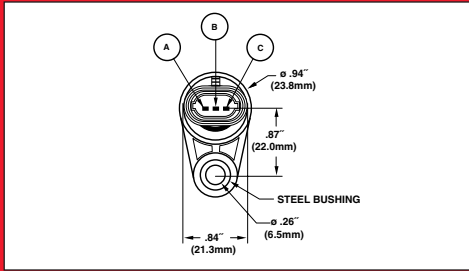
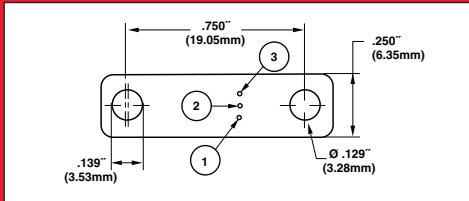


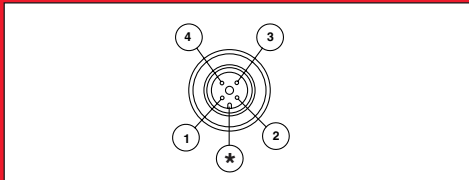
Connector Details



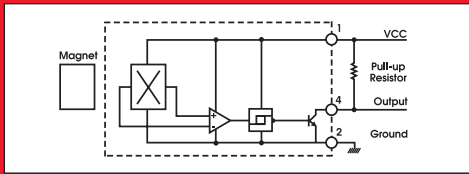
Delphi Connector Metripak 150 (mates with Delphi 12162280 and 12162299)



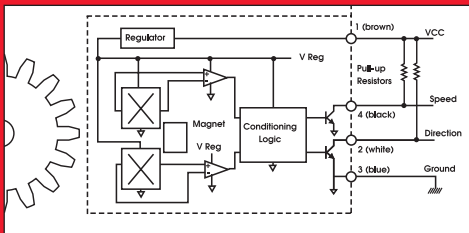
VN Series (pin)



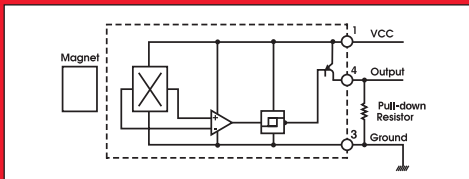
12 mm Circular Connector



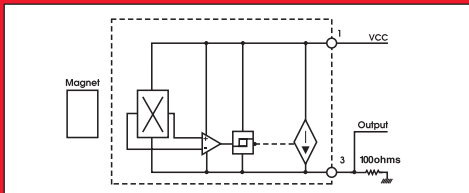
MP, GS, VN Series (sinking output)



SD Series Block Diagram (locate connector keyway perpendicular to gear rotation)



MP Series (sourcing output)



GS Series (two-wire output)

Sensor Series	Connector Type	Connection Grid				
		V _{CC}	Output	Ground	Direction	Speed
MP	12mm circular Wire Lead Wire Lead	1 brown red	4 black green	3 blue black	n/a n/a n/a	n/a n/a n/a
GS	12mm circular 3 Wire Lead 2 Wire Lead Delphi	1 brown brown A	4 black black B	3 blue n/a C	n/a n/a n/a	n/a n/a n/a
SD	12mm circular	1	—	3	2	4
VN	Pin Wire Lead	1 red	3 green	2 black	n/a n/a	n/a n/a

Current Sink and Current Source Interfacing

3-Wire Sinking Interface

Sinking outputs are often used in negative logic applications, where a low signal is required for an active state. Therefore, sinking outputs normally have current flowing into the device output lead when the device is active. Also called “open collector outputs,” sinking outputs are compatible with any logic family since a wide voltage range may be used for V_{CC}. Furthermore, the voltage level used to power the Hall effect assembly may differ from the pull-up resistor to which it is attached. The external pull-up resistor connected between the output and V_{CC} is required for proper operation. With the resistor connected as shown, the output will be “pulled up” to V_{CC} when off and (approximately) to ground when on.

Recommended pull-up resistor values are as follows:

Volts dc	5	9	12	15	24
Ohms	470	820	1.2K	1.5K	2.2K

3-Wire Sourcing Interface

Sourcing outputs are often used in positive logic applications, where a high signal is required for an active state. Thus, sourcing outputs normally have current flowing out of the device output lead when the device is active. Because a pull-down resistor is required for proper operation, sourcing outputs are compatible with CMOS logic, but not with TTL components. With the pull-down resistor connected as shown, the output will be “pulled down” to ground when off and (approximately) to V_{CC} when on.

Recommended pull-down resistor values are as follows:

Volts dc	5	9	12	15	24
Ohms	470	820	1.2K	1.5K	2.2K

2-Wire Current Sourcing Interface

Some applications require the sensor have only two connections. To accommodate these situations, several Cherry sensor assemblies are equipped with a 2-Wire interface (which may be tested as shown in the block diagram). When the sensor is idle, current flowing into the device via Pin1 and out via Pin 3 is limited to that needed to power the Hall effect device, a maximum of 6mA. When the sensor is active, the current flow will increase to a minimum of 10mA as the Hall effect device turns on the programmable current source. The voltage measured between the output and ground will therefore change by a minimum of 0.4 Vdc. If Pin 3 is connected to a comparator, the comparator output will switch in response to the change in voltage at Pin 3 of the sensor. Alternatively, Pin 3 can be connected directly to ground and a load placed between Pin 1 and V_{CC}. In this case, Pin 1 becomes the output lead to be connected to a comparator.

For additional information, contact Cherry at 800-285-0773 or visit www.cherrycorp.com.

