI ($\pm 10V$ or $\pm 20mA$) 8 x AI (PT100, NTC or Thermocouple) 2/4/8 x AI (fast synchronous) up to 100Ks/s, for ($\pm 10V$ or $\pm 20mA$) or IEPE accelerometers
Relay Output Module	3 outputs (150V @ 5A)
	Standards
Labelling	CE
Immunity and Emission	EN 50121-3-2:2007
Temperature Range	EN 50155:2007 [Class TX (-40°C at +70°C)]
Vibrations	EN 50155:2007 [Body Mounted, Class B] / IEC 61373:2007
Protection Against Fire	EN 45545-2
	Mechanical Features
Assembly	Panel, DIN Rail
Material	Aluminium
Dimensions (H x W x D)	(149mm to 524mm)** x 135mm x 34.6mm
Design	Internally modular. Maximum 10 I/O modules

* Optional **Depending on the number of I/O modules selected, each with a width of 37.5 mm.