



Model 8253

Temperature Switch



Features

- UL LISTED
- VIBRATION RESISTANT
- NEMA 3 RAIN TIGHT
- ADJUSTABLE SETTING
- UNIQUE UNION

How To Order

When ordering please specify the following:

1. AMOT Model 8253B Temperature Switch
2. Tripping temperature, available in 5°F increments from 65°F to 250°F.
3. Tripping action:
 - a. To trip on rising temperature.
 - b. To trip on falling temperature.
4. Any of the following special features if required:
 - a. M20 x 1,5 or PG13,5 Conduit Threads (instead of NPT).
Available from U.K. factory only.
 - b. Special setting (other than 5°F increments).
 - c. BSP Tapered Port Connection Threads (instead of NPT).
Available from U.K. factory only.
 - d. Temperature Element Extension No.1.

This unit may be ordered using the full description as shown above or by constructing a Model No. using the Model Code System. The complete Model No. for a Temperature Switch set for 160°F rising with NPT threads and no temperature element extension is "8253B130AK160FR".

APPLICATION - Model 8253 Temperature Switches are ruggedly constructed and have precise set point adjustments for use where reliable monitoring of critical temperature conditions such as high water or oil temperature is necessary in engine installations or other high or low temperatures in heavy duty industrial applications.

Vibration Resistant - Model 8253 Temperature Switches are specifically designed for use on vibrating equipment such as heavy duty engine, compressor, pump and other industrial applications. They are suitable for control, safety and warning systems on both mobile and stationary engines, generator sets, irrigation and sprinkler systems, air and gas compressors, turbines, pumps, marine systems, machine tools, injection molding machines, etc.

U.L. LISTED - NEMA 3 Raintight housing is precision cast aluminum with baked enamel finish.

Snap action switching is provided by vibration resistant snap switches to operate electrical alarm or shut down circuits. The Snap switch has single pole double throw (SPDT) contacts so the switch can be used either normally open (N.O.) or normally closed (N.C.). The high capacity contacts are suitable for AC or DC current loads.

RANGES - Temperature sensing is by reliable and long life expanding wax elements. Temperature settings are available in 5°F increments from 65°F to 250°F. Switching levels are fully adjustable within temperature ranges available.

UNIQUE UNION - A unique union nut connects the switch housing to the temperature sensor allowing the sensor to be installed in tight quarters or the switch to be easily swiveled to align with conduit connections. Once tightened, it provides a rigid connection between the switch and the sensor well

INSTALLATION

Model 8253 Temperature Switch has a 1/2" male thread on the Temperature Adapter Assembly allowing direct mounting at the temperature sensing point. Before installing, it is advisable to run a 25/32" (20mm) Dia. tap drill through the pipe fitting in which the unit will be mounted. Some commercial pipe fittings are not tapped deep enough and the threads may damage the temperature element cup. The Temperature Adapter Assembly should be installed in the side or bottom of the pipe to avoid air pockets and so that the temperature will be sensed even if the pipe is not running full.

To install in tight quarters, loosen Temperature Adapter Assembly (2) on the Switch Housing Assembly, thread the Temperature Adapter Assembly into the pipe fitting and then retighten onto the Switch Housing Assembly. Apply a quality thread sealant such as Loctite Pipe Sealant to the connection thread before assembling. Wiring connections may be made by removing Cover (22). The snap switch is fitted with screw terminal connections. The terminal labeled "make falling" will not be connected to the common terminal above the set point and will become connected as the temperature falls. The terminal labeled "make rising" will be not connected to the common terminal below the set point and will become connected as the temperature rises. A grounding terminal is also provided under terminal Cover (22) and is labeled with the "earth" symbol. The unit has rain tight protection to I.E.C. Specification IP56

ADJUSTMENT

Model 8253 Temperature Switches may be easily adjusted within the temperature range specified. Immerse Temperature Adapter Assembly (2) in a vigorously agitated water bath at the desired setting temperature. For temperatures in Range 5, use a glycol bath. Remove Nameplate (32) and turn Adjusting Screw (57) with a 7/32" (5.5mm) open ended wrench. Turning the screw clockwise one turn increases the temperature setting approximately 13°F(7°C) on Range 1 and 6°F(3.3°C) on Ranges 2, 3, 4 & 5.

