

<b>Document Number</b>		RG_SPEC-0051	
<b>Title</b>		Differential Hall Effect Sensor	
<b>Revision</b>	<b>Date</b>	<b>Prepared By</b>	<b>Change History</b>
1	02/21/2017	Chris Moritz	Initial Release
2	05/30/2017	Chris Moritz	Torque Spec Added

## Introduction

The M DHALL 437 V2 is a differential Hall Effect sensor. It outputs a 0-8V square wave and should be triggered on a ferrous tooth-it does not require a magnet. These sensors are suitable for either measuring wheel speed or as engine speed/synchronization sensors.

## Specifications

<b>Input Voltage</b>	+5 to +24 VDC
<b>Air Gap</b>	0.040 to 0.050"
<b>Speed Range</b>	0-15 kHz
<b>Output Signal</b>	Open Collector NPN, no pull up
<b>Output Voltage</b>	400mV to $V_{in}$
<b>Operating Temp</b>	-40°C to +150°C
<b>Install Torque</b>	11 to 15 ft-lb

**Target:** Ferrous Material Gear Tooth with range of Min 4 to 32 Gear Pitch.

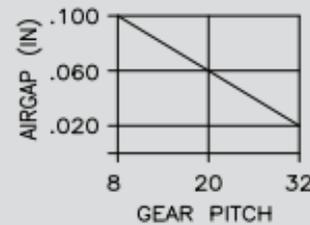
$$P = \frac{N + 2}{OD}$$

P = Gear Pitch  
N = Num. of Teeth  
OD = Outside Diameter

**Frequency:** 15 kHz Max

**Output Type:** Digital (Square wave), TT compatible / 

Gear Pitch vs. Airgap Graph



## Connections

- |          |       |             |
|----------|-------|-------------|
| <b>1</b> | Drain | White/Black |
| <b>2</b> | 0V    | Black       |
| <b>3</b> | SIG   | White       |
| <b>4</b> | 8V    | Red         |

