

FMS-00 SYSTEM

Fixture Monitoring System



The FMS-00 Fixture Monitoring system uses specially designed Wireless Pressure Transmitters to monitor hydraulic and pneumatic fixtures and transmit to the receiver unit which displays this information and provides both alarm relays and digital communication outputs. The FMS system can operate as a stand-alone system or be fully integrated into any CNC machine with industry standard communications protocols.

As standard the FMS system provides the following features:

- Up to 8 IWT Industrial Wireless Transmitters per Fixture
- 4 off 4-20 mA or 0-10 V analog auxiliary inputs
- 8 off digital inputs – can be used to select fixtures manually or for aux. inputs
- 4 off Relay outputs – typically configured as alarm outputs
- Multiple operating modes from manual selection to a fully integrated system
- Data can be logged using P C display and logging software or sent to remote servers using the built-in 2G/4G modem.

The FMS system can operate in a number of different modes:

- Semi-manual mode with Fixture selection achieved using a rotary switch, system provides hard wired relay alarm outputs
- Fixture selection made using digital communications port. Protocols available include:
 - Modbus RS485
 - Modbus TCP/IP
 - Ethernet I/P
 - Profibus or any other standard protocol using external protocol converter.
- Fixture selection through the external Panel PC monitoring software

In all cases the in-built alarm relays operate in a fail-safe mode to ensure the machine can be brought to a controlled halt if any of these conditions are met:

- The pressure of any installed Wireless Pressure transmitter drops below the user-selected alarm threshold
- The pressure in the hydraulic or pneumatic fixtures falls (or rises) faster than the pre-set alarm rate of change
- The receiver stops receiving valid data from any of the FMS transmitters installed in the Fixture selected
- Any of the installed FMS transmitters returns a battery level warning system

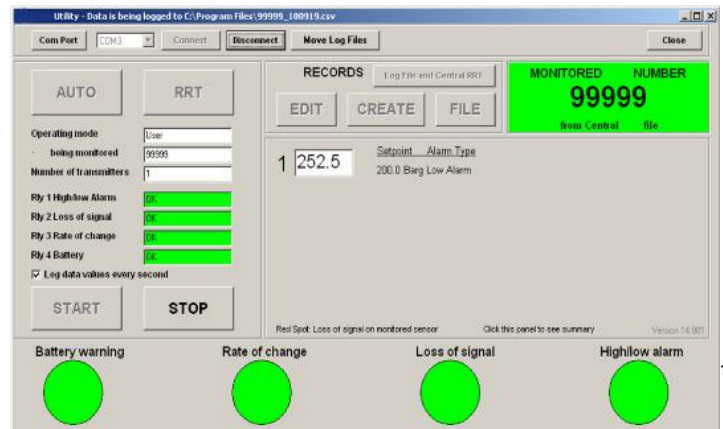
As well as the built-in display the FMS receiver can be linked to an external Panel PC running bespoke monitoring software.

This bespoke software gives the user more information on the current conditions of the Fixture being monitored. It also allows the Fixture to be monitored to be selected if that mode has been enabled.

The parameters which can be viewed include:

- Current pressure and Link Quality of all the FMS transmitters installed on the monitored fixture
- The alarm setpoints of all the pressure circuits
- The current status of all the alarm relays
- The serial numbers of all the installed transmitters

A password-protected 'engineering' page allows all the parameters of the system to be viewed and advanced features to be accessed.



TECHNICAL SPECIFICATIONS

Parameter	Min.	Type	Max.	Comments
Supply Voltage	12	12	36	Optional Battery Power from 3.6 V
Cellular Transmit Bands		2G/4G	4G	4G Cat-M1 or NB-IOT with 2G fallback
Analogue Inputs				4 off Analogue Inputs
Analogue i/p Res				13 bit resolution accuracy better than 0.1% FS
Digital I/O				8 Digital Inputs and 4 Relay Outputs
Wireless Receiver Freq		2.4GHz		Accepts all FMS 2.4GHz Wireless Sensors using the license-free 2.4GHz ISM band
USB Connection				Micro USB Connector
Communications ports				MODBUS RTU or TCP/IP, Ethernet I/P others via protocol converters
Display				128 x 64 pixel LCD Local Display
Trans Protocol		MQTT		Custom protocols possible
Dimensions				190 x 125 x 60mm
Weight			190g	
Storage Ambient	-40°C		+85°C	
Operating Ambient	-10°C		+55°C	

SYSTEM COMPONENTS & PART NUMBERS

Part Numbers

Description

II-FMS-SYS-00	Receiver in Polycarbonate Enclosure
II-FMS-SYS-01	Receiver in 400 x 400 x 200 stainless steel enclosure with optional Panel PC display
II-FMS-S4003-000-000	Wireless Transmitter with 0-400 Barg input range
II-FMS-A2000-000-000	Wireless Transmitter with 0-2 Bara input range
II-FMS-xxxxx-000-000	Wireless Transmitter with xxxxx pressure range (wide range of pressure inputs available)
II-FMS-CAL-00	FMS Calibration/Setup Unit with USB connector.
III-AB7850	Profibus or other protocol interface unit DIN rail mounted.
FMS-Config	PC Configuration & Monitoring Software

DIMENSIONS

All dimensions are in millimeters.

