

## DET-1600 MAN®

**Pre-configured, no commissioning**

Detects detonation and avoids consequential engine damage



### Pre-configured settings, no commissioning needed.

The DET-1600 MAN® is officially approved by MAN® for the following engines:

- E2876LE212
- E2676LE202
- E3262E302
- E3262LE202
- E3268LE212 (pending)

DET-1600 MAN® are pre-configured for these specific engines, which results in no commissioning.



Automatic load reduction and engine shutdown functionality



Can be connected to most Altronic digital ignition systems for automatic timing retard control in the event of detonation



CSA-certified for use in Class I, Division 2, Groups C and D hazardous areas



Specifically designed for incorporation in PLC+ panels

### Detects and eliminates detonation

A DET system can be configured to take a number of control actions to protect the monitored engine upon indication of detonation.

On a cycle-by-cycle basis for every cylinder values of vibrations are transformed into electrical signals, which are evaluated by the DET device. The values are measured against detonation setpoints configured by the user for the monitored engine. Up to 16 cylinders can be monitored.

These reference numbers are used to control two output switches, one for load control and the other for shutdown, and a 4-20mA current loop or Modbus RTU output to retard ignition timing.

#### DET+ or DET-1600

The DET+ is specifically designed for incorporation in PLC+ panels and has the same quality as the DET-1600. The DET-1600 has its own backlit display. Both are available for engines up to 16 cylinders



## Specifications

### Altronic Detonation sensors

<b>Ethernet port (RJ45)</b>	: Modbus TCP/IP
<b>Serial port (RS485)</b>	: Modbus RTU
<b>Power Requirement</b>	: DC powered, 10-32VDC, 0.30 AMP max.
<b>Ambient Temperature Range</b>	: -40°C to 85°C (-40°F to 185°F)
<b>Sensors</b>	: Up to 16
<b>Sensor Type</b>	: Piezoelectric Vibration Sensor
<b>Sensor scan rate</b>	: On Firing Event
<b>Output Switch (2)</b>	: 2 programmable, solid-state rated 200VDC : 0.2 AMP continuous, optically isolated from power supply, one for Alarm, one for Shutdown
<b>Current Loop Output</b>	: 4-20mA
<b>Hazardous Area Classification</b>	: Class I, Div. 2, Groups C & D for direct hook-up, : Temp Code T4, max ambient temp 85°C
<b>Display</b>	: Backlit, 2x16 character, LCD
<b>Display update rate</b>	: 0.5 seconds nominal
<b>Keypad</b>	: 8-key, membrane
<b>Switch Response Time</b>	: Tied to Filter Value and Display Reading : (with filter at 1, max response time is approx. 0.5 sec.)

\* For engines equipped with Altronic CD200, DISN, or CPU-95 ignition systems.

\*\* For engines equipped with Altronic CPU2000 ignition systems.

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### Seamless compatibility with engines up to 16 cylinders

Hatracoco has a lot of experience with the Altronic DET systems on engines types of 2G, BuTec (Doosan), Doosan, Jenbacher, Liebherr, MAN, Mitsubishi, MWM, Perkins, Rolls Royce, Wärtsilä, Waukesha and more.

DET+\* / DET+(LV) \*\*  
DET 1600\* / 1620\*\*

## Why Hatracoco?

For 40+ years, Hatracoco is an independent trading company specialized in ignition, governing and control products for industrial reciprocating engines, both spark ignited and diesel.

With our: In-house engineering  
In-house production  
In-house service

we guarantee that your project is in the **best hands** with our company.

**We solve** your problems and give you the **best solutions**.

## Try the best solution!

Contact your local Hatracoco representative for any information you may need.

Our well selected business partners provide you with professional support in your own language.

Please visit our website [www.hatracoco.com](http://www.hatracoco.com) or mail to [sales@hatracoco.com](mailto:sales@hatracoco.com)

## IT'S ALL AROUND ENGINES