



- **complies fully with SAE J211 regulations**
- **12 analog input channels, 4 digital input channels**
- **option: 6 analog input channels, 4 digital input channels**
- **2 airbag fire outputs**
- **16 bit resolution**
- **max. 100 kHz sampling rate for each channel**
- **suitable for all strain-gauge and piezo-resistive sensors**
- **100 G / 15ms shock-proof**
- **10 Mbit/s Ethernet 10 Base-T interface**
- **up to 4 systems can be linked together**
- **compatible with NA32, NA33 and NA35 systems**

## Preliminary Technical Specifications

### Analog Channels

Number/type	12 channels, 16 bit resolution
Sensor supply voltage	$\pm 2.5 \text{ V} / \pm 5 \text{ V}$ programmable, short circuit protected
Minimal bridge resistance	300 $\Omega$ / channel
Offset correction	$\pm 3 \text{ V}$
Input voltage	up to $\pm 5 \text{ V}$ (overvoltage protection up to $\pm 40 \text{ V}$ )
Gain range	1...10,000 programmable for each single channel in calibrated steps
Antialiasing filter	0.1 x sampling rate, Bessel 5-pole

### Digital Input

Number/type	4 optocoupled channels, implemented in two sockets
Switching threshold	2.5 V (overvoltage protection up to $\pm 40 \text{ V}$ )
Auxiliary voltage	12 V, 80 mA, short circuit protected

### Airbag Firing Outputs

Number/type/voltage	2 channels, 12 V insulated by means of DC/DC converter
Short-circuit current	25 mA (for approx. 3 ms 8 A from 2,200 $\mu\text{F}$ as pyro igniting current)
Delay	0...6,553 ms programmable in steps of 0.1 ms
Special features	protective circuit to avoid mis-ignition: – squib recognition by means of a 2 mA test current – resistance measuring $1 \Omega < R < 10 \Omega$ with LED display – logical and electrical interlock

### General

#### Digitization, Storage

Sampling rate	max. 100 kSamp/s per channel on all channels simultaneously
Recording time	4.3 sec at 20 kSamps/s per channel
Recording memory	1 MB SRAM per 6 channels
Data transfer	Ethernet 10 MBit/s 10 Base-T twisted pair TCP/IP protocol
ID module	programming and read-out of MESSRING, Endevco, MSC, Dallas

#### Power Supply

Voltage	18..22 V DC
Current	approx. 1.5 A
Battery capacity	for 5 min operation – only for power failure

#### Dimensions

Size	276 mm x 170 mm x 40 mm (WxDxH)
Weight	2 kg

#### Connectors

Digital input	Lemo* size 1, series B, 7-pole
Analog input	each channel Lemo* size 1, series B, 7-pole
	* Custom specific connectors are optional.
Digital output	Lemo* size 1, series B, 2-pole
Power supply/data transfer/trigger	Lemo* size 2, series B, 10-pole, combination connector

#### Shock resistancy

arbitrary number of 100g/15 ms shocks

#### Trigger

Trigger modes	analog: threshold value, digital: characteristic signal change
Trigger bus	RS 485 for up to 500 m cable length, compatible to NA33