

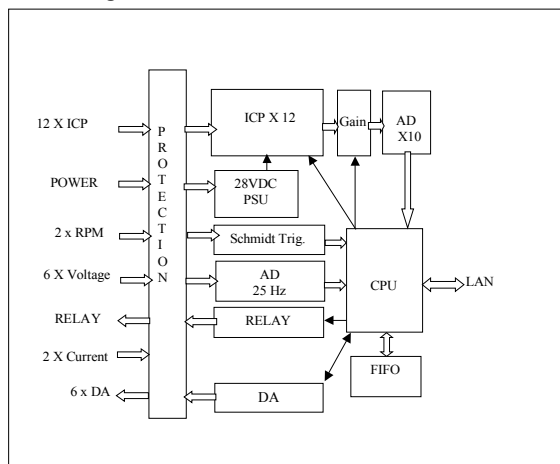
### Overview

The M-SYSTEM is the hardware frontend for the TCM System. Please consult the TCM documentation for more information.

### Features

- 12 ICP synchronous channels
- 5 mA excitation, 28VDC
- Bandwidth 0.7 – 16 kHz
- 100 dB dynamic range
- Software selectable gain
- 6 voltage inputs for external parameters
- 2 current inputs for external parameters
- 2 x RPM/Trigger input
- LAN 10/100 Mbit interface
- 6 analogue outputs
- 1 Relay output
- 1 RS485 Port compatible with DAM-network for structural vibration monitoring
- No rotating parts
- Sensor Health Detection
- GL Certified TC-GL-015B-2007

### Block Diagram



### Applications

The unit is compatible with the DAM System and can be used with the TCM software from Gram & Juhl.

### Technical Specifications

Number of ICP interfaces	12 AC coupled 1. Order
Excitation	5 mA @ 28 VDC
Effective input range	± 5V
Attenuator steps x	1,2,5,10,20,50,100
Resolution (ΣΔ)	600 nV (gain 1)
Synchronous channels	12
Phase match between channels	<1° @ 16 kHz
Cross talk between channels	< 100 dB
Bandwidth (3 dB)	0.7 – 16k Hz
HP filter	40 dB/decade
Dynamic Range	100 dB
Noise	1 μV/√Hz
THD	< 100dB @ 1 kHz
Frequency walk pass band	<± 0.1 dB 5-15.9k Hz
Number of Input	6 x Voltage, 2 x 0-20 mA
Voltage Input	0-5V burst sampled, BW 25Hz
RPM Input	opto coupled 0-10kHz
RPM resolution	< 0.001%
Anti-aliasing filter	100 dB in stop band
DA output	0-5 V 8 bit @25 Hz
Power	24VDC ~1A, fuse 2AT
Start Current	<12A
Relay	<100mA, 30Ω, max 300mW

### Mechanics

Dimensions L x W x H	400 x 300 x 175 mm
Housing	IP65
Mounting	brackets bolting 4 x 6 mm
Weight	8 kg

### Glands and Connectors

Glands	12 x 12 mm
LAN	RJ-45 industrial
Wire termination	Press-fit connector terminals

### Environmental

Operating Temperature	0-45°C
Storage Temperature	-20 – 70 °C
Moisture	10-90% non condensing
Protection	20 Vrms at any interface
Over voltage protected	ESD, Surge

### Compliance

TC-GL-015B-2007, report 72539-16, rev. 1  
 EN61000-6-4, 2001 (Emission) shielded cables must be used  
 EN61000-6-2, 2001 (Immunity) shielded cables must be used  
 EN61000-1-9, 1993 +A1 2001 level 5 (Pulse Magnetic Fields)  
 IEC 60068-2-64, Test Fh, Random Vibration Test

### Software

Gram & Juhl's TCM, SVM & MCM software suite

### Typical ICP Accelerometer Specs

Sensitivity	100mV/g
Excitation Current	0.5-8mA
Excitation Voltage	< 28VDC
Measurement Range	±50g
Noise	<5 μg /√Hz
Bandwidth	1 Hz – 16 kHz (3dB)