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SPECIFICATIONS

Certifications U.L. Listed, Nema 3
 Housing Material Precision Cast Aluminum
 Internal Parts Stainless and Plated Steels
 Temperature Element Materials Bronze and Brass
 Maximum Pressure on Element 800 psi (5510 kPa)
 Maximum Pressure on Well* 5000 psi (37,900 kPa)
 Vibration resistant up to 4G at 100 Hz
 Switch Ratings....SPDT 125/250/460 VAC - 15 amp
 125 VDC - 1/2 amp
 250 VDC - 1/4 amp
 30 VDC - 5 amp
 15 VDC - 15 amp
 Net Weight 0.83 lbs. (0.38 kg)

*Pressure shown are maximum allowable. To obtain working pressure, factors of safety should be applied as required by appropriate codes or regulations. In certain adverse conditions, a corrosion or erosion allowance should also be made.

Press. Range Code No.	Setpoint Range for Rising Temperature Settings		Reset Differential	Maximum Continuous Temperature Permitted at the Sensor	
	°F	°C		°F	°C
1	61-122	(16-50)	6.3 ± 2.7 (3.5±1.5)	190	(88)
2	123-151	(51-66)	5.4 ± 3.6 (3±2)	199	(93)
3	152-181	(67-83)	5.4 ± 3.6 (3±1.5)	216	(102)
4	182-211	(84-99)	5.4 ± 3.6 (3±2)	230	(110)
5	212-253	(100-123)	11.7 ± 5.4 (6.5±3)	262	(128)

Temperature in °F, °C in ().

Model Code System

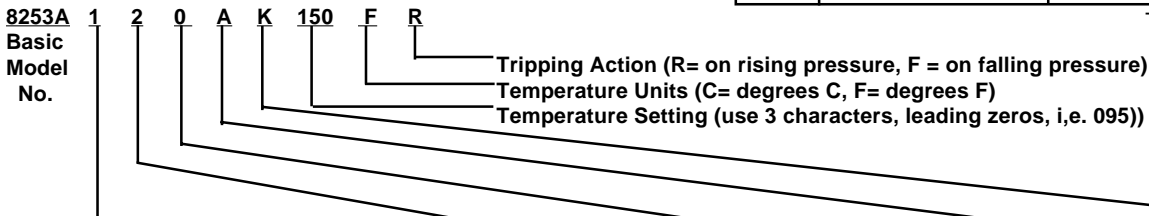


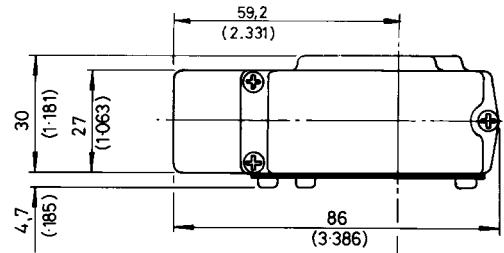
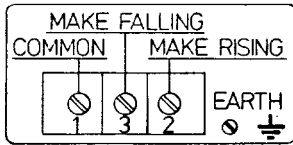
Table A Connection Thread		Table B Temperature Range		Table C Temp. Element Extension		Table D Conduit Thread		Table E Switch Type
Code No.	Thread	Code No.	Range	Code No.	Installation Dept	Code No.	Thread	Code No.
1	1/2 NPT	1	61 - 120°F (16 - 50°C)	0	1- 9/16" (39.5 mm)	A	1/2 NPT	K
2*	1/2 BSP(Tr)	2	123 - 151°F (51 - 66°C)	1**	2- 2/16" (55.6 mm)	B*	M20 x 1,5	
		3	152 - 181°F (67 - 83°C)			C*	PG13,5	
		4	182 - 211°F (84 - 99°C)					
		5	212 - 253°F (100 - 123°C)					
		add 10°F (6°C) in a well						

* Available from U.K. factory only.

