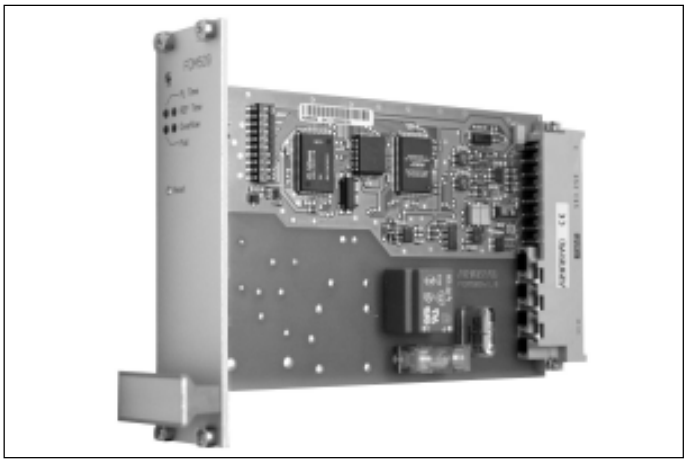
Frequency Deviation Monitor FDM509

- **Monitoring of Mains Frequency**
- **Calculation of Time based on the Local Frequency**
- **Pre-connected GPS167 or PZF509 as Reference**
- **Serial Interface and Analog Outputs for Output of the Frequency and Time Deviation**



Function: The module FDM509 was designed to calculate and monitor the frequency in 50/60Hz power line networks. A preconnected reference is necessary that provides a high accuracy 10MHz frequency, a serial time string and a PPS (pulse per second). The module calculates the frequency as well as the time, based on the mains frequency. The time deviation of this calculated time (PLT) to the reference time (REF) is sent via serial interface or via analog outputs provided by a DAC.
The board is equipped with a flash memory and a bootstrap loader which allows to update the systems firmware via serial port.

Input Signals: 10MHz, serial time string (via COM1), PPS
mains frequency, 70 - 270VAC, 50Hz or 60Hz

Accuracy and Resolution of Measurement:

frequency:	accuracy of reference (10MHz) ±1mHz
time deviation:	accuracy of reference (PPS) ±1ms

Serial Interfaces: Two asynchronous serial RS232 ports, COM1: 19200 baud, 8N1
COM0 configurable via DIL-switch:
Baudrate: 9600, 19200 Baud
Framing: 7E2, 8N1
output and average once per second or once per minute
Output string: The frequency, frequency deviation, reference time, power line time and the time deviation are send out. The format is:

F:49.984 FD:-00.016 REF:15:03:30 PLT:15:03:30.368 TD:+00.368<CR><LF>

Analog Outputs: 2 analog outputs for longtime-recording (time deviation and/or frequency deviation), range: -2.5V ... +2.5V, resolution: 16Bit

Power Requirements: +5V, @180mA

Connectors: rear VG edge connector, mixed F/H, DIN 41612, Type F: 24 pin, type H: 7 pin
optional mains socket in the front panel

Physical Dimension: Eurocard, 100mm x 160mm, 1.5mm Epoxy

Front Panel: 8HP/3U (40.6mm wide x 128.4mm high)

Ambient Temperature: 0 ... 50°C

Humidity: 85% max.

Options: power line input via mains socket in the front panel
Hardware and software modifications accordding to customer specification