



# MECASON<sup>®</sup>

## CBN 30



The CBN 30 electronics unit features 8 sensors inputs and can thus accommodate 8 measurement points (placed on one or several machine).

The inputs are scanned cyclically. The measurement levels are compared with user selectable alarm levels.

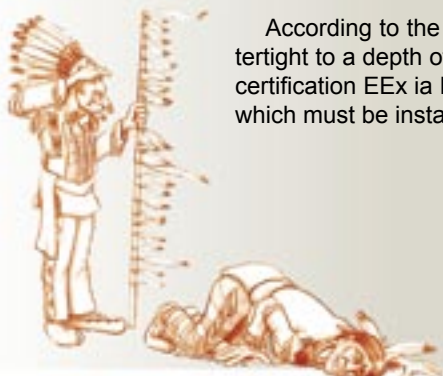
To allow the monitoring of several measurement points, each with different noise levels, using the same set of alarm levels for all, each input has its own gain adjustment (potentiometer) which is used to adjust to the same initial level on the display of each sensor. The alarm levels correspond, therefore, to factors of increase over the initial adjustment level, which forms the base of the measurement and identifies the noise level associated with «good» machine function.

With its on-board intelligence, the CBN 30 stores the alarm conditions and identifies the measurement point generating the alarm.

The electronics unit housing is fitted with a water tight headset jack permitting the user to verify the mechanical source of the noise measured. In listening, one also duplicates the technique of the mechanic who uses a screwdriver in touch with the machine surface with the handle held against his ear to listen to the internal noises of the machine. According to the noise heard, a general idea of the possible mechanical source of the noise can be obtained.

Plugging in the headset stops automatically the sensor input scanning. To listen to the various sensor signals the user can change the channel via a button on the electronics unit front panel.

According to the application at hand, the sensor can be furnished with a protection rating of IP65 or watertight to a depth of 50 meters. For applications in the intrinsic safety zones, sensor with the intrinsic safety certification EEx ia IIC T5 are available. This certification implies the use of a Zener barrier for each sensor, which must be installed between the sensor and the electronics unit and outside of the explosive zone.



## OPTIONAL MODULES

Five complementary circuit modules are available to extend the basic functions :

**MARD 30** : this card features four inputs to accommodate machine running/stopped conditions and four alarm N°2 relay outputs permitting the automatics shut-down for up to 4 machines individually.

**MARD 31** : the same as the MARD 30 with the addition of a multiplexed 4-20 mA analog output. The measured levels for all sensors present are transmitted via the same wire sequentially and at the rate of the sensor scanning. An impulse to 0 mA at the beginning of the scanning period for sensor one identifies the first sensor in the sequence.

**MARD 32** : the multiplexed 4-20 mA analog output alone.

**MARD 33** : four opto-coupler inputs (to connect in parallel) for validation of the alarms on on the motherboard. This card was designed especially for those applications requiring the filtering of certain machine functions (that is their exclusion from the monitoring process). For exemple, water power turbines during off-line operation, screw type compressor in the by-pass mode, etc. Via the opto-coupler input, the validation of the alarms is confirmed only during the desired functional mode of the machine.

**MARD 34** : the sum of the MARD 32 and The MARD 33 functions.

## TECHNICAL SPECIFICATIONS

### ELECTRONICS UNIT

- Number of sensor inputs	8
- Selection of the last input scanned	per jumper
- Sensor scanning rate	4 to 12 sec per channel, adjustable
- Storage of alarm conditions	yes/no, per jumper
- Relay outputs (motherboard)	
- delay	approx. 3 seconds
- maximum switching voltage	230 V
- maximum switching current	5 A
- maximum switching power	250 VA AC 50 to 150 W DC (please consult us)
(please contact us for card MARD relay output limits)	
- Analog bar graph display	50 segments length 125 mm
- Headset jack	watertight connection
- Power supply voltage	230 V, 50 Hz
- Power consumption	less than 10 VA
- Electrical protection	fuse 5 x 20 slow burn plus varistor
- Operating temperature	0 to 50°C
- Housing ABS	IP65
- Dimensions	160 x 240 x 90 (cable ports exuded)
- Mass	approx 1,6 kg
- Norms EM protection	EN50081-2 and EN 50082-2

### SENSORS

- Pass band (capture and electronics)	100 to 12000 Hz
- Operating temperature	-20 to 60°C
- Protection rating	IP65 (upon demand water tight to 50 m)
- Installation hardware	washer and screws CHC 5
- Mass excluding wiring	approx. 50 g
- Wire connections per co-axial	0.22 mm <sup>2</sup> , insulation plastified PVC
- Sensor shaft stainless steel	316L, shrink tube

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