

Electronic Speed Switch

Model SpeedTrap™ 8210K

Overview

The AMOT Model 8210K Electronic Speed Switch monitors engine RPM and works in conjunction with other AMOT devices to shut down a runaway engine.

Key features and benefits

- Built-in solid state relay - increased reliability
- Speed output
- Factory preset - field adjustable
- Compact, weatherproof design
- Test circuit allows field testing and setting without overspeeding engine



**SpeedTrap™
8210K Speed
Switch**

Typical applications

- Tank trucks
- Vacuum trucks
- Oil field truck & equipment
- Offshore engines
- Drilling rigs
- Oil skimmer barges
- Aircraft ground equipment
- Trenchers



Electronic Speed Switch - 8210K

Specifications

Supply voltage	9V - 40V DC	
Max operating current	At 40V : 80mA	
Output switching	Up to 5A DC to common	
Power supply transient protection	900VDC for 100 Microseconds 100V for 0.5 seconds	Exponential Decay
Reverse polarity protection	1000VDC	
Setpoint stability	1% or 8Hz, whichever is greater	-4°F to 140°F (-20°C to 60°C)
Loop output stability	3%	-4°F to 140°F (-20°C to 60°C)
Frequency range	80 ~ 1000Hz (link closed)	800 ~ 10,000Hz (link open)
Signal input	Min: 0.7V RMS Max: 130V RMS	
Signal input impedance	86K ohms (nominal) to ground	
Operating temperature	-40°F to 185°F	-40°C to 85°C
Storage temperature	-58°F to 212°F	-50°C to 100°C
Repeatability	Better than 1%	
Overspeed response time	75 milliseconds	
Wire accept	2.5mm ² wire, AWG 14	
Body material	Cast Aluminum	
Vibration	4g 5Hz - 100Hz all axes	(to Lloyds On Engine Specification)
RPM output	4-20mA into 250R at 9V-40V DC	
Linearity	< 1% of FSD above 150Hz	
Switching hysteresis	+/- 1% of FSD or +/- 1mA	
LED output indicator	On when triggered	
Test function reduces set point by 1/3	Selected by linking terminals	
Latching or non-latching output	Selected by linking terminals	
EMC	Fully EMC and CE compliant	
Integral self-resetting	Fuses on Supply & Output	

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Operation

AMOT Model 8210K monitors engine RPM via AMOT Model 11408 Magnetic Pick-up or AMOT Model 8017A Magnetic Pick-up mounted on the engine's flywheel housing. An alternator signal would also be an acceptable speed signal source.

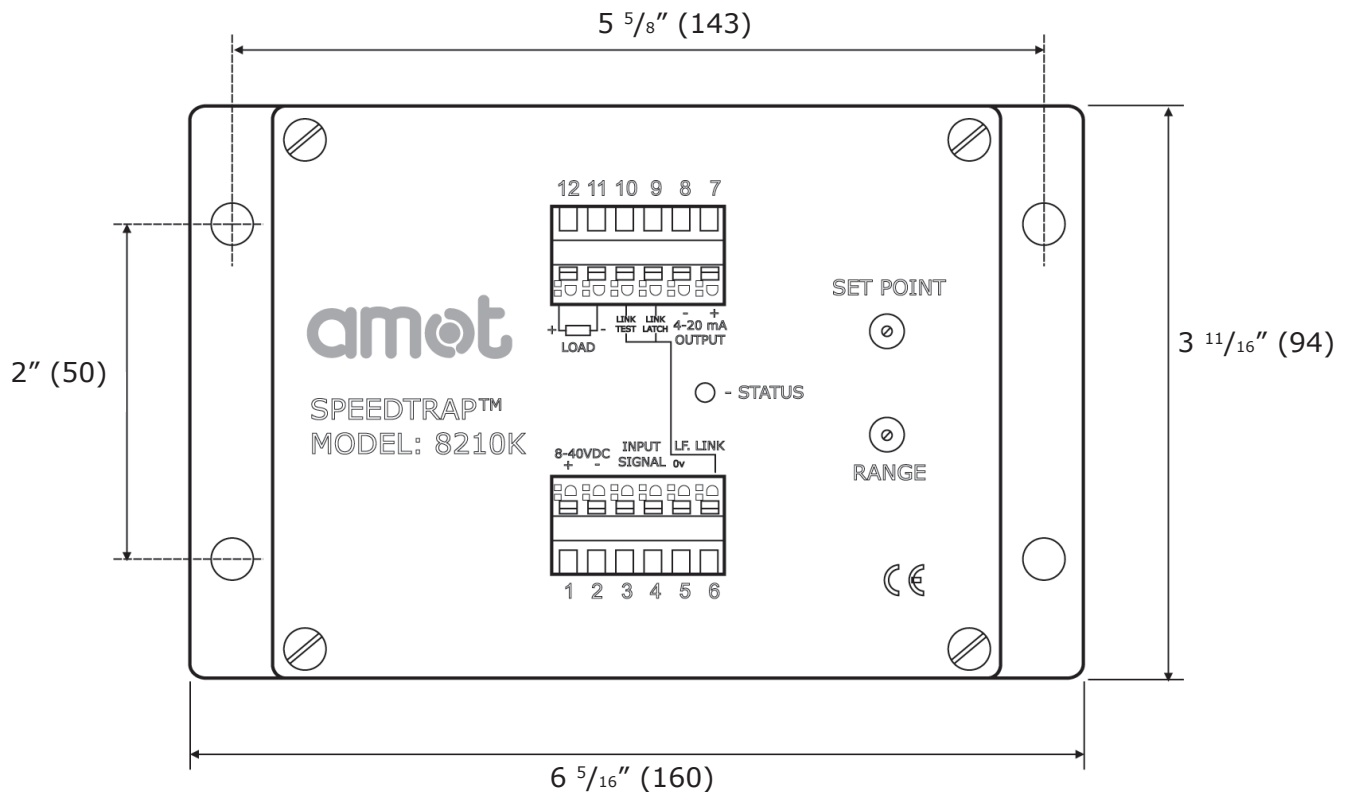
Intake Air Shutoff Valve (or another shutdown device), via a relay if >5A. shutting down the runaway engine.

