Data Sheet

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FDET
Single Channel Frequency Detector and Counter with Isolated Interfaces

- 16-bit Frequency Counter and Detector
- Fully galvanically isolated interfaces and power supply
- Hermetically sealed, ruggedized metal case
- Rapid startup time through internal heating resistors
- EMC-proofed design

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Application Scope

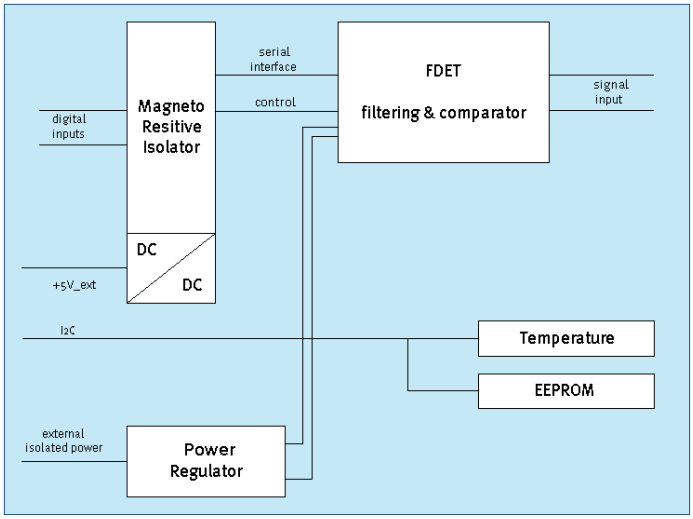
The FDET module is a single channel frequency counter module with a galvanically isolated serial interface. It is the perfect choice for maintenance, testing, integration and troubleshooting applications that require maximum accuracy, channel isolation, and a high data throughput

Feature Highlights

The FDET features the following components and properties:

> 16-bit precision signal detection and counting of cyclic signals
> Active input signal conditioning with filters and comparators
> I2C bus for sampling the current module temperature via the built-in LM 92 temperature sensor
> I2C EEPROM for writing module-specific data to memory (max. 2 kB) to be read and analyzed by an application
> 1 Watt thermal resistor for quickly obtaining operating temperature after power-on
> Heating is controlled either externally via pin #36 or internally via the programmable LM92 temperature sensor. When the module temperature reaches 80° C, the heating will be switched off automatically. The automatic switch-off temperature can be set to a different value via the temperature sensor IC.
> Serial interface (2 wire)
> Rugged metal case with a pin output layout according to the DIL 40 standard (reduced pin count)

Frequency Detector and Counter Block Diagram



Technical Data

HW Resources

- 16 bit precision frequency counting
- I2C EEPROM with a maximum of 2KB of data
- LM 92 temperature sensor
- 1 Watt thermal heating resistor
- Serial interface (2 wire)

Input Ranges

- Input frequency range: 1.52 kHz to 20 kHz
- Input impedance: approx. 100 k
- Input voltage range: 5 Vpp to 10 Vpp
- Input impedance: approx. 100 k

Accuracy in %

30° C - 50° C 0.1% fs

Temp. Measurement Accuracy

±0,5° C max / 10° C to 50° C

±1,0° C max / -10° C to 85° C

Mechanical Data

- **Length:** 55,34 mm (± 0.07 mm)
- **Width:** 22,32 mm (± 0.07 mm)
- **Height without cover:** 12 mm (± 0.07 mm)
- **Height including cover:** approx. 12,5 mm
- **Weight:** approx. 35g (including metal case)

Environmental Data

- Operating Temperature: 0° C - 70° C (internal module temperature)
- Storage Temperature: -40° C - +85° C
- Humidity: 0 - 90% non-condensing

Ordering Information

Max. Frequency Input	Order Number
20 kHz	700718-2

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