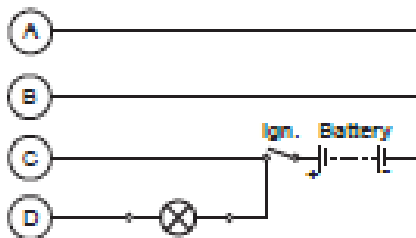
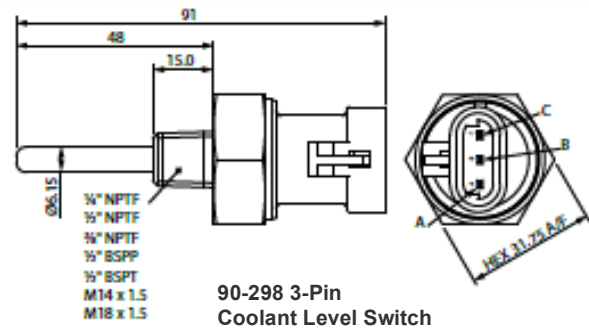
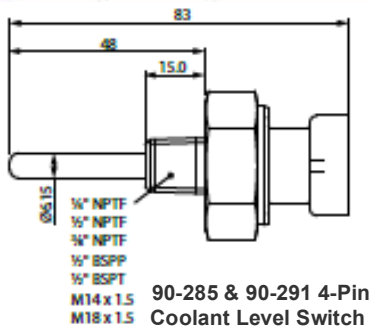
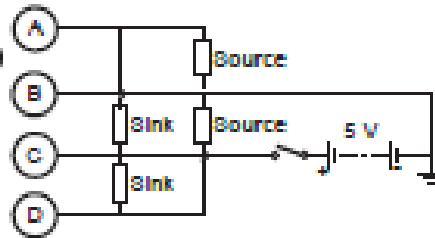


# Coolant Level Sensors

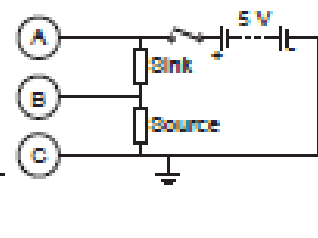
Switch Series	90-285	90-287	90-291	90-298
Liquid type	Coolant			
Connector	4 Pin Metripack 150 	18 AWG flying leads for any suitable connector	4 Pin Metripack 150 	3 Pin Metripack 150 
Power Supply	9-36 VDC, 7 mA <sup>†</sup>	9-36 VDC, 7 mA <sup>†</sup>	5±0.25 VDC, 5 mA <sup>†</sup>	5±0.25 VDC, 5 mA <sup>†</sup>
Thread sizes	¼" NPTF, ½" NPTF ¾" NPTF, ½" BSPP, ½" BSPT, M14 x 1.5, M18 x 1.5			
Materials	Brass body, PTFE probe, PA66 GF30 connector, EPDM & FVMQ O Rings			
Temperature	-40 to 125 °C			
Ingress	IP67			
Vibration	15.3 Grms Random Vibration			
Drop	1 m to concrete surface			
Power up delay	Factory set, 0 to 10 seconds			
Power up state	Factory set, 'In Liquid' or 'Out Liquid'			
Switch delay	Factory set, 0 to 10 seconds, delay on rising or falling level			
Output type	Sink (open collector) and/or Source (supply voltage)		Voltage (Flip/Flop)	
Output pin	Pin D (sink) or Pin A (source)		Pin A	Pin D
Output state in coolant	Closed (sink), On (source) <sup>*</sup>		4±0.25 VDC <sup>‡</sup>	0.5±0.25 VDC <sup>‡</sup>
Output state in air	Open (sink), Off (source) <sup>*</sup>		0.5±0.25 VDC <sup>‡</sup>	4±0.25 VDC <sup>‡</sup>
Output current	1 A (sink) or 20 mA (voltage) <sup>*</sup>		10 mA	10 mA
*Typical state. Opposite states are possible †Plus any source output load			*Typical signal levels. Values from 0.5-4.5 VDC are possible	



90-285 Wiring (Sink and/or Source)



90-291 Wiring (Voltage Output – Flip/Flop)



90-298 Wiring (Voltage Output)