A 4-20mA output signal is also provided, which is directly proportional to the engine speed.

When engine RPMs exceed the switch's set-point, the switch trips, sending an electric signal to the AMOT Model 4261 or the AMOT Model 4262

Dimensions and Weights

Mounting holes: 1/4" (5.5)



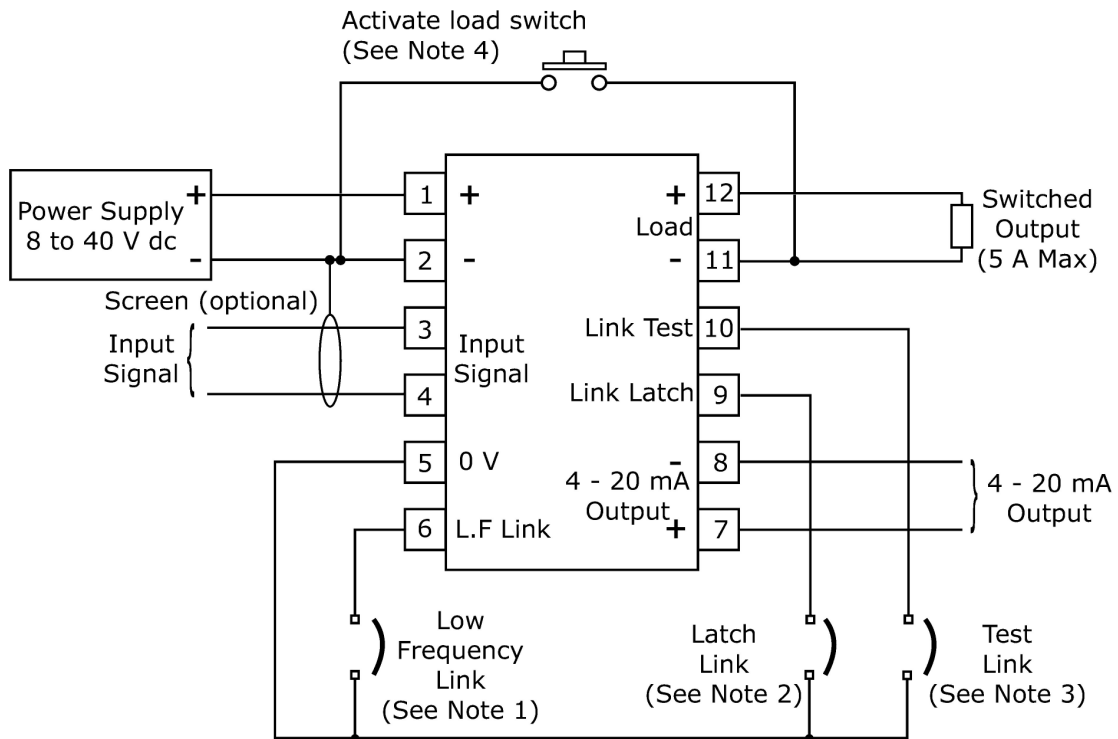
Weights:

1.17 lbs (530g)

All dimensions in inches (mm)

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Connections



Notes

1. Connect for input frequency corresponding to maximum speed of 80 Hz to 1 kHz.
2. Connect to latch output when activated. Use a normally closed switch to act as a 'Reset' switch.
3. Connect to reduce RANGE and SETPOINT values to 67% of normal values for testing.
4. Manual override/test.

How to order

When ordering the 8210K speed switch please give the following information:

- Specify AMOT Model 8210K
- Provide the number of teeth on the engine flywheel or alternator pulley ratio and number of alternator poles, or maximum input frequency *
- Provide desired shutdown RPM or Hz *

*Please note: Factory setting is optional

Accessories for complete engine runaway protection

- AMOT SpeedTrap™ Installation Kit 2 (includes shielded cable, adapter brushing (for AMOT Model 11408 Magnetic Pick-up), protected toggle switch, pushbutton switch, and dash labels.
- AMOT SpeedTrap™ Model 4261 Intake Air Shutoff Valve.
- AMOT SpeedTrap™ Model 10424X 3-Way Electric Solenoid Air Valve with Mounting Bracket.
- AMOT SpeedTrap™ Model 11408 Magnetic Pick-Up.

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