** Fits 3802L001 well.

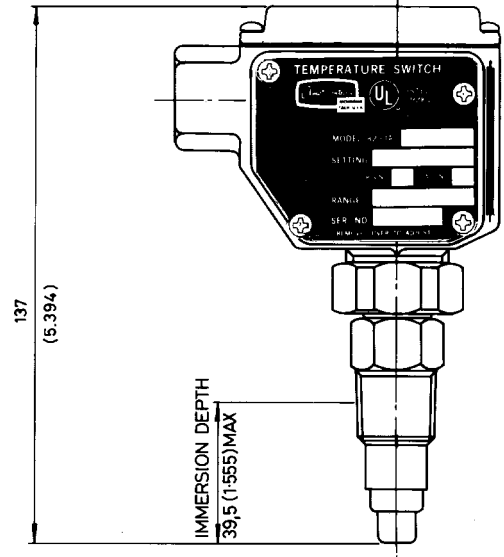
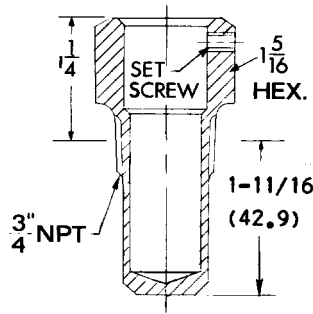
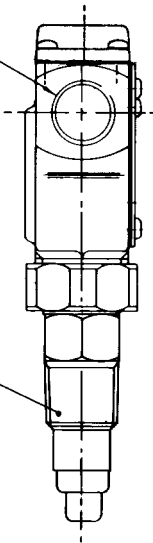
DIMENSIONS

Wiring Connections



CONDUIT THREAD
SEE TABLE D

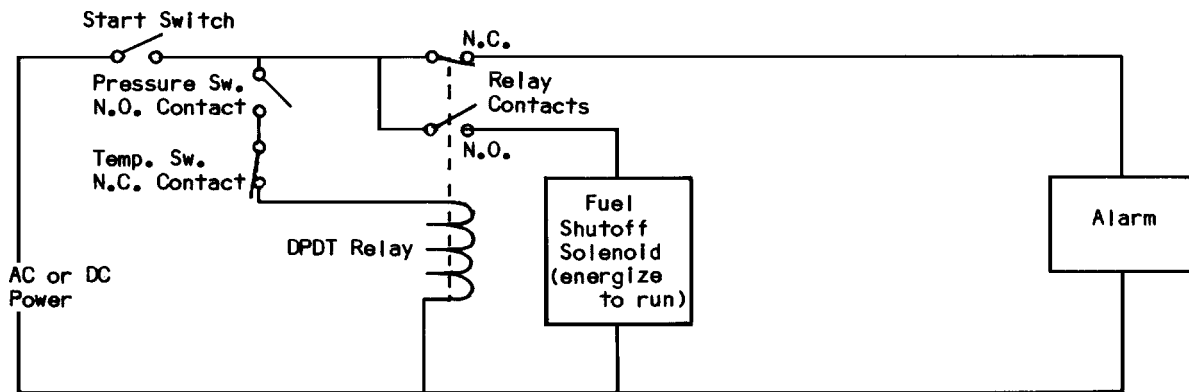
CONNECTION THREAD
SEE TABLE A



All Dimensions shown
are mm. Inches in ()

Typical Applications

Engine Safety Shut Down System



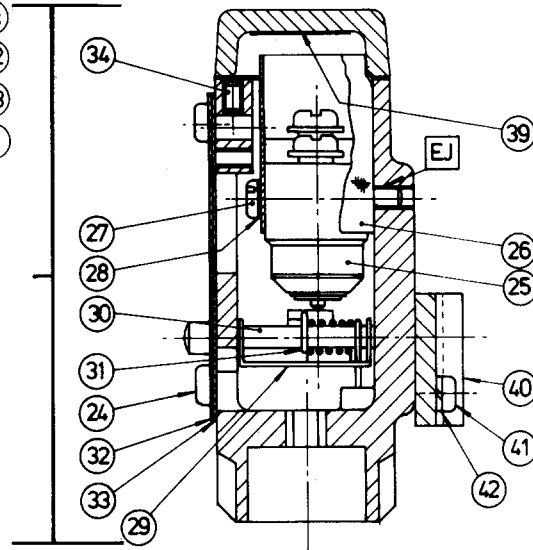
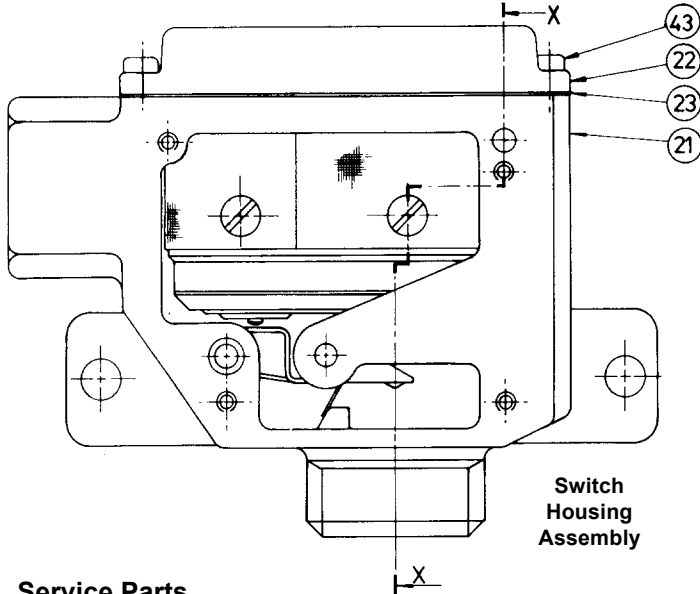
When the Start Switch is closed and the Oil Pressure Manual Override button is pressed, the Relay will be energized allowing the Fuel Shutoff Solenoid to be energized and the engine to be started and run. When the engine oil pressure rises past the Pressure Switch set point, the Manual Override button will be automatically released and pop out, thereby arming the Pressure Switch

