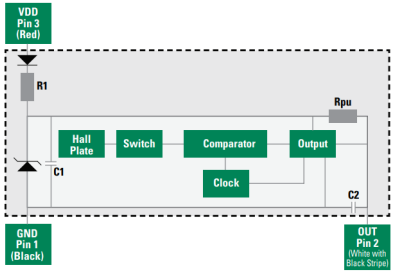
HALL EFFECT SENSOR



Electrical Ratings

Hall Type			Digital Switch 3-Wire (Voltage Output)
Supply Voltage [1]	Operate Overvoltage Protection Reverse Voltage Protection	Vdc Vdc - max. Vdc - max.	4.75 to 24 27 -25
Output High Voltage		Vdc - min.	VDD -2 (-2 sinking output with internal pull-up)
Output Low Voltage		Vdc - max.	0.6 @ 20mA
Output Current (continuously on) Current Consumption Current Consumption		mA - max. mA - max. mA - max.	20 1 10.5
Current Consumption		mA - min. mA - max.	1 10.5
Switching Speed		KHz-max.	15
Temperature	Operating	°C	-40 to +125

EXTERNAL WIRE CONNECTIONS

J1
Ampseal_23_VT

1	1	HALL_EFFECT_+
2	2	12V
3	3	GND
4	4	CAN_HIGH
5	5	CAN_LOW
6	6	12V
7	7	GND
8	8	LINEAR_POT_+
9	9	HALL_EFFECT_SENSE
10	10	CAN_HIGH
11	11	CAN_LOW
12	12	GND (CAN CABLE SHIELD)
13	13	CAN_HIGH
14	14	CAN_LOW
15	15	LINEAR_POT_SENSE
16	16	HALL_EFFECT_–
17	17	12V
18	18	GND
19	19	CAN_HIGH (TIRE TEMP BRANCH)
20	20	CAN_LOW (TIRE TEMP BRANCH)
21	21	12V (TIRE TEMP BRANCH)
22	22	GND (TIRE TEMP BRANCH)
23	23	LINEAR_POT_–

LAYOUT NOTE: Place on the bottom of the PCB.

LAYOUT NOTE: Make sure positive locking feature is not facing the ground.

NOTE: Datasheet calls out max panel thickness of 5mm.

⚠ ACCEPTS SCREW SIZE (Ø0.99 (2.50mm)) SELF TAPPING THREAD FORMING SCREW TO BE DRIVEN AT 0.6-0.8 N-m

EXTERNAL CONNECTIONS
TO STRAIN GAUGES

J2
MicroFit_V_2

1	1	STRAIN_GAUGE_1_+
2	2	STRAIN_GAUGE_1_–

J3
MicroFit_V_2

1	1	STRAIN_GAUGE_2_+
2	2	STRAIN_GAUGE_2_–

J4
MicroFit_V_2

1	1	STRAIN_GAUGE_3_+
2	2	STRAIN_GAUGE_3_–

J5
MicroFit_V_2

1	1	STRAIN_GAUGE_4_+
2	2	STRAIN_GAUGE_4_–

J6
MicroFit_V_2

1	1	STRAIN_GAUGE_5_+
2	2	STRAIN_GAUGE_5_–

J7
MicroFit_V_2

1	1	STRAIN_GAUGE_6_+
2	2	STRAIN_GAUGE_6_–

J8
MicroFit_V_2

1	1	STRAIN_GAUGE_7_+
2	2	STRAIN_GAUGE_7_–

J9
MicroFit_V_2

1	1	STRAIN_GAUGE_8_+
2	2	STRAIN_GAUGE_8_–

LAYOUT NOTE: Place on the bottom of the PCB.

LAYOUT NOTE: Ensure room for mating and unmating including space for locking feature.

NOTE: Waterproofing considerations for these connectors.

TO WHEEL SPEED SENSING

J10
MM_M_VT_08

1	1	12V
2	2	GND
3	3	CAN_HIGH
4	4	CAN_LOW
5	5	HALL_EFFECT_+
6	6	HALL_EFFECT_SENSE
7	7	HALL_EFFECT_–
8	8	GND

TO SUSPENSION TRAVEL SENSING

J11
MM_M_VT_08

1	1	12V
2	2	GND
3	3	CAN_HIGH
4	4	CAN_LOW
5	5	LINEAR_POT_+
6	6	LINEAR_POT_SENSE
7	7	LINEAR_POT_–
8	8	GND

LAYOUT NOTE: Consider board heights for Micro-MaTch spacing.

TO SUSPENSION STRAIN SENSING

J12
MM_M_VT_20

1	1	12V
2	2	GND
3	3	CAN_HIGH
4	4	CAN_LOW
5	5	STRAIN_GAUGE_1_+
6	6	STRAIN_GAUGE_1_–
7	7	STRAIN_GAUGE_2_+
8	8	STRAIN_GAUGE_2_–
9	9	STRAIN_GAUGE_3_+
10	10	STRAIN_GAUGE_3_–
11	11	STRAIN_GAUGE_4_+
12	12	STRAIN_GAUGE_4_–
13	13	STRAIN_GAUGE_5_+
14	14	STRAIN_GAUGE_5_–
15	15	STRAIN_GAUGE_6_+
16	16	STRAIN_GAUGE_6_–
17	17	STRAIN_GAUGE_7_+
18	18	STRAIN_GAUGE_7_–
19	19	STRAIN_GAUGE_8_+
20	20	STRAIN_GAUGE_8_–

Generic Micro-MaTch male header.

Lucky Jordan
Olin Electric Motorsports

Sheet: /
File: sensing_module_interface.sch

Title: Sensing Module Interface

Size: A4	Date: 2019-11-13	**Rev: 1**
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