to shut down the engine on falling oil pressure. If either the Pressure Switch (on falling oil pressure) or the Temperature Switch (on rising water temperature) should trip, the Relay will be de-energized which will cause the Fuel Shutoff Solenoid to stop the engine. The Alarm also will sound until the Start Switch is opened.

MAINTENANCE

AMOT Model 8253 Temperature Switches required practically no maintenance. Should any parts need to be replaced or the temperature range changed, the switch is easily disassembled by referring to the assembly drawing below.

AMOT designs and tests all its products to ensure that high quality standards are met. For good product life, carefully follow AMOT's installation and maintenance instructions;



Section X-X

Service Parts

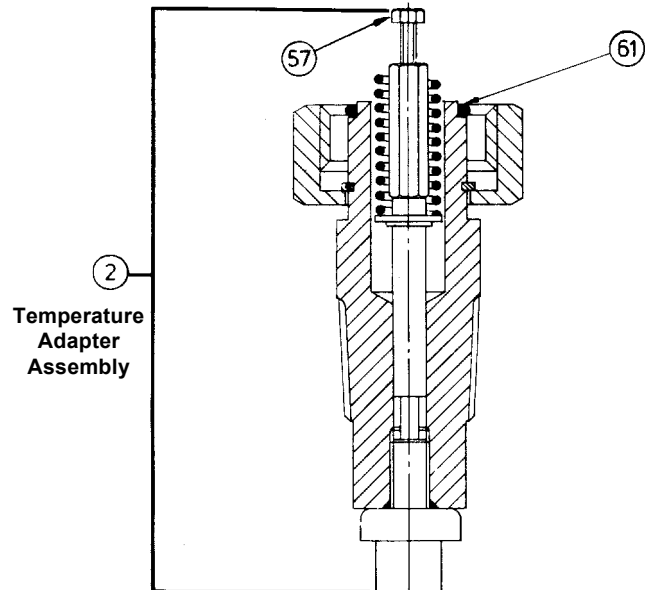
Ref. No.	Part No.	Qty.	Description
2	44321X110	1	Temperature Adapter Assy, NPT, Range 1
2	44321X120	1	Temperature Adapter Assy, NPT, Range 2
2	44321X130	1	Temperature Adapter Assy, NPT, Range 3
2	44321X140	1	Temperature, Adapter Assy, NPT, Range 4
2	44321X150	1	Temperature, Adapter Assy, NPT, Range 5
2	44321X210	1	Temperature Adapter Assy, BSP(Tr), Range 1
2	44321X220	1	Temperature Adapter Assy, BSP(Tr), Range 2
2	44231X230	1	Temperature Adapter Assy, BSP(Tr), Range 3
2	44231X240	1	Temperature Adapter Assy, BSP(Tr), Range 4
2	44231X250	1	Temperature Adapter Assy, BSP(Tr), Range 5
23	44326		Cover Gasket
25	5635	1	Switch, Type K
33	44331	1	Nameplate Gasket
61	43622L001	1	O-ring, Temp. Adapter

This Parts list effective with Serial No. B821

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When communicating with AMOT regarding operation of a control, always give the Model No. and Serial No. If ordering service parts, also include the Description, Part No., and quantity desired. If any parts are ordered by Reference No. only, please also include the Form No., Revision No., and date of this brochure.



Temperature Adapter Assembly

EJ indicates grade of adhesive used

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